ABSTRACT OF

Presidential Address

ON

SOME LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL EXPERIENCES.

Delivered before the British Laryngological, Rhinological, and Otological Association on March 11th, 1904,

BY JOHN BARK, F.R.C.S. EDIN.,
HONORARY SURGEON, THROAT AND EAR DEPARTMENT, STANLEY HOSPITAL, LIVERPOOL, ETC.

[AFTER a few introductory remarks Mr. Bark referred to ie fact that his early professional experience had been ained in general practice and that he had also spent much me as surgeon to a general hospital, which double experience had been of great use to him in his special work. He ontinued :—]

In those days, at any rate in the provinces, our specialty ad no existence, and all that was done for the diseases which re now treat was done by the general surgeon or physician, xcept perhaps "aural surgery," and that chiefly consisted n syringing the ears, twisting out polypi, the occasional use f the Politzer or Eustachian catheter, or in the making of Wilde's incision and was done by the ophthalmologists. True, the laryngoscope was well enough known but scarcely ny but a few advanced physicians used it. I well remember ow in my young days it was quite customary to prepare the atient for several days with good big doses of bromide for laryngoscopic examination. The eye, of course, was ommonly enough looked into but, strange to say, no one oked into the nose. It was strongly instilled into me that e best way to examine the nose was to make a digital xamination with the little finger. I have thought, having o scientific discoveries or special work to bring forward as e subject of this address, that I could not do better than place before you some of the experiences through which I ave passed and the conclusions which I have come to in y 20 years of work. I cannot, of course, deal with verything but I trust that the following *résumé* will not be ut of place.

[Mr. Bark then referred to the enormous advances which ad been made in the treatment of diseases of the nose and roat through the introduction of cocaine. The solution sed must be fresh and in strength from 5 to 20 per cent. or the removal of most nasal polypi he preferred the cold ire snare, but in the case of a large polypus filling the osterior choana or the naso-pharynx he used forceps guided y the finger. In turbinectomy or operations on the septum evere hæmorrhage sometimes occurred. This should be hecked by plugging and the adrenalin solution was also seful at the time of operation. Deviations of the septum ere best treated by Asch's operation or its modifications. or ethmoidal suppuration he punched away the ethmoidal ells with Hartmann's conchotome and had had good results. r. Bark continued :—]

In frontal sinus suppuration I first remove the anterior end the middle turbinal in the hope, which is frequently alised, that this may free the fronto-nasal passage and ecure efficient drainage of the sinus. When this is not ccessful I trephine the sinus and, after removing any ostructions, make a large opening through the floor into the ose, clean out with hydrogen peroxide, plug with antiseptic auze, bringing the end out through the nose, and then ose the external incision. The packing is removed through e nose on the second day. I desire here to express my reat indebtedness to Mr. Mayo Collier from whose work the "Surgery of the Frontal Sinus" we have learnt so uch.

More exact clinical observation and improved methods of xamination have brought many more cases of antral disease nder our notice than was formerly the case. The so called "latent" empyema can scarcely be any longer regarded as tent, its symptoms being so well understood and the xamination of the antrum being so easily made. Still, just s one is never absolutely sure that there is pus in a chest ntil one has explored it with a needle, so it is essential efore operating for maxillary sinus suppuration to intro a trocar. I use a Lichtwitz trocar and perforate the inner wall through the inferior *meatus*. To drain I always operate through the canine fossa in the following way. I use a specially shaped shouldered trocar chisel and, under nitrous oxide anæsthesia, drive it with a single blow of the hammer into the antrum and at once introduce a specially shaped rubber drainage tube made for me by Messrs. Down Bros. This is fitted with a flanged end at an angle of 45°, which lies easily between the gums and cheek and keeps the tube in position. The patient is instructed to wash out the antrum by forcing lotion, by orbiculo-buccinator action, through the tube and antrum into the nose. I find in the majority of cases that this is satisfactory; if not, I do a radical operation on the lines of Caldwell-Spicer.

Laryngologists, I think, do not excise the uvula very frequently, recognising that most of the symptoms that used to be ascribed to its elongation are really due to other causes. It is still, however, very frequently removed by some practitioners who, whenever a patient complains of any subjective throat symptoms or voice fatigue, snip it off with as little compunction as pathological knowledge. We have improved very little in this matter upon the knowledge and practice of even the most ancient surgeons; for example, in the seventh century of our era Paulus Ægineta wrote that it should only be removed when it causes cough, sleeplessness, and suffocation, and then only as much should be removed as exceeds its natural length, as complete extirpation is injurious, he says, to the voice and chest. It is interesting to note that, even then, the uvula was held by a special forceps adapted to the purpose. Speaking of the ancient surgeons and their ways I have been much struck by the method which they employed for excision of the tonsils. Paulus Ægineta operated in the same manner as was still in vogue when I was a student—namely, pulling out the tonsil with a pair of forceps or tenaculum and cutting it off with a knife, called an ancyclotomus. Celsus directs us to "scrape the membrane with the finger and tear it out," which is practically enucleation. Albucasis recommends scissors but also seems to have invented a sort of guillotine and figures an instrument consisting of a lunated piece of iron fixed to a handle. Of the several methods practised at the present time, all of which I at one time or another have tried, I now practically use but two, viz., the guillotine [illegible]

[illegible] operating under nitrous oxide—one has more control of the instrument, and can, therefore, remove the tonsils more completely and expeditiously. Above 15 years of age I now always use the method of morcellement, considering it more [illegible] the whole organ. I use Ruault's punch for the larger portions and finish off with Hartmann's conchotomes. The complete removal of both tonsils can be easily done in this way in one sitting and under cocaine anæsthesia. I have used this method in more than [illegible]00 cases and the hæmorrhage has always been trivial. Hæmorrhage after tonsillectomy is undoubtedly a rare occurrence. In children it is exceedingly rare. Out of 6000 operations on children under 15 years of age I have met with it but twice—in a boy 13 years of age and in a girl [illegible] years of age. The hæmorrhage was severe in both but not alarming in either. I have also met with severe hæmorrhage in five adult cases. In all seven cases the guillotine was used and the anterior pillar of the fauces was not wounded in any and astringent sprays or gargles were useless. In five the hæmorrhage was controlled by steady and continuous pressure by means of a pad soaked in turpentine and adrenalin held on the stump with the middle finger—the thumb of the same hand pressing below the angle of the jaw.

visible, which was stopped
the other by ligature.
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occasionally described by others, their removal as a
lar practice dates from the work of Meyer of Copenhagen
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No. 4205.

I have invariably used nitrous oxide and oxygen which I find gives plenty of time for the double operation. When I started operating under gas there was no gag suitable for the purpose. The surgical gags interfered with the administration of the gas and the dental mouth props interfered with the operation. Dr. V. H. W. Wingrave and I brought out, separately, gags which rendered the operation not only possible but easy under the short nitrous oxide anæsthesia. There are a few, but very few, cases for which neither Wingrave's gag nor mine is suitable. When the central incisors project considerably beyond the lateral the gag is apt to slip and in this case I use Doyen's gag, but find it much less comfortable and convenient for general use. I strongly believe in operating with the head hanging over the end of the table. No doubt, to commence with, the operator finds the tongue somewhat in the way for the tonsillectomy, but this difficulty is with very little practice easily surmounted and the advantage of keeping the larynx free from blood alone more than compensates for this. Besides, as regards the adenoids, this position is incomparably superior for using the Gottstein curette and the finger.

The lingual tonsil in my student days was never recognised as a distinct entity. We were certainly aware of the presence of a good deal of adenoid tissue at the root of the tongue, but no one ever thought of attributing any symptoms to it or of treating it surgically. Of course, the common use of the laryngoscope accounts for its perhaps undue prominence during late years. Hypertrophy of this structure is not, in my experience, very common—that is to say, hypertrophy sufficient to produce symptoms. When it occurs it is usually in adults and has given rise to two prominent symptoms—viz., a feeling of fulness at the root of the tongue and occasional sensations of choking. As a rule, galvano-puncture reduces it sufficiently to give relief, but cases sometimes present themselves calling for more radical treatment. I then remove it with a pair of rectangular punch forceps made for me for that purpose about ten years ago by Messrs. Mayer and Meltzer. I have recently met with a case of exceptional enlargement, occurring in a man 54 years of age and consisting of two lobes, each of the size of a Barcelona nut. I have only met with one case of acute abscess of the lingual tonsil. A man, aged 30 years, complained of painful swallowing and the laryngoscope showed a large red swelling of the lingual tonsil, which fluctuated on palpation and which on incision yielded pus with complete relief.

Until the patient and successful work of Krause of Berlin and of Heryng of Warsaw showed us the value of the proper surgical treatment of laryngeal tuberculosis patients were practically left to their fate, local application of morphine, cocaine, and other anæsthetics being the only treatment adopted, and that only in the attempt to relieve the terrible odynphagia. The precepts and example of these two great workers in our specialty have done more for suffering humanity in the alleviation of this terrible symptom than words can describe and although *most sufferers* from laryngeal phthisis inevitably succumb, yet the relief from pain and the consequent ability to take food prolong life and make it more endurable. A few brilliant cases have been reported where even a cure resulted with restoration of voice. I have found both Krause's double curettes and Heryng's curettes of great service in removing the tuberculous infiltration and so facilitating the application of the lactic acid. Another plan of treatment which I have adopted for a few years, especially where the disease has progressed to ulceration, or where owing to the intractability of the patient the above surgical treatment is impossible, is the insufflation of equal parts of orthoform and resorcin. It is *often* quite astonishing how quickly this relieves the symptoms and cleans up the ulcerating surfaces.

In no branch of our art has there been more improvement than in the technique and instruments for use in endo-laryngeal surgery. Formerly, benign growths, foreign bodies, &c, in the upper respiratory passages were removed by means *of* external operations, but now, thanks to the laryngoscope and the various and ingenious instruments which *have been devised*, the practised laryngologist removes such growths as *papillomata*, fibromata, cysts, &c., of the larynx with comparative ease, and even in cases of suspected malignancy a small scrap removed in this way may give positive microscopic evidence and c nt submit to the radical operation m otherwise would have done, which or non-success in these cases.

I have found Dr. J. Dundas Grant's laryngeal forceps o especial value in removing growths from the edges of th cords and have often removed at the first attempt with thes forceps growths that I have failed to remove with others Valuable as this method is in the *treatment* of benign growths, I think all modern laryngologists are agreed tha the complete removal of even the smallest malignant growth in this way is impossible and any attempt to do so I conside unjustifiable and unfair to the *patient*. The successfu removal of a malignant neoplasm necessitates the remova of so much *surrounding tissue and the condition is* so serious that if any operation is to be done it must be an external one, and endolaryngeal *interference*, I think, only increases the rapidity of growth. In my experience, when the growth has affected the parts outside the larynx, any curative operation is out of the question, but when the disease appears to be intrinsic I advise an exploratory thyrotomy, and, should it then be found that the *whole* of the disease can be safely removed, we *may* proceed as far as removing half of the larynx with satisfactory results, but should it be found that the disease is so extensive that complete laryngectomy would be necessary I think it better to proceed no further but to close up the *wound*, as the results of the complete operation are in my experience always unsatisfactory, and I believe that the patients as a rule will live longer and in greater comfort after a *palliative* tracheotomy. The importance of early diagnosis and treatment cannot be over-estimated in cases of malignant laryngeal disease. In all cases of even slight hoarseness lasting over a month a careful examination by a skilled laryngologist is imperative. If this were to become a routine practice thyrotomy would be frequently successful and complete laryngectomy rarely necessary.

Concerning tracheotomy there is really very little to be said and all surgeons are much in agreement on the subject. Intubation, except in the case of syphilitic and other forms of laryngeal stenosis, where it is very valuable and may result in a complete cure, cannot be said to be a substitute for it—certainly not, to my mind, in laryngeal diphtheria. Here I regard tracheotomy, if not done too late, as the best way of averting death from asphyxia and, combined with the use of antitoxin, has in my hands been very successful. Where the membrane extends below the larynx one should not be in a hurry to insert a tube but endeavour to clear out any loose membrane, and I have on several occasions, with success, thoroughly curetted the inside of the trachea, as in two cases reported by my late house surgeon, Mr. J. Lawson Dick, in THE LANCET of July 25th, 1896, p. 242.

The treatment of aural diseases has advanced greatly *in* my time and especially in the case of suppurative *diseases* of the middle ear. From Wilde's incision and perforation of the antrum we have passed to the complete and excellent operation of Stacke which, if the post-aural incision is closed and drainage is maintained through the enlarged external meatus, gives a result so satisfactory and sightly that patients allow it to be done much more frequently and earlier than formerly and risk of serious diseases of the brain and of surrounding parts is minimised. I consider the Schwartze-Stacke operation to be one of the greatest triumphs of modern surgery. There is another operation which is often efficient in relieving middle ear suppuration and is especially valuable in attic suppuration; I refer to ossiculectomy, first suggested by Schwartze in 1873. Performed *with* Delstanche's extracteur de marteau the operation is much easier and is often successful, rendering more serious proceedings unnecessary. This operation has also been much praised in middle-ear sclerosis, but, although I have done *it* a dozen times at least, I have seen no good permanent results.

Gentlemen, I have finished what I fear is but a cursory and imperfect account of some of the views and conclusions *I* have come to in my many years of practice of the branch of medicine we especially study. I trust that I have not overwearied you and in concluding let me express the hope that I have in reviewing the subject made myself clear, that I have given offence to no one, and acknowledged my indebtedness justly to each of those who have helped to construct our little chapel in the great temple of knowledge. As *time* goes on I shall likely enough modify many of my views; our knowledge will extend, new discoveries will be made, and fresh builders will appear on the scene. One portion of our edifice will be pulled down and replaced by other, let us hope always better, work. Another part will from time time require reconstruction and possibly some great event [illegible] pulling down the whole fabric perhaps by two or three [illegible] not that, as necessity arises, our association architects to lan and to devise, and workmen to how and to build, and rom time to time it will be well if someone abler than I vill take a survey of the whole work from his view-point nd indicate what he considers good and what he thinks nferior work. Such I have tried to do to-day and I trust hat my effort has been not altogether unacceptable.

Hunterian Lectures

ON

THE PATHOLOGY AND SURGERY OF CERTAIN DISEASES OF THE PANCREAS.

Delivered before the Royal College of Surgeons of England on March 7th, 9th, and 11th, 1904,

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LECTURE III.[1]

Delivered on March 11th.

PANCREATIC CYSTS.

MR. PRESIDENT AND GENTLEMEN,—I have nothing to add to the description, relations, and classification given in Diseases of the Pancreas (Saunders and Co., 1903,) where the subject is fully dealt with and may be studied at leisure.

The surgery of cystic disease of the pancreas is much in advance of pancreatic surgery as a whole and it is a subject in which all authorities are agreed as to the wisdom of simple drainage, which is usually sufficient to bring about relief or cure. In these cases surgery offers a poor opportunity for pathological investigation; for when a pancreatic cyst is found experience has shown that the patient's interest is best considered by a limitation of the incision to a size sufficient to empty and to drain it and not sufficiently large to satisfy pathological requirements. Hence it is highly probable that many reported cases of operations for pancreatic cysts have been for cysts of other origin, and it is an undoubted fact that quite a number of cysts originating from the neighbourhood of the pancreas are only pseudo-cysts, as in two under my own care, where in one a collection of blood and serum filled the lesser peritoneal sac as a result of injury and in another a pseudo-cyst formed rapidly around a necrotic pancreatitis and from the cavity a slough of the pancreas was removed.

The symptoms produced by a pancreatic cyst vary according to the size and seat of the tumour. They are at first dependent on the disease leading to the cystic formation and later to the pressure exercised by the tumour on neighbouring viscera, so that we find digestive disturbance with loss of flesh and epigastric uneasiness or some pain quite early, these being followed in certain cases by very intense pain occurring in paroxysms, by vomiting, constipation, jaundice, and wasting, and later by the presence of a tumour. Fatty stools, azotorrhœa, bulky pale mo [illegible] will be present or absent according [illegible] present in the gland. In [illegible] recently there has been a well-marked pancreatic reaction in the urine, indicating catarrh of the pancreatic ducts or interstitial inflammation, and if this test holds good for cystic disease of the pancreas generally, as I believe it *does*, it will, I think, form an important diagnostic sign in any case of tumour suspected to be pancreatic. In this connexion it may be well to remark that the most frequent cause of cyst development is chronic interstitial pancreatitis in which compression and constriction of the ducts result from a new formation of connective tissue with consequent stagnation of secretion. The Roentgen rays may also form a useful help in diagnosis in certain cases as they will establish the presence or absence of pancreatic calculi which are quite opaque to the x rays.

It is to be borne in mind that there have been cases of pancreatic cyst presenting very few symptoms except the presence of a tumour which have been under observation for a long time and have needed no active treatment, but these cases are exceptional. In my first lecture I referred to the importance of the peritoneal reflections from the pancreas on to the viscera and how they influenced the ultimate position and relations of pancreatic cysts. For instance, a tumour springing from the anterior surface of the head or body of the pancreas above the transverse mesocolon will project into the omental bursa and if small will bulge the stomach forward, or if large will either reach the surface above the stomach, between it and the liver, or pressing forward below the stomach it will bulge between it and the transverse mesocolon. On the state of the fulness of the stomach will depend the extent of contact of the tumour with the abdominal wall. If a cystic tumour arise from the pancreas to the right of the omental bursal reflection, it may make its way forwards to the right hypochondrium and simulate a gall-bladder or right renal or suprarenal cyst. Should a cyst arise from the posterior part of the head or tail of the gland it may project either into the right or left lumbar region and resemble a cyst of the kidney. If a tumour springs from the head of the pancreas below the reflection of the transverse mesocolon but to the right of the mesenteric vessels, it will reach the surface below the hepatic flexure of the colon on the right side and may simulate a right renal tumour or a tumour of the cæcum or ascending colon, as the mesentery will prevent it passing to the left of the spine; but should it arise from the small portion of the processus uncinatus on the left of the mesenteric vessels, but below the attachment of the transverse mesocolon, it may burrow between the layers of the mesentery and simulate a mesenteric cyst, or it may bulge on the left of the mesentery and reach the surface below the transverse colon on the left of the spine, when it may resemble a left renal or ovarian cyst or a tumour of the descending colon or small intestine.

Tumours springing from the pancreas on the left of the duodeno-jejunal junction, where the lower surface of the gland lies on the transverse mesocolon, have a tendency to press the great omentum forward and to project above the transverse colon, but they may grow downward toward the central region of the abdomen and arch the transverse colon or even project below it so that the colon lies above the tumour. In an interesting case recently recorded by Dr. S. P. Phillips a thin-walled pancreatic cyst springing from the head of the pancreas completely filled the abdomen and presented the physical signs of ascites. Although usually unilocular, pancreatic cysts may be multilocular as in two of the specimens on the table, photographs of which I will show on the screen. I will now show on the screen several photographs to illustrate the anatomical relations of various pancreatic cysts that I have seen and the surface dulness on percussion that may be expected; they have been recorded from the 12 cases on which I have operated.

TREATMENT.

Occasionally excision of the cyst may be performed, as in a case under my own care in a woman, aged 38 years, where the tumour returned after drainage and where the patient made a complete recovery after the second operation; but the greater difficulty in performing excision, the impracticability of doing it always, and the greater mortality attending it as compared with the old operation of incision and drainage, render it quite clear that the lesser operation should always be tried first unless the circumstances be very exceptional. Aspiration and other forms of tapping are antiquated and ineffective methods which are attended with more danger than the operation of incision and drainage and therefore not to be recommended even for diagnostic purposes; this also applies, though in a lesser degree, to operation *à deux temps* which is now rarely performed. As to the situation for drainage, that must entirely depend on circumstances; the cyst will usually be attacked from the front, where it is manifestly nearest the surface. Occasionally it may be drained from the loin as in a case under my own care. Fistula does not as a rule follow the drainage of pancreatic cysts, but in some cases a small fistula may persist and I have known a fistula to go on for years without hurt to the patient and with very little discomfort. In the cases I have operated on a cyst was enucleated on one occasion, recovery following; drainage was carried out in nine other cases of true cyst and was followed by recovery in eight, whereas of two pseudo-cysts, one due to traumatic hæmorrhagic pancreatitis and the other to necrotic pancreatitis, one recovered. These I shall hope to report more fully before one of the London societies, as the time will not permit me to dwell longer on them now.

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[1] Lectures I. and II. were published in THE LANCET of March 19th (p. 773) and 26th (p. 845), 1904, respectively.

An extensive search through literature, in which I have been assisted by Mr. A. Clarke of the Royal Medical and Chirurgical Society's Library, who has verified the references for me, reveals the following facts. 160 cases of operation have been recorded; in 140 recovery took place or is presumed to have taken place; in four cases the ultimate issue was doubtful; in eight out of the 140 of reported recovery after operation the patients died subsequently—one from diabetes four months later, one from tuberculosis three months later, one from hæmorrhage one and a half years later, one from concomitant peritonitis seven weeks later, one from a zymotic fever a few weeks later, and three from causes not stated a few weeks later. Death is recorded as the result of operation in 20 cases. In five of these the cause and time after operation are not given. One patient died in collapse, one died before operation could be completed (the next day), one died from "ileus," one died 18 days after operation (cause not stated), two died from shock, one died from gangrene of the pancreas, and eight died from peritonitis. Of these eight dying from peritonitis, one died at interval not stated, one after 96 hours, one after six days, one after an exploratory incision, two after two days, one on the eighth day, and one on the second day. In 138, incision and drainage were performed with 16 deaths, equal to a mortality of 11·6 per cent. In 15 excision was performed, with three deaths, equal to a mortality of 20 per cent. In seven partial excision was done with one death, equal to a mortality of 14 3 per cent. Although larger numbers have been reported by others, the above figures are as nearly correct as appears to be possible, for on verifying the records sometimes the same case had been reported twice, in others wrong dates had been given, and in a few the details were so meagre that the nature of the operation was not given. The evidence is clearly in favour of drainage but the mortality should certainly be reduced by one-half. As to the frequency of cysts of the pancreas Dr. W. Hale White has recorded that in nearly 6000 post-mortem examinations at Guy's Hospital, 1883 to 1894, pancreatic cysts were only found in four cases and one of these was a hydatid cyst.

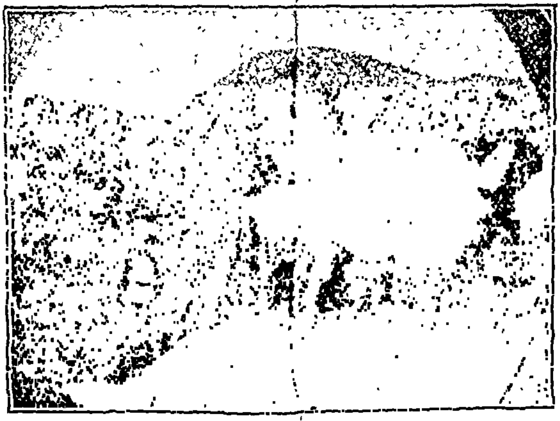
INJURIES OF THE PANCREAS.

Injuries of the pancreas have been so recently and so ably dealt with by von Mikulicz Radecki[2] that I need not spend much time on the subject. It is quite clear that injury to the pancreas is not necessarily fatal, as shown by the development of cysts the result of accident and their successful treatment. The indications for operation depend on the severity of the symptoms and on the presence of either hæmorrhage or inflammation, which may demand operation. If, therefore, after an injury in the superior abdominal region there be increasing anæmia, the signs of free blood in the peritoneum, or peritonitis, the surgeon will be called on to operate without delay. Severe injuries of the pancreas not operated on terminate fatally in nearly every case. Out of 45 cases of pancreatic injury collected by von Mikulicz 24 were perforating, 12 were gunshot, and nine were stab wounds. Of the gunshot injuries five were operated on, three recovering; the seven not operated on all died. Of the stab wounds all were operated on and eight out of nine recovered. Of the 24 subcutaneous injuries 13 were not operated on and all died. Of the 11 operated on seven recovered. No hard-and-fast rule can be formulated as to the method of treatment; the injured part must be exposed and either ligature of vessels or suture of surfaces adopted, but gauze tampons and drainage form important features in any of these operations, and where the peritoneum has been generally soiled with blood and pancreatic effusion lavage with hot saline fluid affords the double advantage of relieving shock and cleansing the abdomen. In view of the favourable results obtained by operation and the lethal effects of non-operative treatment, the only lesson that can be drawn is that we should make an exploratory laparotomy whenever there is a question of severe pancreatic injury. The photograph now thrown on the screen illustrates an extensive hæmorrhage in and around the pancreas the result of injury; it is from a specimen at St. Bartholomew's Hospital Museum, kindly lent for this lecture.

PANCREATIC CALCULUS.

Although two cases of pancreatic calculi were observed by Panarol and Gaiea in 1667 and by others at later dates they are so uncommon that Oser quite recently said there were only 70 recorded cases. I have heard of seven since not included in that series but doubtless there are many unrecorded. The subject of pancreatic concretions can never assume the importance that attaches to cholelithiasis, but as they are associated with serious and usually progressive disease of the gland, and as they can be removed by operation, their recognition and treatment is a matter that demands some consideration. I believe that calculi never form in a healthy pancreas and it seems highly probable that, like gall-stones, pancreatic concretions are the result of catarrh of the ducts with stagnation of secretion, which generally if not always results from infection. Instead of calculi being formed the ducts may actually be lined with calcareous material that may accumulate so much as to close completely, or almost completely, the lumen. An example of this (for which I am indebted to the University College Hospital Museum) I will show on the screen. It will be noticed that the duct of Wirsung is widely dilated and that it also contains calculi. A convenient term for this disease may be "pancreolithic catarrh." As a rule the calculi are numerous and in only three known cases has a solitary calculus been found. The photographs I now throw on the screen showing numerous calculi are from the Royal College of Surgeons of England and the Leeds Museum, to the pathological curators of which I am deeply indebted (Fig. 13). They all show multiple calculi and in every case it will be seen how seriously the glands have deteriorated. In every case they are the seat of cysts, dilated ducts, chronic interstitial pancreatitis, or abscess along with the concretions.

FIG. 13.



Pancreas containing calculi (Leeds Museum).

The composition of pancreatic calculi is important from the diagnostic point of view, for they contain lime either in the form of carbonate or phosphate or, as in one case reported by Mr Shattock, of oxalate, which latter was found in a cyst. In examining the urine of cases suffering from chronic pancreatitis oxalate of lime crystals have been found by Dr. Cammidge in over 40 per cent. In jaundiced cases in which the bile acids take up the lime salts they have been found only in 6 per cent. of cases. It would be interesting to know if this fact has any bearing on the composition of pancreatic concretions, for it is a well-known fact that the normal pancreatic secretion contains no calcium carbonate. The subject is worthy of further investigation. The consequence of this chemical composition is that pancreatic calculi are opaque to the x rays and in this way we have a means of diagnosing their presence and of differentiating them from gall-stones, which are not seen in a skiagram. I am able to show you on the screen an x ray photograph of concretions taken from a case where at the same time I removed gall stones and pancreatic calculi, and for comparison I show an ordinary photograph of the two classes of concretions together The difference in their appearance in the skiagram is readily seen (Fig 14) The next photograph, taken by Dr J Mackenzie Davidson, shows the calculi *in situ* and as the vessels have been injected they also show distinctly So far as I know this method of diagnosis is here suggested for the first time I feel confident that in future it will be employed regularly and I believe that by means of the urinary pancreatic reaction we shall also be able to confirm the diagnosis by demonstrating the associated chronic pancreatitis

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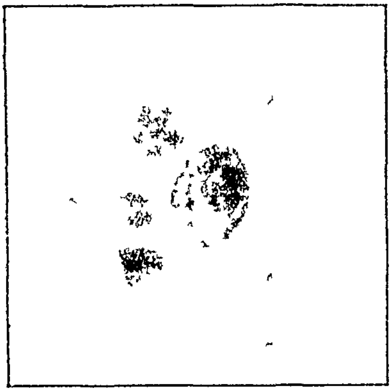
[2] Annals of Surgery.

FIG 14



X ray photograph of biliary and pancreatic calculi

I will now show on the screen a number of calculi showing their usual elongated shape Shupmann has recorded a calculus measuring two and a half inches by half an inch and weighing 200 grains, and Matani has reported one weighing two ounces In colour they are pale and they may be white, but if they pass into the common bile-duct they receive a covering of cholesterine and may be stained by the bile so as to look like gall stones The symptoms depend on the associated condition, whether that be cyst, abscess, chronic inflammation, or other pathological state, doubtless in some cases symptoms are vague or even wanting and in some cases pancreatic calculi have only been discovered post mortem Glycosuria was recorded by Lancereux in 12 out of 40 cases Pains at the epigastrium radiating towards the inferior angle of the left scapula, often agonising in character and associated with vomiting, may be present and the attacks may be brought on by exertion or may be irregular, coming on at any hour, day or night Dyspepsia and flatulence are usually associated Liporrhœa and azotorrhœa as well as bulky pale motions, are present when there is well marked interstitial pancreatitis, and in some cases where the interstitial changes have advanced to atrophy or fatty degeneration of the whole gland glycosuria is found The pancreatic reaction in the urine was well marked in a case on which I operated and I think it will be generally found If a calculus descends into the ampulla of Vater jaundice will ensue and the case will probably be diagnosed as one of gall stones in the common duct but the urinary pancreatic reaction and the use of the x rays should enable a differential diagnosis to be made.

MEDICAL TREATMENT

The treatment by sialagogues such as injections of pilocarpine, it seems to me, must be useless and mere waste of time Relief to pain may be given by sedatives and other treatment must be adopted as occasion arises but as soon as pancreatic stones can be diagnosed they should be removed, as destruction of the pancreas is otherwise certain and it is quite clear that medical treatment can do no real good in these cases.

SURGICAL TREATMENT

Surgical treatment has until quite recently been merely palliative, but fortunately surgery can now offer a reasonable hope of cure Some years ago I pointed out that the pancreatic duct could be readily explored by an incision in the second part of the duodenum and by then laying open the biliary papilla, when the opening of Wirsung's duct can be seen In this way I have passed a probe two inches along the duct of Wirsung to explore it and have removed a pancreatic calculus from the duodenal end of the duct. A very exhaustive search through English and foreign literature, in which Mr Clarke has helped me, has only resulted in the discovery of five operations for pancreatic calculi Mr A. Pearce Gould's case, operated on March 3rd, 1896 died on the twelfth day from exhaustion In Dr Dalziel's case a stone of the size of a very large pea was removed from the pancreatic duct through an incision in the duodenum, the opening in the duct being stitched to the wound in the posterior wall of the duodenum. As the bile duct was clear there was no jaundice A good recovery followed In Mr B G A Moynihan's case reported in THE LANCET of August 9th, 1902 p 355, a pancreatic stone was removed from the ampulla of Vater through an incision in the duodenum and the patient recovered In Dr L W Allen's case reported in the "Annals of Surgery," 1903, p 741, two calculi were removed from a cyst between the lesser curvature of the stomach and the liver The patient died on the fifth day after operation In a case under my own care, which has not been yet fully reported, I operated on Feb 13th 1903 on a woman aged 57 years, and removed four calculi, one from the duct of Santorini or one of its branches by direct incision into the pancreas close to the common duct, afterwards closing the opening by deep and by peritoneal sutures, the second and third stones I reached through an incision in the duodenum by laying open the papilla, when by means of fine forceps I removed a calculus out of Wirsung's duct, along which I afterwards passed a probe for two inches, and a fourth concretion I removed by direct pancreatotomy from the middle of the duct of Wirsung, the stone being reached by dividing the gastro hepatic omentum drawing the stomach downwards incising the pancreas freely and opening the duct directly on to the stone which was of the size of a small bean and which I show on the screen The duct was then closed with catgut, the wound in the body of the pancreas being sutured so as to leave no dead space and the peritoneal wounds being closed without direct drainage The right kidney pouch was then drained as some infected bile had escaped Recovery was ultimately complete In this case pain and vomiting were marked features and the pancreatic reaction was of the utmost importance from the point of view of diagnosis This is, I believe, the first case in which either the duct of Wirsung or the duct of Santorini has been deliberately opened and, after the removal of a calculus, closed by a suture

THE OPERATION OF PANCREOLITHOTOMY

For the purpose of removing calculi from the pancreas an incision one or one and a half inches to the right of the middle line will be found the most convenient as the fibres of the right rectus can be split and the incision lengthened upwards and downwards without unnecessarily weakening the abdominal wall A sand bag under the lumbar spine will bring the gland several inches nearer the surface If the opening of the duct of Wirsung has to be explored, the second part of the duodenum may be incised and the papilla common to the bile and pancreatic ducts laid open when the edges of the opened diverticulum of Vater can be seized with small catch forceps and drawn to the surface, a probe or fine forceps can then be readily passed into Wirsung's duct and any concretion removed If the calculi are more deeply placed in the ducts the pancreas may be exposed either through the gastro-hepatic omentum by drawing the stomach downwards or by lifting the stomach it may be reached through a slit in the omentum The calculi may be then cut down on and extracted by a scoop or forceps Any bleeding must be arrested by ligatures The duct can be sutured and the incision in the gland must be brought together by buried sutures the peritoneal covering being coapted by a continuous suture If leakage is feared a gauze drain may be applied but the position may be difficult for this and if it has to be done the gauze must be surrounded by a rubber drainage tube and brought through it to the surface. In my case of pancreo-lithotomy I felt the closure of the gland was so secure as not to require gauze packing and the result justified my not using it. When the duodenum is opened it must be closed in the usual way by a muco-muscular and a serous suture, the latter being of fine celluloid thread. The incised papilla need not be sutured. If a calculus be felt in the head of the gland but not in the duct of Wirsung it may be reached by incising the peritoneum over the duodenum and separating it gently from the head of the pancreas, or if more deeply placed near the back of the gland the reflection of peritoneum from the duodenum to the abdominal wall may be incised and the duodenum may then be displaced inwards, when the back of the pancreas will be exposed and if thought advisable it may be incised and treated as in the incision from the front.

NEOPLASMS.

It is quite impossible in a short course of lectures even to touch on all the diseases of the pancreas. I must therefore under this heading confine myself simply to cancer and sarcoma, leaving for another occasion the study of adenoma, lymphoma, and the granulomata, tubercle, and syphilis.

Carcinoma.—Carcinoma is the most common of the neoplasms found in the pancreas. Out of 53,000 necropsies gathered from various sources where post-mortem examinations were presumably carefully made there were 226 cases of primary malignant disease of the pancreas (Roswell Park), but as these include Remo Segré's cases from the Ospedale Maggiore, Milan, in which the primary and secondary growths are not separated, the proportion of primary growths is probably not so large. Secondary growths are much more common, for instance, in Eppinger's statistics, of 1314 necropsies there were 308 cancers in various organs, of which 19 were in the pancreas, but of these only two were primary. It seems advisable to remark here that all past post-mortem records with regard to cancer of the pancreas must be fallacious as until recently cases of chronic interstitial pancreatitis causing occlusion of the common bile-duct were not differentiated. The tumour in cancer may take the form of scirrhus or encephaloid cancer, columnar epithelioma or colloid cancer, and these are given in their order of frequency. I will throw on the screen examples of each of these forms, as well as examples of cancer of the liver secondary to cancer of the pancreas, showing how the secondary disease conforms to the type of the primary.

Cancer usually occurs after 40 years of age, though I have operated for cancer of the head of the pancreas at 32 years of age and rarely it has been known to occur in childhood. I have seen and personally examined considerably over 100 cases of cancer of the pancreas, in many of which the diagnosis has been subsequently confirmed by operation or by necropsy and my experience has been that loss of weight and strength with indigestion and general malaise are the first symptoms, pain being usually absent or unimportant; that when the head of the pancreas is involved jaundice rapidly ensues, the liver swells, and the gall-bladder dilates. The patient then seems almost to dissolve away, the loss of flesh being so rapid. The motions become pale, contain fat and muscle fibre if meat be taken, and the urine gives a well-marked and special pancreatic reaction. Sugar is only found when the whole gland is involved either in the malignant disease or by secondary interstitial pancreatitis of the interacinar type.

It is quite common to find in these cases evidences of pancreatitis superadded to the growth and this causes a change in the urinary reaction which may lead to an error in diagnosis unless it is borne in mind that such a sequence is possible. There is as a rule no difficulty in diagnosing cancer of the head of the pancreas from interstitial pancreatitis, as the urinary reactions are quite distinct if performed with care, and the general symptoms, especially the duration of the disease, will usually enable the diagnosis to be made. In exceptional cases, especially when the tumour is large and growing rapidly, pain may be severe and excruciating and if the stomach is invaded vomiting assumes a prominent place. The hæmorrhagic tendency, in connexion with cancer of the head of the pancreas and jaundice, is well known, but even in cancer of the body or tail of the organ a hæmorrhagic condition may ensue. Probably the excretion of lime salts from the blood may account for the hæmorrhagic condition and for the relief that can be given by the use of calcium chloride. Bleeding from the stomach or the mouth and from the intestines, or hæmorrhages under the skin are apt to occur spontaneously and to become serious or even fatal, and in case of operation, unless the blood be previously charged with lime salts, bleeding is likely to occur in the shape of persistent oozing both at the time of operating and subsequently.

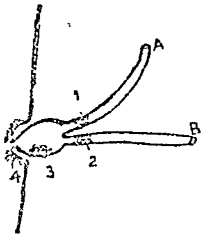
When the tumour attains any size it may be palpated from the front, but in ordinary scirrhus of the head of the pancreas no tumour can be felt, except enlargement of the gall-bladder which is generally present. Bronzing of the skin may come on if the adrenals are involved. Ascites or dropsy of the lower limbs may come on from pressure on the portal vein or inferior vena cava, or from secondary involvement of the liver, but apart from pressure slight œdema of the feet is often an early sign. Death occurs from exhaustion as a rule within a few months and is never very long delayed—in fact, cancer affecting the head of the pancreas *is more rapidly fatal than when occurring in any other* organ.

The typical clinical picture of malignant disease of the pancreas may thus be drawn: a patient suffers for a time from indefinite symptoms of digestive disturbance, then jaundice appears, coming gradually but persistently increasing; the gall-bladder is usually distended and the liver is normal or slightly enlarged. A tumour may be found in the neighbourhood of the pancreas. Cachexia rapidly develops and in some cases pain disturbs the patient's rest. There is soon a feeling of intense prostration and weakness. The fæces are massive and contain fat or fat-acids and an undue proportion of undigested muscle fibre. The urine contains albumin frequently and sugar and fat rarely. The whole clinical course is run, as a rule, within 12 months and after the appearance of jaundice within from six to eight months.

DIFFERENTIAL DIAGNOSIS.

In malignant disease of the pancreas the symptoms are not constant. The cases may be divided into three chief types: 1. Where the tumour extends to the right and compresses or occludes the common bile and the pancreatic ducts. 2. Where it takes an upward and forward direction and besides compressing the bile-duct leads to pyloric stenosis. In this case to the typical symptoms are added those of dilated stomach. 3. Where the extension is backwards, causing compression of the vena cava and of the portal veins, thus leading to an early onset of ascites and later to œdema of the lower extremities. When the body and tail of the pancreas are involved the symptoms are atypical and the development of a tumour with steady loss of strength and increasing anæmia are such as might be due to any malignant tumour outside the pancreas In the differential diagnosis of cancer of the head of the pancreas we must consider common duct cholelithiasis, interstitial pancreatitis, cancer of the common bile-duct, cancer of the liver, cancer of the pylorus, and chronic catarrh of the bile-ducts. Whenever in a patient at or past middle age jaundice comes on painlessly and becomes absolute, at the same time that the gall-bladder gradually enlarges so as to form a perceptible tumour and the patient rapidly loses flesh and strength, a diagnosis of cancer of the head of the pancreas will probably be correct. The diagnosis will be made more certain if there is an absence of tenderness below the right costal margin associated with a tumour opposite to, or above, the umbilicus, having communicated pulsation and not moving with respiration. On distending the stomach with carbon dioxide it will be found that the tumour, at the best rather indefinite, becomes hidden behind the resonant stomach and that the distended gall-bladder becomes pushed to the right. If cholelithiasis has preceded the onset of cancer the gall-bladder will not be enlarged but the rapid deterioration of health and the presence of anasarca and ascites will, as a rule, leave no doubt of the nature of the disease. In common duct cholelithiasis there is practically always a preliminary history of gall-stone attacks, though it may have been years previously. The jaundice will have come on after pain and is probably never absolute, for some bile nearly always escapes past gall-stones in the duodenum. The bile soon becomes infected and the ague-like seizures follow and an irregular temperature, at times almost resembling pyæmia. In place of a distended gall-bladder a rigid right rectus will be felt which often makes it difficult to examine the parts beneath. A tender spot will usually be found an inch above, and to the right of, the umbilicus and the pain will be found to pass backwards to the midscapular region or to a spot beneath the right shoulder-blade. Whereas in cancer of the head of the pancreas the disease is only a question of months, in cholelithiasis it may be one of years. Pancreatic catarrh or chronic pancreatitis frequently accompanies gall-stones in the common duct and clears up after their removal, but it may persist after the cause has passed away. Whenever a tumour of the head of the pancreas is felt during a gall-stone operation, especially if before middle life, hope may always be felt that the disease may be simple and may clear up by the drainage of the ducts. A long history is in favour of the simple disease, as are the presence of adhesions, the history of painful attacks, and the presence of tenderness above the umbilicus. In chronic pancreatitis it is not uncommon to find enlarged glands in the free border of the lesser omentum, but they are discrete when the disease is simple and generally confluent in cancerous affections. The jaundice may be absolute, but as a rule it is not complete. Infective cholangitis and infection of the pancreatic ducts are commonly present, as shown by the temperature and by ague-like seizures. Although the loss of flesh is marked it is less evident than in cancer of the head of the pancreas, and until the disease has existed for a longer time than cancer gives its victim there is no sign of anasarca or ascites or of enlarged abdominal veins. The gall-bladder is seldom distended, though this is not an absolute rule, as I have seen it [illegible] on duct and chronic pan- [illegible] it is often difficult to determine, but this is of no moment from a practical point of view, as surgical treatment is, as a rule, demanded in both conditions. Anæmia is much more marked in cancer of the head of the pancreas than in chronic interstitial pancreatitis. Cancer of the common duct is rare and is usually associated with gall-stones; if the disease involves the [illegible] from those of canc[illegible] it be situated above the opening of the pancreatic duct it will not interfere with the functions of the pancreas and therefore the loss [illegible] which I operated [illegible] is not a constant [illegible] d by the jaundice being absent or much less intense and by the enlargement of the liver with irregular nodules on its surface and edges. The accompanying diagram shows the positions that growths may occupy in the neighbourhood of the papilla (Fig. 15). In simple catarrhal jaundice the symptoms are almost negative except for the jaundice and loss of appetite, and the way in which it yields to treatment shows the slighter nature of the ailment. In cancer of the pylorus the predominance of gastric symptoms and the dilatation of the stomach with absence of free hydrochloric acid and presence of blood in the vomit usually enable a diagnosis to be made, but it should not be forgotten that cancer of the pylorus and of the head of the pancreas frequently coexist. In all these *cases the urinary test affords most valuable help in diagnosis.*

FIG. 15.



1. Growth commencing in common bile-duct A. 2. Growth commencing in Wirsung's duct B. 3. Growth commencing in diverticulum. 4. Growth commencing on papilla.

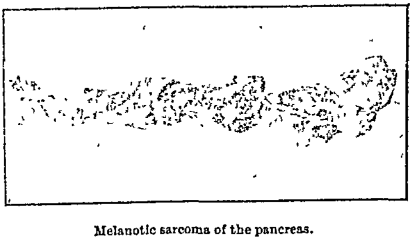
TREATMENT.

Medical treatment must be purely symptomatic; morphine if needed for the relief of pain; calcium chloride for the prevention of hæmorrhage; pankreon tablets or liquor pancreaticus for the digestion of food; and other remedies for symptoms as they arise. Surgical treatment is not very hopeful and has usually been undertaken under the idea that the cause of the jaundice might be a removeable one or that drainage of the bile-ducts might afford relief to the jaundice, but if the disease has involved the head of the pancreas it is hopeless however treated. Treatment may be radical or palliative. Ruggi of Bologna removed through the loin a cancer of the pancreas weighing 23 ounces. It was probably growing from the tail of the gland. Complete recovery followed and the patient was well for three months, after which secondary disease developed and the patient died at the end of six months. Professor Ruggi himself furnished me with these details. Cades' was the second successful case, in 1895, a tumour of the tail of the pancreas of the size of a child's head being removed. Terrier in 1892 removed a tumour weighing five pounds but lost his patient. Of 16 operations for removal of solid tumours of the pancreas, eight recovered, which, considering the difficulty of the operation and the depth of the organ to be operated on, is better than one would have expected. Successful pancreatectomies it will be seen are exceptional cases and are only feasible where the growth is not involving the head of the gland; they, however, clearly demonstrate that a tumour of the body or of the tail of the pancreas may be removed with equal chances of recovery, and should the disease be primary and no secondary growths or glandular involvement have occurred, great prolongation of life is quite possible. Of the palliative operations, cholecystotomy and cholecystenterostomy for the relief of jaundice in cancer of the head of the pancreas, I can speak about very decidedly, as I have operated on 28 cases, all the patients being extremely ill at the time of operation. Many of these cases occurred when there was a difficulty in making a diagnosis between cancer of the head of the pancreas and gall-stones in the common duct or between cancer and interstitial pancreatitis, difficulties which have been overcome recently. Of the 15 cases in which the gall-bladder was drained eight recovered from the operation, the longest survival being eight months, but the average survival being about four months; of the six cholecystenterostomies two recovered and the duration of life was only a few weeks. Even a simple exploratory operation in these cases is attended with danger, for out of six cases four only recovered from operation. Dr. Murphy of Chicago was kind enough to furnish me with a report of his statistics of cholecystenterostomy up to 1897. Of 67 non-malignant cases there had only been three deaths, but of his 12 malignant cases 10 died, giving a mortality of 83·3 per cent. Thus it will be seen that any palliative operation for the relief of cancer of the head of the pancreas associated with jaundice is useless, as, even if recovery occurs, life is not prolonged to any great extent.

SARCOMA.

Primary sarcoma of the pancreas is undoubtedly rare, though secondary disease, especially of the melanotic type, seems to be less uncommon. I have found examples of sarcoma in several of the museums, photographs of which I have obtained and will now show on the screen. The first is of melanotic sarcoma from the Hunterian Museum, the specimen being on the table (Fig. 16). It was taken from a girl, aged 20 years, and was secondary to a melanotic growth in the eye which was removed three years before her death. The next specimen shows melanotic sarcoma with fat necrosis. The next is from St. George's Hospital, No 201 E, and shows a secondary sarcoma, the primary growth being in the thymus gland. The next specimen is a very large spindle-celled sarcoma from University College Hospital Museum, No. 3200 (Fig. 17). The growth has

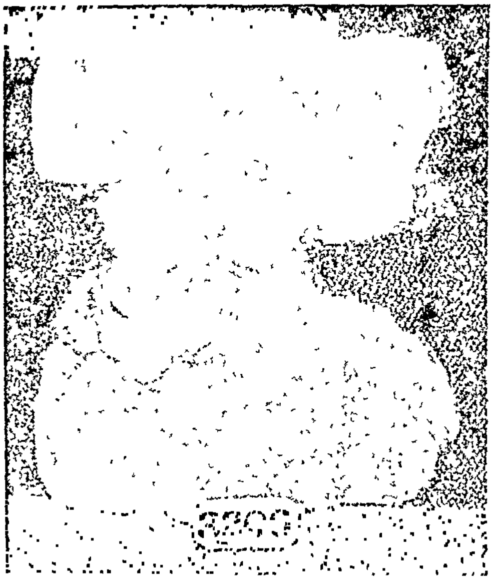
FIG. 16.



Melanotic sarcoma of the pancreas.

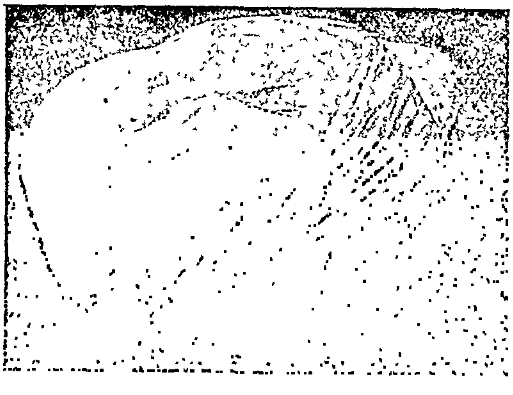
completely involved the gland and has left no trace of gland tissue. The next specimen (Fig. 18) I throw on the screen is on the table, No. 2836 A. It was removed from the tail of the pancreas but the child succumbed shortly after the operation. Operation for sarcoma of the pancreas is uncommon, though the few cases operated on prove that if the tumour be in the tail of the pancreas the case is one amenable to surgical treatment. I explored the abdomen in one case of the kind but found the disease too extensive for removal. Kronlein in 1894 removed a tumour of the size of the fist but the patient died seven days later. A tumour which was successfully removed by Briggs proved to be sarcomatous degeneration of an echinococcus cyst.

FIG. 17



Spindle-celled sarcoma of the pancreas.

FIG. 18.



Sarcoma removed from the tail of the pancreas.

Mr. President, I must apologise for the imperfect manner in which I have been able to deal with the several subjects in my last lecture but want of time has compelled me to cut out much of what I should like to have said. I hope, however, that my lectures will be the means of exciting more general interest in the surgery of the pancreas, a subject which I feel is much more worthy of attention than hitherto has been accorded to it. It only remains for me to thank you for the patient hearing and the kindly interest that have been shown in what I have had to say and at the same time I would thank the Council of the Royal College of Surgeons of England for the honour they have done me in electing me a third time to hold this important chair.

ON THE PRECIPITIN OF COBRA VENOM.

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SECOND COMMUNICATION.

IN a previous communication[1] on the above subject it was shown that the serum of a rabbit which had been subjected to gradually increasing doses of pure unheated cobra venom possesses the property of causing a coagulum or precipitum when mixed in suitable proportions with solutions of suitable strength of this venom; that, in short, the rabbit reacts to injections of the proteids of cobra venom exactly in the same way—that is, by the formation of specific precipitins—in which it reacts to injections of various other proteid substances, such as the proteids of serum, egg albumen, Witte's peptone, &c. It was further demonstrated that when this immune serum and a solution of cobra venom of definite strength were mixed in suitable proportions both the precipitin and the precipitable proteids were entirely used up. Taking advantage of this fact we were able to give a numerical expression to the precipitin value of the serum in terms of the amount of cobra venom which a given quantity of serum would exactly neutralise. It was on this account suggested that by this method we might possibly have at hand an easy and ready means of standardising an antivenomous serum. In conclusion, it was shown in this communication that while the serum of a rabbit immunised with cobra venom gave with the proteids of daboia venom a copious precipitum, indistinguishable, in fact, from the precipitum given with cobra venom itself, no coagulum was obtained when this serum was mixed with the venoms of three other species of snakes—namely, (1) echis carinata, (2) bungarus fasciatus, and (3) hoplocephalus curtus.

In the present communication it is proposed further to extend these observations in several directions which were indicated in the previous paper. It is, however, as well to mention at the outset that several of the problems which were then mentioned as awaiting solution have still to be left undecided. In the first place, the observations summarised above have been extended by testing a cobra venom serum—that is to say, the serum of a rabbit highly immunised with pure unheated cobra poison—with the venoms of five other species of snakes—namely, (1) naja bungarus; (king cobra); (2) bungarus cœruleus (common krait); (3) enhydrina valakadien (a common sea snake); (4) trimeresurus gramineus (green pit viper); and (5) crotalus adamanteus (Californian rattlesnake).[2] In order to make these observations as conclusive as possible two methods of technique were employed in each instance. The first method consisted in mixing different proportions of serum with one part of venom solution of definite strength—namely, 0·05 per cent. In the second method three parts of serum were mixed with one part of venom solution of different strengths. In all cases these mixtures were effected by means of Wright's tubes of large calibre. The preparations were then kept at from 35° to 37° C. for about 20 hours, when the results were recorded. A reference to the protocols (Tables I. and II.) will show that while no coagulum was formed with three of the poisons mentioned above—namely, the venoms of naja bungarus, of bungarus cœruleus, and of crotalus adamanteus—and only a trace of precipitum with the venom of enhydrina valakadien, a marked precipitum was obtained with the poison of *trimeresurus gramineus*. This precipitum, however, was not nearly so copious as those got with cobra venom itself and with daboia venom. Taking the above results along with those which were contained in my previous communication we can divide the venoms which have been tested with a serum prepared by injecting rabbits with pure unheated cobra poison into three groups as follows:—

GROUP A. *Venoms which give a copious precipitum.*—(1) Venom of naja tripudians (cobra); and (2) venom of vipera Russellii (daboia).

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[1] THE LANCET, August 16th, 1902, p. 431.

[2] The king cobra venom was obtained from two snakes the property of the Natural History Society, Bombay; the sea-snake venom from Mr. Peal, Calcutta; and the crotalus venom from Professor S. Flexner, Philadelphia. I am much indebted for these gifts. The other poisons were collected under my own supervision.

GROUP B. *Venoms which give a marked or trace of precipitum.*—(3) Venom of trimeresurus gramineus (green pit viper); and (4) venom of enhydrina valakadien (common sea snake).

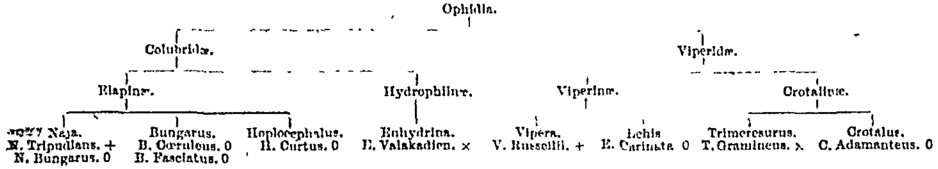
GROUP C. *Venoms which give no precipitum.*—(5) Venom of naja bungarus (king cobra), (6) venom of bungarus cœruleus (common krait), (7) venom of bungarus fasciatus (banded krait), (8) venom of hoplocephalus curtus (tiger snake), (9) venom of echis carinata (phoorsa), and (10) venom of crotalus adamanteus (Californian rattlesnake).

With a view of seeing if the venoms which give a precipitin reaction with a cobra venom immune serum are derived from species which are more closely related in the animal kingdom to the cobra than are the species the poisons of which do not give this reaction, the accompanying diagram, which shows at a glance the position of these several species among the ophidia, has been constructed.

language of Ehrlich's side-chain theory, we can say that the cobra's cells must be deficient in the specific receptors which are present in the cells of animals susceptible to the poison and which allow of the poison being bound to the cells. It would be interesting in this connexion to ascertain whether the central nervous tissues of the cobra were able to neutralise the poison in vitro in the same manner as has been shown in the case of those tissues of susceptible animals and also whether the cobra's red cells were susceptible to the poison in the same way as the red cells of other animals—that is to say, were hæmolysed by the venom. Unfortunately, however, I have no living cobras at present at my disposal.

The second series of observations now under consideration was made with cobra venom immune serum and cobra serum. In these experiments also two methods of technique were employed. In one method the cobra venom immune serum was mixed in varying proportions with one part of cobra serum. These proportions varied from 10 to 1 to 1 to 1. In the other method four parts of cobra venom serum were mixed with one part of different dilutions of cobra serum, the dilutions varying from two-fold to 1024-fold. In both instances the cobra venom immune serum was the serum of a rabbit highly immunised with cobra venom. Not a trace of coagulum was observed in any of these preparations. We can therefore conclude that the serum of a rabbit highly immunised with cobra venom contains no precipitin for cobra serum.

DIAGRAM SHOWING THE PRECIPITIN REACTION IN DIFFERENT SPECIES.



+ Give a copious precipitum. × Give a marked or trace of precipitum 0 Give no precipitum.

A study of this diagram will at once make it apparent that this venom precipitin test affords no indication of the closeness of species relationship. Thus, for example, it will be noted on the one hand that the venom of naja bungarus, a species belonging to the same genus as the cobra, gives no precipitum with a cobra venom immune serum, and, on the other hand, that the venom of vipera Russellii, a species belonging even to a different family from the cobra, gives a copious precipitum with cobra venom immune serum. These observations therefore are not in accord with the similar observations which have been made by Nuttall and others working with immune sera prepared by injections of the sera of different species of animals and which went to show that a serum prepared by injections of the serum of one species of animal gave a certain amount of precipitum with the sera of animals closely related to the animal the serum of which was used for the injections and gave no precipitum with the sera of animals more distantly related. The same law does not evidently hold good for the venoms of the poisonous snakes. Further, these results show that great differences must exist between the proteids of the poisons of the several species of snakes, differences which must be kept carefully before the mind when dealing with the physiological actions of the venoms of the several species.

In the second place, I have now to pass on to the consideration of some observations which were made with the serum of the cobra itself and with the serum of a rabbit which had been treated by repeated injections of cobra serum. The cobra serum was obtained by opening the thorax of living snakes, cutting the aorta across, and catching the blood from the cut end. After allowing the blood to clot a clear serum was got by centrifugalisation. The first series of experiments was made with a view of ascertaining if cobra serum contained any precipitin for cobra venom. Two methods of experimentation were employed. In one method four parts of serum were mixed with one part of cobra venom solution of a strength varying from 1 per cent. to 0·0078 per cent. In the other method varying proportions of the serum were brought in contact with one part of cobra venom solution of fixed strength—namely, 0·05 per cent. The proportions of serum to venom solution varied from 10 to 1 to 1 to 2. As no trace of coagulum was obtained in any of these preparations the experiments are not given in detail in the protocols.

Such a result was only to be expected. It has been shown by several observers that the cobra is immune to its own poison and that this immunity is not due to the presence of any antitoxic substances in its blood. It is therefore evident that, although constant absorption of the poison must be taking place, neither antitoxin nor precipitin is prepared. Stating the conclusion to be drawn from these facts in the

The third series of experiments was made with a view of ascertaining if the serum of a rabbit which had been treated with injections of cobra serum contained any precipitin for this serum as well as for daboia serum. A rabbit was treated with three subcutaneous injections of fresh cobra serum. These injections, amounting to 11 cubic centimetres in all, were made at intervals of about ten days. The serum of the rabbit was collected eight days after the last injection. It was then tested against both cobra serum and daboia serum, the latter of which was obtained in the same manner as has been described in the case of the cobra serum. A reference to the protocols (Tables III. and IV.) will show that a very copious and well marked precipitum was obtained with cobra serum, while a much less marked but still distinct reaction was obtained with daboia serum. The difference between these two reactions was very apparent and is well shown by the fact that in many of the preparations w [illegible] with cobra serum [illegible] tation was seen in [illegible] serum.

It was now of interest to ascertain if this rabbit's serum, prepared with cobra serum, gave any precipitin reaction with cobra venom. An experiment made with this end in view is detailed in Table V. of the protocols. It will be seen from this table that a well-marked precipitin reaction took place between these two substances. The reaction, however, was not so well marked as that between cobra venom immune serum and cobra venom. It is difficult in the present state of our knowledge as regards proteid precipitin and proteid assimilation to reconcile the two facts now demonstrated—namely, that a serum prepared by injections of cobra venom contains no precipitin for cobra serum but that a serum prepared by injections of cobra serum gives a well-marked precipitum with cobra venom. I am afraid I can at present offer no suitable expl [illegible]

In my previous [illegible] ject under discussion I was able [illegible] the serum of a rabbit immunised with cobra venom, it was possible to give a numerical expression to the [illegible] of this serum by estimating with what [illegible] nd venom solution of known strength both the precipitin and precipitable substances were used up. Further, it was suggested that by such an estimation of the precipitin value of a serum a method of standardising an antivenomous serum might be elaborated. In the third place, I have now to put on record some observations which show definitely that the hope which was then expressed cannot be fulfilled. In the course of these experiments some interesting points were settled as regards the relationship of precipitin to antitoxin. These points will also now receive attention. The first experiments were made with the serum of an ass which had received over a period of six months repeated injections of pure unheated cobra venom. The antitoxic value of this serum was estimated by experiments on rats after the method already described.[3] A reference to the protocols (Table VI.) will show that one cubic centimetre of this serum was able to neutralise 0 07 milligramme of cobra venom. On experimenting now to ascertain the precipitin value of the serum it was found that it contained no, or only the merest trace of, precipitin (*vide* protocols, Table VII.). This result at once suggested that the formation of antitoxin is independent of the formation of precipitin. As, however, the antitoxic value of this serum was by no means high, it was necessary to make further experiments with a serum of much greater antitoxic power. Further observations were therefore made with the serum of a horse (Horse A) which had been treated over a period of nearly two years with repeated subcutaneous injections of pure unheated cobra venom. The antitoxic value of this serum was determined in a manner similar to that used in the case of the serum of the ass, small rabbits, however, being employed instead of rats. It will be seen from the protocols (Table VIII.) that one cubic centimetre of this serum was able to neutralise at least 1·2 milligrammes of cobra venom, an antitoxic value nearly 20 times greater than that of the serum of the ass. An attempt was next made to estimate the precipitin value of the serum. If the results obtained in these experiments (protocols, Tables IX. and X.) be compared with the results of the estimation of the precipitin content of the serum of a rabbit highly immunised with cobra venom (protocols, Tables XIV.–XVII.) it will be at once seen that this horse's serum contained evidently such a small amount of precipitin that there was no possibility of making an accurate estimation of it after the manner I have already described.[4] First, it appears from these two observations that neither the ass nor the horse, in comparison with the rabbit, is a suitable animal for the preparation of a precipitin for cobra venom. This conclusion is substantiated by experiments which were made with the serum of another horse (Horse B) which had been subjected over a period of 15 months to repeated injections of pure unheated cobra venom. The serum of this horse was also found to contain very little precipitin. As the experiments gave practically the same results as those obtained with the serum of Horse A they are not detailed in the protocols. It is only necessary to add that the reaction was not quite so well marked as in the case of the serum of Horse A, but it was sufficient to show that a certain, though small, amount of precipitin was present. Secondly, it appears from these two observations that the elaboration of precipitin is quite independent of the formation of antitoxin which results from injections of pure cobra venom. To this point we shall return in a moment. It is now, however, evident from these two facts—namely, that the horse, the animal most suitable for the preparation of an antitoxic serum, reacts only slightly to the injection of cobra venom by the formation of specific precipitin and that the formation of precipitin seems to be quite independent of the formation of antitoxin—that the suggestion I previously put forward that this precipitin test might furnish us with a method of standardisation of antivenomous sera cannot be realised.

A further proof of the fact that the formation of precipitin is quite independent of the elaboration of antitoxin is afforded from the examination of the serum of a horse (Horse C) which had been treated for a period of 22 months by repeated injections of pure cobra venom heated for half an hour at 72° C. The antitoxic value of this serum, as estimated on small rabbits (*vide* protocols, Table XI.), was found to be considerable, one cubic centimetre of serum being able to neutralise about one milligramme of unheated cobra venom. On testing for the presence of precipitin in this serum it was found to contain practically none of this substance (protocols, Tables XII. and XIII.). Further, I tested the sera of two horses which were in the process of immunisation also with pure cobra venom heated for half an hour at 72° C. One of these horses had been under treatment for a period of six months and the other for a period of three months. Neither of these sera contained even a trace of precipitin. Now we have seen above that the serum of a horse immunised with unheated cobra poison contains precipitin, although the quantity, in comparison with the amount present in the serum of an immunised rabbit, is small. It would appear, therefore, from these last observations that when the solution of venom is heated at 72° C. before injection the elaboration of precipitin does not take place in the case of the horse. In conclusion, I have now to bring forward the result of an observation which also bears on the question of the elaboration of precipitin being independent of that of antitoxic substances inasmuch as it consists of some estimations made at intervals of the amount of precipitin present in the serum of a rabbit which was treated over a period of 19 months with gradually increasing doses of pure unheated cobra venom.

Two methods were used to form an estimate of the amount of precipitin in this serum. Linossier and Lemoine,[5] as a result of a long series of experiments, pointed out that in order to give a numerical expression to the precipitin value of a serum it was only necessary to ascertain at what maximum dilution the precipitable proteids begin to be precipitated under the action of a known precipitin, the proportion of serum to the various dilutions remaining the same in all the preparations. On this principle one of the methods employed in my experiments was founded. Further, I also used the method described in my previous communication—namely, the method of estimating with what proportion of serum and venom solution of known strength a neutral solution was obtained; that is to say, a solution containing neither precipitin nor precipitable substances. The first precipitin estimation of this rabbit's serum was made after the animal had been under treatment for a period of five months, during which period it had received a total amount of 0·0151 gramme of venom. The last injection made before this observation was one of 0·0018 gramme—that is, about six lethal doses. It will be seen from the protocols (Table XIV.) that at this period of immunisation when three parts of serum were mixed with one part of venom solutions of different strengths a coagulum began to appear with a solution of a strength of 0·00625 per cent. Further, it will be seen (Table XV., *a* and *b*) that the neutralisation point was reached when six parts of serum were mixed with one part of venom solution of 0·05 per cent. strength. Various observations were made at intervals after this primary estimation, but at no time was any increase of this precipitin value of the serum found to be present. At the end of 19 months when the rabbit had received as a last dose 0·008 gramme, equivalent to about 26 lethal doses, and a total amount of 0·151 gramme of venom, the precipitin value of the serum remained practically the same as it was 14 months previously (protocols, Tables XVI. and XVII.). If anything it had slightly decreased. Thus, when three parts of serum were mixed with venom solutions of different strengths only a mere trace of coagulum was observed in the preparation containing a solution of 0·00625 per cent. strength and the neutralisation point was reached when eight parts of serum were mixed with one part of venom solution of 0·05 per cent. strength. From these observations we can conclude that the precipitin value of the serum of a rabbit undergoing immunisation with pure unheated cobra venom quickly reaches a maximum and remains at or about this level during the process. Although the antitoxic value of this particular serum was not at any time estimated, we can take it from *a priori* reasons and from the facts that the animal stood well the gradually increasing doses of venom and was at the time of the last experiment in a condition of high immunisation, that the serum was at the end of the process of high antitoxic value. These observations therefore lend support to the conclusion arrived at already—namely, that the elaboration of the precipitin of cobra venom is quite independent of the formation of true antitoxin.

PROTOCOLS.

In all the precipitin experiments detailed hereafter the mixtures were effected by means of Wright's sedimentation tubes of large calibre. The tubes after being sealed were kept at from 35° to 37° C. for 20 hours, when the results were recorded. In all the tables the following signs are used: [illegible] m; × signifies a marked pre- [illegible] trace of precipitum; † signi- [illegible] cipitation; and 0 signifies no precipitum or opacity.

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[3] Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. New Series, 1902. No. 1.

[4] THE LANCET, August 16th, 1902, p. 431.

[5] Comptes Rendus de la Société de Biologie, tome liv., 1902, pp. 85, 276, 320, and 369.

TABLES I. AND II.—*Experiments with Cobra Venom Serum and other Varieties of Snake Venom.*

The serum which was used was that of a rabbit which had been highly immunised by subcutaneous injections of pure unheated cobra poison. The snake venoms were obtained from (1) naja bungarus (king cobra) = N.B.V.; (2) bungarus cœruleus (common krait) = B.C.V.; (3) enhydrina valakadien (common sea snake) = E.V.V.; (4) trimeresurus gramineus (green pit viper) = T.G.V.; and (5) crotalus adamanteus (Californian rattlesnake) = C.A.V. Two series of experiments were made. In the first series varying proportions of serum were mixed with one part of a 0·05 per cent. solution of each poison. The following were the results obtained:—

TABLE I.

Proportion of serum to venom solution (0 05 per cent.)	N.B.V.	B C.V.	E.V.V.	T.G.V.	C.A.V.
12-1	0	0	0	*	0
10-1	0	0	0	*	0
8-1	0	0	0	×	0
6-1	0	0	*	×	0
4-1	0	0	*	*	0
2-1	0	0	*	*	0
1-1	0	0	0	*	0

In the second series of experiments three parts of serum were mixed with one part of a solution of different strengths of each variety of poison as indicated below. The dilutions of venom were made with normal saline solution. The following were the results obtained:—

TABLE II.

Serum = 3 parts; venom solution = 1 part.

Strength of venom solution per cent.	N B.V.	B.C.V.	E.V.V.	T.G.V.	C A.V.
0 2	0	0	—	×	0
0·1	0	0	*	×	0
0·05	0	0	*	*	0
0·025	0	0	*	*	0
0 0125	0	0	*	*	0
0 00625	0	0	0	0	0
0 003125	0	0	0	0	0

TABLES III. AND IV.—*Experiments with the Serum of a Rabbit treated with Cobra Serum and Cobra and Daboia Sera.*

A rabbit was treated with three subcutaneous injections of two cubic centimetres, four cubic centimetres, and five cubic centimetres of cobra serum at intervals of ten days. Eight days after the last injection its serum was collected. Two methods of technique were employed. In the first series of observations varying amounts of the treated rabbit's serum were mixed with one part of both cobra serum and daboia serum. The following was the result:—

TABLE III.

Proportion of rabbit's serum to snake serum.	Cobra serum.	Daboia serum.
8-1	+	†
6-1	+	†
4-1	+	†
2-1	+	†
1-1	+	†

In the second series of observations three parts of the treated rabbit's serum were mixed with one part of increasing dilutions of both cobra serum and daboia serum. The dilutions were made with normal salt solution. The following results were obtained:—

TABLE IV.

Treated rabbit's serum = 3 parts. Diluted snake serum = 1 part.

Dilutions of cobra or daboia serum.	Cobra serum.	Daboia serum.
2 fold	+	†
4 ,,	+	†
8 ,,	+	×
16 ,,	+	×
32 ,,	+	*
64 ,,	×	*
128 ,,	×	*
256 ,,	×	*
512 ,,	*	0
1024 ,,	*	0

TABLE V.—*Experiment with the Serum of a Rabbit treated with Cobra Serum and Cobra Venom.*

The same rabbit's serum as was used in the previous observations was employed. Varying amounts of serum were mixed with one part of a cobra venom solution of fixed strength (0·05 per cent.). The following results were obtained:—

Parts of treated rabbit's serum.	Parts of cobra venom solution (0 05 per cent.).	Result.
8	1	*
6	1	*
4	1	+
2	1	×
1	1	×
1	2	×

TABLE VI.—*Experiments to Estimate the Antitoxin Value of the Serum of an Ass treated with repeated Injections of pure unheated Cobra Venom.*

The ass had received over a period of six months repeated injections, gradually increasing in amount, of pure unheated cobra venom. The animals used for testing the serum were rats of about 115 grammes in weight. The minimum lethal dose of cobra venom for a rat of this size is about 0·05 milligramme. The test dose of venom used was 0 25 milligramme—that is to say, five lethal doses. This test dose and varying amounts of serum were mixed in vitro and allowed to stand for half an hour at laboratory temperature (25° C.). The mixtures were injected subcutaneously. The following was the result:—

Animal.	Cobra venom in milligrammes.	Serum.	Result.
Rat 1	0·25	1 0 c.c.	Died in four hours.
,, 2	,,	2 0 ,,	,, 24 ,,
,, 3	,,	2 5 ,,	,, 44 ,,
,, 4	,,	3 0 ,,	No symptoms.
,, 5	,,	3·5 ,,	
,, 6	,,	4 0 ,,	
,, 7	,,	4 5 ,,	
,, 8 (control) ...	,,	*Nil.*	Died in three hours.

From the above series of experiments we can conclude that three cubic *centimetres of serum* could neutralise at least 0·25 – 0 04 = 0·21 milligramme of venom—that is, that one cubic centimetre could neutralise 0·07 milligramme.

TABLE VII.—*Experiment to Show the Precipitin Reaction of the Serum of an Ass treated with repeated Injections of pure unheated Cobra Venom.*

The serum used was the same as that employed in the previous series of observations. The method now employed to test the precipitin reaction was that method in which different proportions of serum are mixed with one part of 0·05 per cent. solution of cobra venom. The following was the result obtained :—

Parts of serum.	Parts of cobra venom (0 05 per cent.)	Result.
10	1	0
8	1	0
6	1	0
4	1	0
2	1	0
1	1	0
1	2	*

TABLE VIII.—*Experiments to Estimate the Antitoxin Value of the Serum of Horse A.*

This horse had been treated over a period of nearly two years with repeated subcutaneous injections, gradually increasing in amount, of pure unheated cobra venom. The test dose of cobra venom, left unheated, now used was two milligrammes for rabbits of about 650 grammes in weight—namely, about ten lethal doses. The minimum lethal dose, by subcutaneous injection, for rabbits of this sample of venom was about 0 35 milligramme per kilogramme. The test dose and different amounts of serum were mixed in vitro and the mixtures were allowed to stand for half an hour at laboratory temperature. They were then injected subcutaneously. The following were the results :—

Animal.	Weight (grammes)	Cobra venom in milli-grammes	Serum.	Result.
Rabbit 1	610	2	1·0 c c.	Died in 2½ hours.
,, 2	680	,,	1·3 ,,	,, 12 ,,
,, 3	615	,,	1 4 ,,	,, 13½ ,,
,, 4	720	,,	1·5 ,,	No symptoms.
,, 5	685	,,	1·6 ,,	,,

From these experiments it will be seen that 1·5 cubic centimetres of serum neutralised 2 – 0 2 (maximum non-lethal dose for rabbit of 720 grammes) = 1·8 milligrammes. Therefore one cubic centimetre could neutralise 1·2 milligrammes.

TABLES IX. AND X.—*Experiments to Show the Precipitin Reaction between the Serum of Horse A and Cobra Venom.*

The same serum as was used for the experiments detailed above was employed to test the precipitin reaction. Two methods of technique were employed. In the first series of experiments varying proportions of serum were mixed with one part of a 0 05 per cent. solution of cobra venom. The following results were obtained :—

TABLE IX.

Parts of serum.	Parts of cobra venom solution (0 05 per cent.).	Result.
10	1	0
8	1	0
6	1	0
4	1	*
2	1	+
1	1	*
1	2	†

In the second series of experiments three parts of serum were mixed with one part of cobra venom solution different strengths. The following was the result :—

TABLE X.

Parts of serum = 3 ; parts of C. V. solution = 1.

Strength of cobra venom solution.	Result.
0·2 per cent.	*
0·1 ,,	+
0·05 ,,	*
0·025 ,,	0
0·0125 ,,	0
0 00625 ,,	0
0 003125 ,,	0

TABLE XI.—*Experiments to Estimate the Antitoxin Val of the Serum of Horse C.*

This horse had been treated over a period of 22 mont with gradually increasing doses of pure cobra venom heat for half an hour at 72° C. The technique used for t estimation was the same as was used in the experimen detailed in Table VIII. The following were the results :—

Animal.	Weight (grammes).	Cobra venom in milli-grammes.	Serum.	Result.
Rabbit 1	750	2	1·0 c c.	Died in 3 hour
,, 2	580	,,	1·3 ,,	,, 3 ,,
,, 3	500	,,	1·6 ,,	,, 18 ,,
,, 4	780	,,	1 8 ,,	No symptoms
,, 5	700	,,	2 0 ,,	,,

From these experiments it will be seen that 1·8 cubic cent metres of serum neutralised 2 – 0 2 = 1·8 milligrammes venom. Therefore one cubic centimetre could neutralise o milligramme.

TABLES XII. AND XIII.—*Experiments to Show the Pr cipitin Reaction between the Serum of Horse C and Cob Venom.*

The same serum as was used in the experiments detaile above was now employed to test the precipitin reactio Two methods of technique were employed. In the first seri of experiments varying proportions of serum were mixe with one part of a 0 05 per cent. solution of cobra venor The following results were obtained :—

TABLE XII.

Parts of serum.	Parts of cobra venom solution (0 05 per cent.)	Result.
10	1	0
8	1	0
6	1	
4	1	
2	1	0
1	1	Slight opacity.

In the second series of experiments three parts of seru were mixed with one part of cobra venom solution o different strengths. The following was the result :—

TABLE XIII.

Parts of serum = 3 ; parts of C.V. solution = 1.

Strength of C. V. solution.	Result.
0 2 per cent	
0·1 ,,	Slight opacity
0 05 ,,	0
0 02 ,,	0
0 0125 ,,	
0 00625 ,,	0

From these observations it can be concluded that this serum contained practically no precipitin.

TABLES XIV. TO XVII.—*Experiments to Estimate the Amount of Precipitin in the Serum of a Rabbit at Different Stages in the Process of Immunisation with Cobra Venom.*

The rabbit was treated over a period of 19 months with subcutaneous injections of gradually increasing doses of pure unheated cobra venom. The first estimation of the precipitin content of the serum was made after the rabbit had been under treatment for five months, having received during this time 0·0151 gramme of venom. Two methods of appraising the precipitin value of the serum were employed. 1. In the first instance three parts of serum were mixed with one part of venom solution of different strengths. The following were the results:—

TABLE XIV.

Parts of serum = 3; parts of C.V. solution = 1.

Strength of venom solution.	Result.
0·1 per cent.	+
0·05 ,,	+
0·025 ,,	+
0·0125 ,,	+
0·00625 ,,	*
0·003125 ,,	0

2. In the second instance varying proportions of serum were mixed with one part of venom solution of fixed strength (0·05 per cent.). The following result was obtained:—

TABLE XV. (*a*).

Parts of serum.	Parts of venom solution (0·05 per cent.).	Result.
12	1	+
8	1	+
6	1	+
4	1	+
2	1	×
1	1	

The clear supernatant fluid in each of these tubes was then obtained by simply filing off the end of the tube with the contained precipitum. It was divided into two portions. To one portion was added an equal quantity of cobra venom solution (0·05 per cent.) and to the other portion was added an equal amount of the same serum as was used in the first series of experiments. The results were as follows:—

TABLE XV. (*b*).

Proportion of serum to venom solution in original preparation.	C.V. solution (0·05 per cent.).	Serum.
12–1	*	0
8–1	*	0
6–1	0	0
4–1	0	*
2–1	0	×
1–1	0	+

It is evident, then, that the neutralisation point was reached when six parts of serum were mixed with one part of the venom solution (0·05 per cent.). The last estimation of the precipitin value of this rabbit's serum was made after it had been under treatment for 19 months, having received during this period 0·151 gramme of venom. The same method was used to estimate the precipitin value of the serum as in the previous observation. The results were as follows.

TABLE XVI.

Parts of serum = 3; parts of C.V. solution = 1.

Strength of venom solution.	Result.
0·1 per cent.	×
0·05 ,,	+
0·025 ,,	*
0·0125 ,,	*
0·00625 ,,	*
0·003125 ,,	0

TABLE XVII. (*a*).

Parts of serum.	Parts of cobra venom solution (0·05 per cent.)	Result.
12	1	+
10	1	+
8	1	+
6	1	+
4	1	×
2	1	×
1	1	*

The supernatant fluid in each tube was treated in the same manner as in the experiments detailed above (Table XV., *a*). The following was the result:—

TABLE XVII. (*b*).

Proportion of serum to venom solution in original preparation.	C.V. solution (0·05 per cent.)	Serum.
12–1	*	0
10–1	*	0
8–1	0	0
6–1	0	*
4–1	0	*
2–1	0	*
1–1	0	×

It is evident, then, that the neutralisation point was, in this case, reached when eight parts of serum were mixed with one part of venom solution (0·05 per cent.)

Kasauli, India.

ON A NEW METHOD OF TESTING THE BLOOD AND THE URINE,

WITH SPECIAL REFERENCE TO THE DETERMINATION OF THE EXCRETORY EFFICIENCY OF THE KIDNEY.

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THE examination of the urine for albumin is a very indirect, ineffective, and often fallacious method of obtaining information with regard to the excretory efficiency of the kidney. While it is capable of revealing leakage of the albuminous substances from the blood into the urine it tells us nothing with regard to the excretion of the salts and products of metabolism generally into the urine. This information is furnished by comparative cryoscopic examinations of the urine and of the blood from which that urine has been elaborated. These examinations, involving as they do not only resort to complicated and delicate apparatus but also the employment of a comparatively large quantity of blood, are impracticable in connexion with ordinary clinical work. The difficulties which are associated with cryoscopic work may be avoided by the method described below. The information which it furnishes seems likely to be of value alike to the clinician, the operating surgeon, and the medical officer who has to deal with life insurance.

Principle of the method.—A standard quantity of normal red corpuscles suspended in a measured volume of salt solution of a standard strength furnishes a test fluid. The urine, or as the case may be the blood fluid (serum) from which that urine is derived, is mixed in progressive dilutions in a capillary tube with measured volumes of the standard suspension of red blood corpuscles. The point is determined at which the urine or serum has been so far diluted as to allow of complete hæmolysis of the standard suspension of red corpuscles. From these data taken in association with the data obtained on diluting the suspension of corpuscles with progressive dilutions of a decinormal sodium chloride solution, the concentration of the serum and urine is calculated. The quotient obtained by dividing the latter by the former is denoted "*the excretory quotient*."

Procedure employed in making the suspension of red corpuscles.—A stout piece of glass tubing about 2 centimetres in thickness is taken. It is drawn out in the blow-pipe flame into a narrower stem about 5 centimetres in length and 0·5 centimetre thick. The extremity of this stem is again drawn out into a still narrower tube. A graduation mark is now placed with a glass writing pencil upon the stem at a distance of, say, 1·5 centimetres from its extremity. A watery fluid or mercury is now drawn in through the capillary of the extremity tube until the stem is filled in up to the fiduciary mark. Two further graduation marks are now to be added, the points of application of these marks being found by displacing the column of fluid along the capillary stem until its distal limit corresponds in each case to the preceding fiduciary mark. Blood obtained from a prick in the finger is now filled in through the capillary orifice. When the upper limit of the column of blood stands level with the second division mark the orifice of the tube is introduced into a vessel containing decinormal sodium chloride solution and the fluid is aspirated into the tube until a 50- to 100-fold dilution of the blood has been effected. The extremity of the tube having been sealed the centrifuge is now brought into use and the centrifugalisation is continued until the corpuscles have all been driven down below the upper of the three graduation marks. The supernatant fluid is now pipetted off and, if necessary, decinormal solution is added until the upper limit of the fluid stands level with the upper graduation mark. The fluid and the red corpuscles are now thoroughly mixed up together. Inasmuch as two volumes of normal blood furnish one volume of corpuscles and inasmuch as the plasma has been diluted to practically an unlimited extent the suspension which has been obtained may without appreciable error be said to correspond to one volume of corpuscles completed to three volumes by decinormal salt solution.

Standardisation of the corpuscular suspension.—In the case where we desire to compare among themselves a number of separate observations on the blood or urine undertaken upon different days or with the bloods of different persons it is essential to determine in each case how far the standard suspension requires to be diluted before complete hæmolysis is obtained. For this purpose we make, employing a capillary pipette and the technique of dilution described in previous papers,[1] a series of progressive dilutions of our decinormal sodium chloride solution. Usually it will suffice if we make a four-fold, five-fold, and six-fold, and intermediate dilutions. We now take up into our capillary pipette one volume of each of these dilutions, mixing in each case with one volume of the suspension of corpuscles. Holding at arm's length the capillary pipette which contains this series of mixtures and disposing the tube so that light may strike upon it obliquely we take cognisance of the hæmolytic effect. Opacity and a bright appearance, referable to the reflection of light to the eye, indicate incomplete transparency, and a dark colouration, due to the absence of reflection, indicate complete hæmolysis. Usually complete hæmolysis is obtained on mixing one volume of the $\frac{N}{50}$ (0·117 per cent.) or $\frac{N}{60}$ (circ. 0·1 per cent.) sodium chloride solution with one volume of the corpuscular suspension.

Precautions to be observed in collecting the serum and urine which are to be compared.—In each case the samples of blood and urine are obtained from patients who have not drunk anything for a period of hours. Where accurate comparisons are required the bladder is emptied before commencing operations. A sample of blood is thereupon withdrawn and as soon as possible afterwards a sample of newly secreted urine is passed.

Procedure for making the progressive dilutions of serum or, as the case may be, of the urine and for mixing these in each case with equal volumes of the standardised suspension of red corpuscles.—The technique to be employed is exactly the same as that employed in the standardisation of the corpuscular suspension. It is convenient in each case to begin with a 4-fold dilution and then to follow on with an 8-fold, 16-fold, and if necessary 32-fold dilution. When a dilution which gives complete hæmolysis has been arrived at we can, by going back upon the original 4 fold dilution, make for ourselves the particular intermediate dilution which may be required. This will be a 6-fold, 12-fold, or 24 fold dilution according as the complete hæmolytic effect has been obtained in an 8-fold, 16-fold, or, as the case may be, 32-fold dilution.

Usually in the case of the normal serum complete hæmolysis will be achieved with the 8 fold but not with the 6-fold dilution. In the case of the normal urine it will be achieved with either the 16-, 24-, or 32 fold dilution.

We obtain a convenient—but only approximately accurate—expression for the concentration of the serum or urine we are testing by setting it down as x-times greater than that of the salt solution which was in the standardisation of the corpuscular suspension found to effect complete hæmolysis—x representing in this expression the dilution of the serum or urine which had been arrived at when the complete hæmolytic effect was obtained. Adopting this system of notification the concentration of the serum and urine was found to be as follows in a series of normal men.

TABLE I.—*Setting forth the Concentration (expressed in terms of NaCl) of the Serum and Urine and the Excretory Quotient of Normal Adult Men.*

No.	Date.	Concentration of—		Excretory quotient.
		Serum.	Urine.	
		Per cent.	Per cent	
1	5/2/04	0·78	1·56	2
	6/2/04	0·78	1·56	2
2	6/2/04	0·78	1·56	2
	11/2/04	0·78	1·56	2
	13/2/04	0·78	1·56	2
	24/2/04	0·78	1·56	2
3*	5/2/04	0·78	3·0	4
	8/2/04	0·78	3·0	4
	9/2/04	0·78	3·0	4
	11/2/04	0·78	3·9	5
	12/2/04	0·78	1·56	2
	13/2/04	0·78	3·0	4
	16/2/04	0·78	4·7	6
	22/2/04	0·78	1·56	2
4	18/2/04	0·78	1·56	2
5	26/2/04	0·78	3·0	4
6	26/2/04	0·78	3·0	4
7†	26/2/04	0·78	1·2	1·5
8	26/2/04	0·78	1·56	2

* The subject of these observations perspires a great deal and excretes proportionately less urine.

† The subject of this observation had drunk freely some hours before. In association with this it may be mentioned that the subject of observation Number 1 was successful in reducing the concentration of his urine to less than 0·1 per cent. NaCl by drinking 1500 cubic centimetres (circ. three pints) of water upon an empty stomach.

It will be seen that the concentration of the serum is a very constant function in health and that the excretory quotient is, if we except the first observation made in the case of the man denoted by the serial number 7, always two or more than two.

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[1] THE LANCET, July 5th, 1902, p. 11, and July 25th, 1903, p. 214.

TABLE II.—*Setting forth the Concentration (Expressed in Terms of NaCl) of the Serum and Urine and the Excretory Quotient in the Case of Patients Suffering from Renal Disease.*

Serial number of case.	Clinical data.	Concentration of—		Excretory quotient.
		Serum.	Urine.	
		Per cent.	Per cent.	
1	Patient, a woman, aged 54 years, has suffered for two months from œdema of the feet and legs. Urine contains half its volume of albumin.	2 0	1·56	0·76
2	Patient, a woman, aged 52 years, contracted scarlet fever in childhood. Urine erstwhile passed in large quantities has recently become scanty. Vomiting and headache seven days ago. Has considerable thickening of arteries and a high arterial tension.	0 97	1·2	
3	Patient, a woman, aged 35 years, dates back her illness to an attack of scarlet fever in childhood. An exploratory incision has revealed extensive destructive changes in the right kidney. Patient *suffers from headache and* incapacity for exertion. Urine is free from albumin. Coli bacilli are present in pure culture in urine.	0 78	0·78	1·0
4	Patient, a child, aged about 11 *years*, is the subject of enlarged liver and spleen, fibrosis of the base of the right lung, and swelling of the legs. Urine contains half its volume of albumin.	0 97	0 97	1 0
5	Patient, a woman, aged about 50 years, who is now lying in a semi comatose condition, has suffered from giddi- [illegible]	0 97	0·48	0·5
6	Patient, a woman, aged about 30 years, the subject of extensive swelling of the legs and face suffers from head- [illegible]	1 56	0 78	0 5
7	Patient, aged 26 years, dated back her illness to five years ago, when she suffered from headache and vomiting. *Since that date she has had several* [illegible]	1·56	3 0	2·0
8	Patient, aged 17 years, has recently suffered from œdema of the face and legs, with occasional vomiting, headache, and traces of blood in the urine. These symptoms have now all disappeared.	1·56	1·56	1·0
9	[illegible]	1 0	2 0	2·0
10	Patient, an elderly man, is suffering from œdema, anasarca, and ascites, with albumin in the urine.	0 78	0 29	0 37
11	Patient, a middle aged man, suffering from headache, incapacity for exertion and albuminuria.	1·2	0 78	0·66
12	Patient is a boy with ascites and albuminuria.	0 97	0 97	1 0
13	Frequent micturition, with tubercle bacilli in the urine.	0·92 1·1	1·15 1·1	1·2 1 0
14	Pain and tenderness and sensible swelling of both kidneys, frequent micturition, very large number of tubercle bacilli in the urine.	1·4 1·1	1·1 1·1	0 79 1 0
15	*Patient has had right kidney which was the subject of cystic degeneration extirpated. Her urine is free from albumin.*	*1 8th*	*1 32nd*	*4·0*

Remarks —Case 1.—Diagnosis: parenchymatous nephritis. Case 2.—Diagnosis: interstitial nephritis. Case 3.—Extirpation of kidney is under consideration. Case 4.—Diagnosis: amyloid disease. Case 5.—Diagnosis: interstitial nephritis. Case 6.—Diagnosis: paren- [illegible] -itis. [illegible] -onic [illegible] -ren- [illegible] 11.— [illegible] -osis: [illegible] the [illegible] of

TABLE III.—*Setting forth the Concentration (expressed in Terms of NaCl) of the Serum and Urine and the Excretory Quotient in the case of the Subjects of Pernicious Anæmia and Chlorosis.*

Serial number of case.	Clinical data.	Concentration of—		Excretory quotient.
		Serum.	Urine.	
		Per cent.	Per cent.	
1	Patient is suffering from advanced *pernicious anæmia* Examination of the blood films shows marked poikilocytosis and the presence of nucleated red blood corpuscles.	0 78	—	—
2	Patient, aged 35 *years*, is *suffering* from *pernicious anæmia.* Red blood corpuscles, 1,700,000; marked poikilocytosis. No nucleated red blood corpuscles.	2 4	—	—
3	Patie[illegible]	1 0 1·56 1·56	—	—
4	Patient, aged 21 years, is suffering from *chlorosis* associated with œdema of the legs, constipation, and dyspepsia.	3 0 1·2 1 56	3·0	2
5	Patient, aged 18 years, is suffering from *chlorosis* irregularity of the bowels, and clavus hystericus.	1·0	—	—
6	Patient is suffering from *gastric ulcer with profound anæmia.*	1·0 0 78	—	—
7	Patient, aged 25 years, is suffering from *gastric ulcer and anæmia* dating back nine years.	2·4 1·2 1·56	3·0	2
8	Patient, aged 25 *years*, has *suffered* from anæmia complicated with thrombosis, first of the left and then of the right leg.	2 44	—	—

It is brought out in the cases tabulated above that the serum is modified in a characteristic way. The improvement which appears in the successive observations made in Cases 4, 6, and 7 may, perhaps, be referred to the treatment. It will be observed that the excretory quotient in the two cases where it was tested conforms to the normal.

Concluding remarks and question as to the precise significance of the method of testing here recommended.—We have seen above that the investigation of the *hæmolytic index*[2] of the serum or, as the case may be, the comparative estimation of the hæmolytic indices of the serum and urine is likely to prove of utility in connexion with clinical work. It may clear up a diagnosis, it may tell us whether a patient is in a condition to undergo a surgical operation, it may give warning of the approaching advent of uræmic symptoms, it may assist the physician in selecting the proper dietary for a patient who is suffering from Bright's disease, and it may [illegible] between so-called *functional* and organic [illegible] not essential to the achieve- [illegible] at the exact significance of the test should be cleared up it is obviously a desideratum that we should know so far as possible what it is that we are measuring. It seems probable that what is measured by the hæmolytic index is generally the salt content of the fluid. This is not the place to go into the consideration of the grounds upon which this inference is made. It will suffice to bring out the following The presence of urea in a fluid is, so far as this test is concerned, a matter of indifference, hæmolysis being obtained at precisely the same point when diluting with a 5 per cent. solution of urea as when diluting with distilled water. The specific electrical conductivity of the fluids which we have, by the kindness of Dr. A. D. Waller, been able to test in the physiological laboratory of the University of London was found to be roughly[3] proportional to the salt content of the fluids as estimated by the method here in question. This is exhibited in the table below (Table IV.).

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[2] [illegible] index" is signified the fraction which [illegible] case may be of the urine, [illegible] when added in each case [illegible] pension of red corpuscles.

TABLE IV.

Fluid tested.	Relative concentrations of the fluids in salts as determined by the hæmolytic method.	Relative concentrations of the fluid in salts as determined by the specific electric conductivity.
Ascitic fluid from patient with acute nephritis	100	100
Urine from same case	75	89
Urine from case of parenchymatous nephritis	50	57
Urine from case of interstitial nephritis	50	40

In conclusion attention may be drawn to the fact that specific hæmolysins, such as are found in the blood of animals which have been immunised by injections of red blood corpuscles, do not come into consideration in connexion with the hæmolytic method as here applied. This is shown by the fact that the "hæmolytic index" of serum, or as the case may be of urine, which has been exposed to a temperature of 65° C. for ten minutes is exactly the same as that of the unheated serum or urine. Attention may be drawn also to the at present quite unexplained fact that the hæmolytic index of serum, or as the case may be of urine, which contains a considerable quantity of albumin, is represented by a higher fraction after it has been raised to the boiling point. It is to be noted that this alteration of the hæmolytic index is not associated with any comparable alteration in the specific electric conductivity of the fluid.

TABLE V.—*Setting forth the Dilutions with which a Complete Hæmolytic Effect was obtained in the case of Serum and Urine tested before and after Exposure to a Temperature of 100° C.*

Nature of fluid whose hæmolytic index was examined.	Hæmolytic index of the unheated fluid.	Hæmolytic index of fluid after exposure to a temperature of 100° C.
Serum from normal man	1-8th	1-16th
Serum from another normal man	1-8th	1-16th
Serum from patient suffering from amyloid disease of the kidney, &c.	1-8th	1-32nd
Serum from patient suffering from interstitial nephritis	1-8th	1-16th
Serum from patient suffering from parenchymatous nephritis...	1-16th	1-32nd
Serum from another patient suffering from parenchymatous nephritis	1-16th	1-32nd
Non-albuminous urine from normal man ...	1-32nd	1-32nd
Urine with trace of albumin derived from a patient suffering from cystitis due to infection by the bacillus coli	1-16th	1-16th
Urine with trace of albumin derived from a case of renal disease	1-32nd	1-32nd
Urine with trace of albumin derived from a case of renal disease	1-16th	1-16th
Highly albuminous urine from a case of renal disease	1-8th	1-32nd
Urine containing a considerable amount of albumin	1-5th	1-16th

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[3] It will be manifest that in the case of the hæmolytic method we multiply our error of observation in each case by the factor which corresponds to the dilution we have arrived at.

VACCINATION EXPENDITURE.—At the meeting of the Penzance board of guardians held on March 25th it was decided to support the resolution passed by the Liskeard (Cornwall) board of guardians protesting against the greatly increased cost of carrying out the Vaccination Act and asking the Government to draw up a more economical system.

REMARKS ON THE RELATIONS OF PULMONARY TUBERCULOSIS TO OTHER DISEASES.[1]

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PULMONARY tuberculosis is so widely disseminated that it is not surprising to find it occasionally associated with nearly every other disease. It is partly on this account no easy matter to decide whether a given disease has any causal relationship whatever to pulmonary tuberculosis. The following questions arise: Is one disease favourable or antagonistic to the onset or spread of the other, or is there some more indirect relationship between the two diseases—for instance, that a certain state of the body which is opposed to one of the diseases is likewise either opposed or favourable to the other, or lastly, is the association of the two diseases merely accidental? These questions are often exceedingly difficult to answer. Statistics are mostly meagre or untrustworthy and in many cases we are driven back to general impressions of the various observers on the subject. I shall not have time to consider tuberculosis of the lungs in all its associations with other diseases but must limit myself to the question of its relations to certain constitutional defects and to certain diseases of the heart, liver, and kidneys. I shall not discuss its relations to other diseases of the lungs and air passages.

Relations of pulmonary tuberculosis to diseases of the heart.—Louis and Rokitansky[2] held that there was an antagonism between heart diseases and phthisis, but Traube[3] thought that there was no antagonism between aortic reflux and phthisis, whilst Peacock,[4] Traube,[5] and nearly all modern authorities find[6] that patients with congenital pulmonary stenosis, if they live to an age of about from 15 to 20 years, frequently die from tuberculosis of the lungs. On the whole it seems that conditions of the circulation which tend to passive hyperæmia of the lungs (not merely increased venosity of blood) have a hindering action on the growth of tubercle, whilst anæmia of the lungs favours tuberculosis. Thus it is maintained that active pulmonary tuberculosis rarely arises in the subjects of mitral reflux or of mitral stenosis, and cases have been observed in which the signs of pulmonary tuberculosis became much less marked and the disease became decidedly less active after the development of rheumatic mitral disease. It is said that tubercle bacilli have been found in vegetations from endocarditis, but even if we grant that their presence has once or twice been demonstrated Teissier's paper[7] as to the tuberculous origin of cases of mitral stenosis does not carry conviction with it.[8] It may here be mentioned that some medical men, influenced by Bier's writings on his method of treating tuberculosis of the joints[9] by artificially induced hyperæmia, have advocated the adoption of certain positions of the body and certain local thermal methods as part of the treatment of pulmonary tuberculosis,[10] with the object of increasing the amount of blood in the vessels of the lungs. In regard to the association of congenital pulmonary stenosis with tuberculosis of the lungs it must be remembered that this may be attributed not only to defective supply of blood to the lungs but likewise to the general defective development of such patients, especially to a tendency to "infantilism" (see later section) Percy Kidd[13] says· "Such persons are born with imperfect lungs and it is not to be wondered at that these organs should be prone to so common a disease as tuberculosis '

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[1] A post-graduate lecture delivered at the Mount Vernon Hospital for Consumption on Feb. 11th, 1904.

[2] See the remarks on this subject in Wilson Fox's "Diseases of the Lungs," edited by Sidney Coupland. London, 1891. p. 547.

[3] L. Traube: Allgemeine Medicinische Central Zeitung 1864 No. 100.

[4] Malformation of the Heart, second edition, London, 1866 p. 189.

[5] Traube: loc. cit.

[6] Vide Meissenburg: Zeitschrift fur Tuberkulose, Leipzic, vol. iii., Part 5; and C. Fischer: ibid., vol v., Part 3.

[7] Pierre Teissier: Clinique Médicale de la Charité, Paris, 1894, pp. 913–1009.

[8] See the criticism by Hugh Walsham, Brit. Med. Jour., 1899, vol. ii., p. 1170.

[9] August Bier: Behandlung Chirurgischer Tuberkulose der Gliedmaassen mit Stauungshyperämie. 1893; also Behandlung der Gelenkstuberkulose mit Stauungshyperämie, 1895. At first Bier confined himself to passive hyperæmia.

[10] E. [illegible] des XIV. Congresses fur innere Medicin, [illegible] Münchener Medicinische Wochenschrift, [illegible] the "Postural Treatment" of Pulmonary Tuberculosis see also Schenk, Wiener Medicinische Wochenschrift, July 6th and 13th, 1901.

Relations of pulmonary tuberculosis to diseases of the liver —*Amyloid disease of the liver* is well known as occasionally due to suppuration connected with tuberculous disease in various parts of the body, but it is really only a very rare complication of tuberculosis of the lungs and, owing to modern surgical and other methods of treatment, it is doubtless becoming a much less frequent complication of tuberculosis altogether, even of hip disease and spinal caries Enlargement of the liver from *fatty infiltration* is so frequently found in consumptive patients dying after prolonged hectic fever that a causal connexion between the two conditions is universally admitted Most probably the glandular cells of the liver become so damaged by the febrile condition, or, rather, by the toxæmic cause of the pyrexia, that their metabolic functions become seriously impaired Their feeble power of combustion is then shown by the accumulation of the fatty droplets I should here state that probably there is no sharp demarcation line between fatty infiltration and fatty degeneration of the liver ; the latter process is probably really a fatty infiltration in an atrophic liver when the hepatic cells have degenerated not only in functional power but in the amount of their living cell-substance also[13] *Cirrhosis of the liver* is not very rarely found associated with peritoneal or pulmonary tuberculosis or both, and there are good grounds for believing that in a few cases hepatic cirrhosis may be due to a local tuberculous process[13] In regard to the association of an ascitic form of tuberculous peritonitis with cirrhosis of the liver Dr S Gee[14] says· "Perhaps the tuberculous poison sets up cirrhosis, like alcohol, and one is reminded of a similar association of ovarian tumours with cirrhosis of the liver " There is, however, another and more generally acknowledged connexion between pulmonary tuberculosis and hepatic cirrhosis—namely, the fact that alcoholism may be a factor in the production of the pulmonary as of the hepatic disease Osler[15] writes "A remarkable feature is the association of acute tuberculosis with cirrhosis In seven cases of my series the patients died with either acute tuberculous peritonitis or acute tuberculous pleurisy Pitt states 22½ per cent of the cases of cirrhosis dying in Guy's Hospital during 12 years had acute tuberculosis Of 121 autopsies at the Manchester Royal Infirmary[16] in cirrhosis about 23 per cent gave evidence of tuberculous infection 12 of these had tuberculosis of the peritoneum and 12 died directly from the tuberculous infection " This naturally brings me to the following subject

Relations of pulmonary tuberculosis to alcoholism —Much has been written on the effects of alcohol in regard to consumption and there is still much difference of opinion as to the value of alcohol in the treatment of the disease Yet one can well understand that if alcohol in moderate doses increases the patient's appetite, favours digestion, and makes him more cheerful, it may, by promoting the general nutrition of the body, indirectly help to check the progress of the tuberculous disease On the other hand, abuse of alcohol, at least, chronic alcoholism, is now almost universally admitted to be a great predisposing cause of pulmonary tuberculosis. That this should be the case is not very surprising if one remembers how readily the subjects of chronic alcoholism fall victims to other diseases of microbic origin, such as acute pneumonia and septic inflammations Chronic alcoholism favours degenerative processes all over the body and diminishes the resistant power of the tissues to microbic infection The cells of the different parts of the body in alcoholism seem to become sluggish in regard to their metabolic functions so that the vital reactions of the tissues become less prompt and less efficient This supposition explains the tendency to accumulation of fat in the liver and subcutaneous tissues and explains why pyrexia is often less marked and why alcoholics succumb more readily than others on very prolonged exposure to cold Probably just as the tissues of alcoholics respond less readily than those of ordinary persons to demands for increased heat production, so in infective diseases their antitoxin forming and other microbe resisting powers are less efficient The bloated type of alcoholic—for instance, the old style of brewer's drayman—has always been notorious for extreme liability to wound infection and acute septic gangrene following injuries and in such a person one can imagine that not only have the anti microbic and antitoxin forming functions of the cells of his body been dulled by the habitual action of alcohol, but even that, owing to his "bloated" condition, the really living portions of his body—namely, the cells—are abnormally separated from each other and therefore less able to cope with the intruding microbes Be this as it may, French inquiries[17] into the subject as well as English observations[18] leave no doubt about the reality of the connexion between alcoholism and pulmonary tuberculosis Moreover, the children of alcoholics are often born with deficient resistant power and thus fall an easy prey to tuberculosis I must here state, however, that I believe it is going too far to regard alcoholism, as some writers on the subject have done, as the only connecting link between pulmonary tuberculosis on the one hand and peripheral neuritis and hepatic cirrhosis on the other Cirrhosis of the liver may occasionally, as I have already mentioned, be of local tuberculous origin and polyneuritis may in some cases be due as much to the pulmonary tuberculosis itself as to any associated alcoholism, but to this I shall return later

Relations of pulmonary tuberculosis to diseases of the kidneys —Typical amyloid disease of the kidneys (I do not here refer to slight amyloid changes accompanying parenchymatous nephritis) is occasionally met with in cases of pulmonary tuberculosis but I believe it to be exceedingly rare Parenchymatous nephritis[19] and forms of mixed parenchymatous and interstitial nephritis are, on the other hand, much more frequently found They occur especially in patients with advanced pulmonary tuberculosis and in these cases the kidney disease is, I have no doubt, usually a result of the lung disease, of which it constitutes a most serious complication I regard the nephritis in most of these cases as caused by irritation due to toxic substances absorbed into the circulation from the tuberculous and suppurating foci in the lungs, but it must be remembered that the nephritis may occasionally be associated with local tuberculosis and that the presence of tubercle bacilli has sometimes been detected in the kidneys, even in the absence of regular tubercles[20] Here I would mention that slight amyloid changes, easily to be detected by examining microscopic sections stained with methyl violet, frequently accompany the changes of chronic parenchymatous nephritis, both in the case of consumptive patients and others This is not surprising when one remembers the experience of N. P. Krawkow[21] and others regarding the artificial production of amyloid disease Krawkow seems to show that amyloid disease is usually the result of absorption into the blood of products of the metabolism of parasitic microbes, and he actually succeeded in inducing amyloid changes in the tissues of a rabbit by repeated injections of the mere filtrate of a culture of the bacillus pyocyaneus

Recurrent attacks of gout with typical chronic interstitial nephritis are relatively rarely[22] associated with pulmonary

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[illegible]

Paris June 3rd 1899

[14] St Bartholomew s Hospital Journal London May 1900 p 116

[15] Quoted by J M Cowie Tuberculosis London January 1904 p 27

[16] T N Kelynack Medical Chronicle, Manchester, 1897, vol vi, p 262

[illegible]

Archiv für Experimentelle Pathol [illegible] Leipsic [illegible]

[22] In regard however to the kidney disease without taking gout into consideration W H Dickinson (Diseases of the Kidney, London 1875 p 378) found tubercle in 20 8 per cent of 250 persons dying from granular degeneration of kidneys which according to statistics was less than the average frequency of tubercle in all post- [illegible] of Chronic [illegible] I made out [illegible] ears old with [illegible] died from [illegible] chronic inter [illegible] necropsies on

the liver and spleen. Tubercle bacilli were seen in specially stained sections of the liver and (what is much more remarkable) in the bone marrow from the shaft of the left humerus.

The association of lymphadenoma with tuberculosis has been repeatedly described in medical journals and has constituted a subject for discussion at medical societies. Some observers have gone so far as to suggest that all the cases in question are tuberculous—in fact, that lymphadenoma is a variety of glandular tuberculosis. In the discussion on Lymphadenoma in its Relation to Tuberculosis at the Pathological Society of London, in December, 1901, Dr. F. W. Andrewes[43] concluded that lymphadenoma is a distinct disease, not due to the action of the tubercle bacillus; that there is a form of tuberculosis of the lymphatic glands clinically indistinguishable from lymphadenoma; that a fair number of cases of lymphadenoma occur in which secondary infection with tubercle has taken place; and that this secondary infection may be local and unimportant, or the patient may die from generalised tuberculosis with a mixture of lesions of the most puzzling kind. It was such a mixture of lesions that the case to which I have just alluded showed. Cases of this kind should be separated from cases of multiple tuberculosis of lymphatic glands. There are doubtless, as Dr. Andrewes says, some cases of the latter class which cannot be distinguished clinically from lymphadenoma (Hodgkin's disease), but there are also cases which can be recognised during life (without "bioscopic" help, including exploratory operations, of any kind and without even the use of tuberculin), as examples of chronic multiple tuberculosis of lymphatic glands. They may be diagnosed (1) by there being no, or only very slight, enlargement of the spleen or liver; and (2) by there being evidence of associated pulmonary tuberculosis.[44] Such a case I have at present under observation at the German Hospital.

The patient, a married woman, aged 32 years, is a fairly "well-nourished" woman with a rather florid complexion. The lymphatic glands of each side of the neck and of the right axilla are enlarged. The inguinal glands are enlarged but not more so than they are in many healthy persons. The spleen and liver do not seem abnormally large. The patient first came under observation in October, 1903. She knew that the glands in the right axilla were affected two and a half years previously. But those in the neck had only been enlarged during the last six months. She had lost weight and presented physical signs of slight tuberculosis of one lung. The blood showed that there was no great anæmia: hæmoglobin, 90–95 per cent.; red cells 4,600,000, and white cells 12,000, per cubic millimetre. The urine was free from albumin and sugar. In the hospital her general condition has remained about the same.

Several cases have been published illustrating the association of tuberculosis with leukæmia (mostly cases of lymphatic leukæmia[45]). It has been observed that after tuberculous infection there are often retrogression in the size of the spleen and lymphatic glands and diminution in the number of the white cells in the blood; for this reason Professor H. Quincke of Kiel,[46] has even suggested the employment of tuberculin in leukæmia. Retrogression of leukæmic symptoms has also been observed as a result of erysipelas[47] and other microbic invasions. Susmann[48] suggests that the excess of nucleo-albumin and the increased phagocytic power of the blood in leukæmic patients may exercise an antagonistic action in regard to tubercle. It is not certain, however, that leukæmia is really antagonistic to tuberculosis, though tuberculosis seems to check the progress and even to cause retrogression of leukæmia.

The relations of pulmonary tuberculosis to diabetes mellitus.—Pulmonary tuberculosis is well known to attack not very rarely patients suffering from grave diabetes, and Sir Lauder Brunton[49] has suggested that the presence of sugar in the tissues facilitates the growth of microbes and renders diabetics peculiarly liable to certain bacterial affections, pulmonary tuberculosis amongst others. Though tuberculosis is a most unfavourable complication of diabetes a diminution in the sugar, or even its complete disappearance from the urine, is occasionally observed to follow the onset of the pulmonary disease. The cautious employment of tuberculin might, as far as I can see, be proposed for diabetes as it has been for leukæmia. And probably with as little likelihood of success, for one must remember that the diminished excretion of sugar in diabetics when they become consumptive may, as has been suggested, be due merely to the pyrexia or the mixed bacterial toxins causing pyrexia; moreover, disappearance or diminution of the sugar may be a temporary result of other microbic invasions, accompanied by pyrexia, besides tuberculosis.

The relations of pulmonary tuberculosis to syphilis.—A certain amount of antagonism between syphilis and tuberculosis has been supposed to exist by some medical observers, but many authorities, especially the majority of French writers, think that syphilis by lowering the general powers of resistance to disease predisposes persons to tuberculosis. It has even been suggested, I believe, that a reason why syphilitic gummata are so rarely seen in the lungs is that a counter-infection with tubercle bacilli generally occurs, so that a case of pulmonary syphilis is generally transformed into one of pulmonary tuberculosis.[50] Whether persons who have had syphilis are more easily, or less easily, infected with tubercle than persons who have never had syphilis is a question which for obvious reasons cannot easily be answered. It has been supposed by some that syphilis, like alcoholism, in the parents renders the children peculiarly liable to pulmonary tuberculosis.[51] I formerly repeatedly saw an intelligent man who was suffering from pulmonary tuberculosis, and also from fibrous stenosis of the larynx for which tracheotomy was performed. In 1899, when I first saw him, he was 41 years old, and had had a form of lupus verrucosus of the right hand for 18 years. He was dumb and almost completely deaf. The presence of pulmonary tuberculosis was made certain by a marked general reaction following the injection of half a milligramme of Koch's old tuberculin and afterwards by the discovery of tubercle bacilli in the sputum. Mr. R. Lake, who operated on the patient's larynx in the Mount Vernon Hospital, believed the great amount of old cicatricial tissue he met with to be of syphilitic origin and the supposition of congenital syphilis would probably account for both the laryngeal and aural conditions present. In spite of his unfavourable circumstances he seemed rather resistant to the progress of the tuberculous disease. He died at his own house, I heard, in February, 1903, but I am uncertain of the exact cause of his death.

The relations of pulmonary tuberculosis to multiple neuritis.—It is generally recognised that some causal relationship exists to account for the relatively frequent association of multiple neuritis of the alcoholic type with pulmonary tuberculosis. Dr. H. W. G. Mackenzie[52] says that it is almost invariable to find tubercle present in the lungs in patients dying in the course of alcoholic paralysis. The frequency of this association has been used as an argument to prove that alcoholism creates a predisposition to tuberculosis. It doubtless can do so, and I have already considered that subject, but it is no longer supposed as, I believe, it formerly was that any case of multiple neuritis affecting the lower extremities is necessarily due to alcohol. It is notorious that those most addicted to alcohol are not always the ones that suffer from neuritis. Given exciting cause or causes of polyneuritis it is evident that all persons are not equally affected by them, some being more liable than others (for instance, women more so than men). In those who are specially predisposed it is probable that tuberculosis (or rather a toxæmic condition arising from pulmonary consumption), like several other microbic diseases, may act as an exciting cause in association with alcohol or even independently.

Harley-street, W.

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[43] Transactions [illegible] y, London, vol. liii., p. 314.

[44] [illegible] Lymphdrusentuberkulose, at th [illegible] on July 16th, 1903. (Munchen [illegible] No 1.)

[45] See W. J. Susmann's table of cases, Practitioner, London, October, 1903, p. 536; W. Neutra, Zeitschrift fur Heilkunde, Vienna, 1903, vol. xxiv., p. 349 (with bibliography); H. Quincke, Deutsches Archiv fur Klinische Medicin, Leipsic, 1902, vol. 74, p. 445; and G. Carpenter, Medical Press, Jan. 28th, 1903, p. 79.

[46] Quincke: Loc. cit.

[47] See H. Zinkeisen's second case, Deutsches Archiv fur Klinische Medicin, Leipsic, 1903, vol. 75, p. 505.

[48] Susmann: Loc cit.

[49] "Disorders of Assimilation, Digestion, &c.," London, 1901, pp. 53, 54.

[50] Compare J. Patoir's observations in Presse Médicale, Paris, Jan. 16th, 1901, p. 25.

[51] See J. Goldschmid: Munchener Medicinische Wochenschrift, 1901, No. 9, p. 344.

[52] In G. A. Gibson's Text-book of Medicine, 1901, vol. i., p. 35. See also T. N. Kelynack, Medical Chronicle, Manchester, 1896, vol. iv., p. 180.

TWO CASES OF "CORSET CANCER," WITH REMARKS ON THE ORIGIN AND SPREAD OF CANCER.[1]

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MUCH attention is now being directed to the origin and spread of cancer and, whilst a committee of investigation is at work to endeavour to track the disease to its initial causation, any new site of origin to which attention has not been directed may be of interest to the profession. I have therefore taken this opportunity of drawing attention to a mode of onset—I am almost inclined to say mode of entry—in the immediate neighbourhood of the breast which at first is not in the breast and only spreads to the breast secondarily or by extension contact. Three cases of this mode of origin have recently been under my care but the report of one of them has unfortunately been mislaid and I can only give the details of two.

The site where this carcinoma attacks the skin and cellular tissue is over an upper and outer radiant from the nipple corresponding exactly to the point where the upper edge of a corset crosses the edge of the pectoralis major muscle. It occurred on the right side in each case and in women whose occupations led them to an undue use of the

to an excessive friction of the

ver the edge of the pectoralis

ndicated. The friction of the corset at this spot is therefore the cause of the cancerous process developing in this situation and to express the fact I have given it the name of "corset cancer."

CASE 1.—The first case was that of a single woman, aged 47 years, who was admitted under my care in Guy's Hospital on Oct. 30th, 1901. Her parents were both living and healthy at an advanced age and previously to her admission her general health had been always good. She was a worker in a fur factory and her employment for years had been to scrape the fur of rabbits' skins with a blunt knife so as to draw out all the long hairs and to reduce them to a uniform low level, after which they were dyed to imitate seal-skins and other valuable furs. For many hours every day her arm was carried backwards and forwards in this work and her pectoral muscle moving to and fro whilst she leaned over her bench pressed the soft tissues injuriously against the upper edge of her corset. In March, 1900, the patient first noticed a hard swelling of about the size of a nut situated above, and to the outer side of, her right breast. It continued to grow, remaining hard and painless except when pinched or pressed upon. After a time she noticed that the pressure of the corset in her work caused her pain and she left off wearing it. A month before her admission the lump broke down and began to ulcerate. When admitted she had the appearance of a stout, plethoric, healthy, middle-aged woman. Above, and to the outer side of, the right breast close to the anterior fold of the axilla was a round raised ulcer about one and a half inches in diameter with a definite raised margin and a discharging surface. Underneath the ulcer could be felt a hard lump of about twice the diameter of the ulcer but freely moveable and in no way adherent to any deeper structure. The patient's appetite was good, the bowels were regular, and the temperature was normal. On the back of the patient's neck was a red serpiginous rash running in incomplete circles and curved lines and tending to desquamate. When seen by me on Nov. 1st it was diagnosed as a case of "corset cancer" but as the serpiginous eruption gave a suspicion of syphilis five grains of iodide of potassium were given every six hours. On the 9th the report stated that she had been ailing with loss of appetite and pains in her right arm, wrist, and hand, and also in the right thigh. On the 19th the pains in her joints had ceased and no effect had been produced on the ulcer by antisyphilitic remedies. It was therefore determined to remove the growth. A.C.E. mixture was administered and an elliptical incision in a transverse direction was made to include the growth. The incisions were carried through the edge of the breast and cellular tissue down to the pectoral muscle, the fascia of which was dissected up. From the centre of the upper incision another, three or four inches in length, was carried up into the axilla and the growth with glands and adipose tissue of the axilla were all dissected out together. During the operation some discharge escaped from the deeper parts of the growth and contaminated the wound. It was brought together with catgut and a gauze drain was introduced below. On the 25th some suppuration was noticed and the wound was thoroughly washed out with 1 in 500 of formalin and packed with cyanide gauze soaked in formalin. On the 30th the wound was cleaner and the temperature was normal. The patient was discharged on Dec. 22nd. A microscopic examination of the tumour showed the growth to be carcinomatous. On Oct. 27th, 1902, she was readmitted with a hard red growth over the upper aspect of the breast and two smaller ones, one being in the axilla. On the 30th an anæsthetic was administered and they were all separately excised. She was discharged on Nov. 24th. On Oct. 9th, 1903, she was readmitted with several secondary growths about the skin over her right breast. There were no growths in the axilla. The whole area affected, including the breast, was excised on Oct. 20th. A part of the wound was left to granulate. She made good progress and was sent to a convalescent home on Nov. 4th, 1903

CASE 2.—The second case was that of an unmarried woman, aged 59 years, who was admitted into Guy's Hospital under my care on Nov. 4th, 1903, for swelling and pain near the upper and outer edge of the right breast. She had been employed for 36 years in a laundry, carrying the iron backwards and forwards over the linen for many hours every day. In appearance she was a tall, rather slight, delicate woman. She had had pleurisy twice and on one occasion an abscess in her neck. On the outer side of the superior external quadrant of the right breast was a small hard tumour causing a distinct dimple in the skin. It corresponded exactly with the friction level of the upper edge of her corset as it crossed the margin of the pectoralis major muscle. The tumour formed a depression of about the size of a shilling by its firm adhesion to the skin but was freely moveable on the tissues beneath. The breast and the nipple below were normal. One small gland was to be felt in the axilla. On Nov. 10th an anæsthetic was administered and the tumour was excised. The incision was carried on into the axilla and the gland was excised. The tumour removed was proved to be a carcinoma by microscopic examination. She was convalescent at the end of a week and was discharged from the hospital on the 18th but unfortunately the small wound left became contaminated at her home and she was readmitted with suppuration and a high temperature on the 30th. The wound had to be opened up as well as an abscess which had formed in her gluteal region, after which she recovered.

I have placed these two cases together for comparison and it will be noted that they were both single women advanced in life who had worked hard to gain a livelihood by their

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ent had herself noticed the injurious effect of the margin of the corset upon the spot where the tumour developed. The movement of the right arm to and fro in their work was again very similar in the two cases, the first woman having been employed for years in scraping the fur of rabbits' skins and the second for no less than 36 years in ironing in a laundry. To my mind, to use the phrase of a late distinguished politician, "there can be no shade of a shadow of a doubt" that the injurious friction of the margin of the corset for many years was the determining cause of the cancer developing at this particular site.

Local irritation and lowered vitality determine the site.—This is but a new illustration of a well-established fact that different forms of carcinoma are apt to attack parts the vitality of which has been lowered or the resistance of which has been lessened by chronic irritation, neglected ulceration, or cicatrisation. It was long ago pointed out that epithelioma was apt to commence on the edges of orifices where mucous membrane joined the skin and by a curious coincidence last October there were in my ward for males at the same time a case of rodent ulcer attacking the lower eyelid, a case of epithelioma of the lower lip, a case of epithelioma of the prepuce and glans penis, and one of the margin of the anus, cases forming an interesting group on which to found a clinical lecture. It is easy to surmise why the cancerous process favours these situations since the covering is there tender and at the same time more exposed to injury and infection than other parts of the body. The facts that cancer of the lower lip rarely occurs except in pipe smokers and that epithelioma of the prepuce is commonly associated with phimosis or else commences in the scar of an old chancre give further support to the same view. Paget's eczema of the nipple preceding cancer of the breast and chimney-sweep's cancer attacking the scrotum, where the large sebaceous glands have long been choked with soot, are both well-recognised incidents in causation.

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[1] A paper read before the Brixton Medical Society on March 17th, 1904

Relation of syphilis to cancer.—I should like now to point out how frequently syphilis is the forerunner of cancer in various situations where it leaves its injurious effects, and possibly one of the many causes contributing to the increase of cancer is the unchecked distribution of this disease. I have already alluded to epithelioma attacking the sites of old chancres on the penis. In two cases of amputation of the penis for cancer that I have performed within the last few months the patients declared that the growth commenced in the scars of old chancres. Next the chronic glossitis of the tongue, which commences with the secondary stage of syphilis and is kept up by smoking and by foul, irregular, and decayed teeth, is the most frequent precursor of epithelioma of the tongue. I hold it most important advice to insist on patients giving up smoking during the treatment of the secondary stage of syphilis, lest this affection should run on into that incurable stage of white scarring and thickened epithelioma, which has been described under many names, such as leucoplakia, psoriasis, and ichthyosis, and for which in the advanced stage, being struck by the resemblance it presents to the *appearance of a parrot's tongue*, I suggested many years ago the term "psittacosis." Epithelioma may attack the cheek, tonsil, palate, and larynx long after the ulceration due to syphilis in these situations has healed. Epithelioma of the tongue, which is so common in men as compared with women, is probably in the main attributable to these two causes—syphilis and smoking. In all my professional experience I have only once removed a tongue from a woman for epithelioma and in this case there was a distinct syphilitic history. She had been infected with syphilis on marriage about 15 years before and had suffered from recurrent ulceration of the tongue ever since, followed by leucoplakia. At the time I operated upon her she had an epitheliomatous ulcer of the tongue and enlarged glands in the neck which I removed at the same time. I have met with three cases in which cancer of the rectum followed syphilitic stricture of this part of the bowel; two of these were in women and one was in a man. In the latter case I operated on the syphilitic stricture when it had contracted as a cicatricial valve, so small that it did not admit the tip of one's forefinger, by incising and then dilating with large bougies. The patient was told to keep the stricture dilated by passing a bougie twice a week. About three years later he began to suffer from blood and slime with his motions and on re examining him I found a new growth in the circumference of the bowel. I performed a colotomy and he lived for three years after, but eventually the growth penetrated the os innominatum and formed a large tumour at the junction of the left loin and buttock and he gradually sank.

Inoculation, contagion, and infection.—I now come to the question of contagion and infection in relation to cancer and I am inclined to think that if special investigation were directed to this subject it would not be difficult to arrange some very important facts in support of these modes of origin. In THE LANCET of Oct. 8th, 1887, p. 727, the following paragraph appeared: "M. Duplouy of Rochefort reports a case where a man, who had for a long time carefully nursed his wife, who was suffering from uterine cancer, became affected with epithelioma of the glans penis, necessitating amputation. The question arises, Is this a mere coincidence, or does it point to the possibility of a cancer being transmitted by contagion?" A few weeks later Mr. T. G. Laslett[2] wrote: "In 1883 a man was admitted into the Liverpool Infirmary suffering from epithelioma of the penis. He stated that his wife had died some time before of cancer of the womb and he though this complaint was something which he had contracted from her." Dr. E. Hooper May[3] also wrote: 1883 a patient of mine, aged 53, died with cancer of uterus and I have since been informed that in 1886 husband, aged 57, had to submit to amputation of the for cancer, of which complaint he died a few months Since that time I have operated on one case of epitheli of the penis in a man who stated that his wife from cancer of the womb some time before his dis commenced.

These cases present a strong probability of contagio inoculation where the circumstances are peculiarly fav able for such a mode of transmission. Against conta it has been urged that cancer cannot be inoculate the lower animals from man and, though this appears t true, recent observations clearly show that cancer occu in the lower animals can with great certainty be inocul into another animal of the same species. In 1889 Har finding a rat suffering from cancer, was the first to prove the disease could be conveyed by inoculation to other Moran[5] in 1894 conveyed the disease from a cance mouse to other mice. Jensen[6] of Copenhagen has made hundreds of transmissions of cancer from mice to mice, these observations have been confirmed in this country recently by Dr. E. F. Bashford and Dr. J. A. Murray.[7] tumours sent over sterile from Copenhagen were used five days after posting and reproduced the disease in According to these observers the cells inoculated grow the tumours produced arise from the actual cells introd without any participation of the cells of the host. Bo of the Pasteur Institute has gone further and has shown the disease may be conveyed by natural means. He pl two cancerous mice in a cage with several sound ones an a result found that five or six of the latter became cance In the human subject there are often seen cases of metas by transplantation or self-inoculation where one sur affected with cancer has been allowed to rub against a s surface. I have several times seen patches of epitheli on the inside of the cheek immediately opposite to, independent of, a cancer of the jaw or tongue prod apparently by inoculation. But the most striking case this kind are one by Williams[9] of cancer of the t spreading to the opposite thigh and one by Cripps of ca of the skin of the arm caused by contact with an ulcera cancer of the breast.

It would follow from these observations that canc transmissible by direct inoculation from one part cancerous person to another part, that it is inoculabl animals of the same species from one suffering from can and that sound animals mixed with cancerous animals of same species may in this way acquire cancer. It se highly probable therefore that it is in some degree inoculable and contagious among human beings. leads me to speak of infection or transmission am persons living under the same roof and under similar ditions.

Cancer houses.—I think my own observation of t persons living together in the same house was the firs direct attention to cancer spreading in this way which D'Arcy Power[10] has done much to elaborate since. observation was published in THE LANCET of Nov. 1 1887, p. 985, in a letter under the title, "Is Cancer tagious?" I then wrote as follows: "The following cur instance of three different forms of cancer, occurring in t individuals living together in the same house may some receive an explanation other than that of mere coincide In 1881 and again in 1883 I operated on a gentleman su ing from rodent ulcer of the eyelid and forehead. H still living but with a return of the growth. In 188 operated on his wife for scirrhus of the breast and du the past week a partner who has always lived in the s house with them, has come under my care with epitheli of the tongue. I would *not suggest that there is* necessity anything more than accidental association betw these cases, but the coincidence is the more interestin that there is no blood relationship between them." three forms of cancer here alluded to are all of the squa epithelial variety and therefore not widely separated structure and may be conceived to be produced by the same exciting cause modified by the tissue inoculated.' Since that time I have met with a good many cases in which two cases of cancer have occurred in the same house.

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[2] THE LANCET, Oct. 29th, 1887, p. 888.

[3] THE LANCET, Nov. 5th, 1887, p. 919.

[4] Fortschritte der Medicin, 1889.

[5] Archives de Médecine Expérimentale, 1894.

[6] Jensen: Centralblatt für Bakteriologie, I., Band xxxiv., 1903

[7] THE LANCET, Feb 13th, 1904 p. 415.

[8] Annales de l'Institut Pasteur, 1903.

[9] Williams: Brit. Med. Jour., 1887, p. 1369.

[10] Brit. Med. Jour., 1899-94-95.

Resemblances in cells of malignant growths to those of reproductive tissues.—Within the last six months much interest has been elicited by a paper showing that changes which take place in the nuclei of cancer cells undergoing multiplication exactly resemble the changes which take place in the ripening of reproductive cells. This paper was read before the Royal Society on Dec. 10th, 1903,[11] and the observations were confirmed by Dr. Bashford and Dr. Murray in a paper before the same society read on Jan. 21st, 1904.[12] To make this clear I may mention that "chromosomes" is the term applied to rod-like bodies within the nuclei which stain with aniline dyes. These have been closely studied by von Hansemann (1893) who found the amount of chromatin to vary and to express which he used the terms "hyperchromatosis" and "hypochromatosis" in relation to the cells of malignant growths. But the value of the work of Professor Farmer, Mr. Moore, and Mr. Walker lies in the demonstration that the central cells of all cancer growths entering into mitosis have the number of chromosomes reduced to just half the normal number, whilst the form of the chromosomes is changed from an elongated thread-like V-shaped chromosome to a short ring-like form. This reduction to half the number of chromosomes is precisely what is observed in the reproductive cells of both plants and animals undergoing mitosis, and has led the observers to conclude that malignant growths are virtually reproductive tissue occurring in abnormal situations. Whilst this power of reproduction illustrates the manner in which cancer growths rapidly increase in size it does not to my mind explain in any way why particular cells of any organ of the body should start this heterotype mitosis in imitation of the normal reproductive cells. Moreover, the value of this observation as an explanation of cancer causation is much weakened by the fact that the same kind of cell division with reduced number of chromosomes is observed in sarcomata—tumours which clinically as well as microscopically are widely separated from true carcinomata. I am inclined, therefore, to regard this valuable new observation as serving to demonstrate to us the manner in which the cells of sarcomata and carcinomata so rapidly multiply by imitating the processes normal to the reproductive cells, but beyond this there must lie a cause which compels them to take on this exceptional process. That cause still remains to be demonstrated.

To sum up the points of this short paper: 1. I have demonstrated a site of origin of cancer dependent upon the friction of the upper edge of a corset where it crosses the anterior fold of the axilla. To this I have so far attached no theory save that of chronic irritation, but supposing cancer to be due to an organism introduced from without, the rubbing in of such organism at this spot might aptly be compared to the rubbing in of staphylococci on the back of the neck by the collar in the production of boils and carbuncles. 2. Allusion was next made to other recognised sites of origin associated with irritation and especially to the points of junction of mucous membrane with skin. 3. I then attempted to show how syphilis, producing injurious effects in numerous situations, often proved to be the forerunner of cancer. 4. Next inoculation and contagion were considered; the proved inoculability of cancer in animals of the same species; the self-inoculation in the human subject of parts in contact but not continuous; and the probable communication of the disease in certain cases from wife to husband. 5. The infection of cancer was then spoken of and my original observation of three persons having cancer at the same time in the same house, published in 1887, was quoted. 6. The recent observations of Professor Farmer, Mr. Moore, and Mr. Walker as to the resemblance of the mitotic changes of cancer cells to those normal in the reproductive cells of plants and animals were alluded to as of great interest, showing why in both cancers and sarcomata there exists such an immense power of multiplication of cells, but why the cells assume this heterotype mitosis still *remains to be demonstrated.*

Wimpole-street, W.

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[11] Resemblances exhibited between the Cells of Malignant Growths in Man and those of Normal Reproductive Organs, by Professor J. B. Farmer, Mr. J. E. S. Moore, and Mr. C. E. Walker, THE LANCET, Dec. 26th, 1903, p. 1830.

[12] THE LANCET, Feb. 13th, 1904, p. 413.

A TOPOGRAPHICAL AND CLINICAL STUDY OF FIBROIDS OF THE NECK OF THE UTERUS (CERVIX FIBROIDS).

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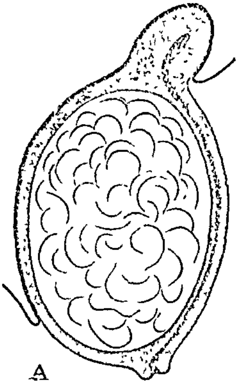
IN May, 1897, I exhibited at the *Obstetrical Society* of London some large specimens of fibroids growing in the neck of the uterus and drew attention to the fact that tumours of this kind had not received adequate attention at the hands of those who had given close attention to the surgery of the uterus. These tumours are by no means rare, they possess very characteristic features, and sometimes offer formidable difficulties when submitted to operation. In order to obtain some notion of their relative frequency I carefully analysed 500 cases of fibroids which have been under my care for operative treatment during the past eight years and find that in every 100 cases there will be five in which the fibroids occupy the cervix, and of these five, three, and sometimes four, will be fibroids exceeding the dimensions of a fist; in the early stages of growth cervical, like the common forms of uterine, fibroids are more or less globular, but when they exceed this size tend to become ovoid. Fibroids may grow from any part of the cervix; commonly they arise from its walls in such a way as to occupy the cervical canal (Fig. 1). These are known as intracervical or submucous cervical fibroids. Less frequently they grow from the periphery of the cervix and do not invade the canal but burrow under the peritoneum on the anterior or the posterior aspect of the uterus (Figs. 2 and 3). These are known as subserous cervical fibroids.

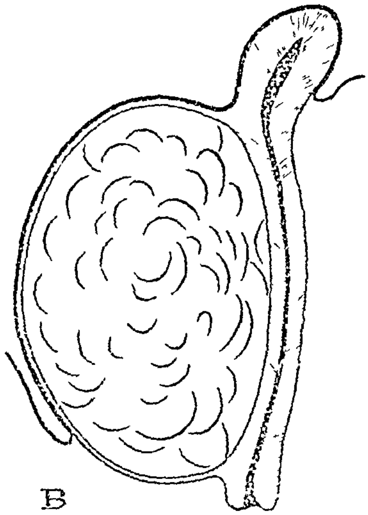
FIG. 1.



A diagram to show the relation of an intracervical fibroid to the cervical canal.

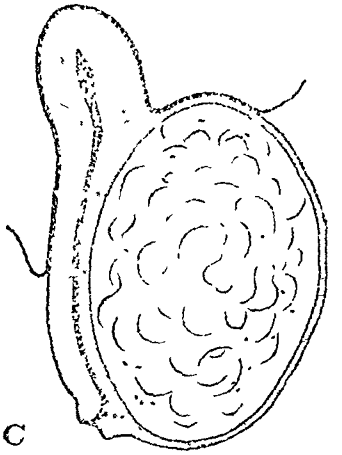
The oval character of the cervical fibroid is best displayed in the submucous variety, for as it grows it pushes the body of the uterus, which is perched on its upper pole, high into the abdomen and in the case of very large tumours the fundus of the uterus can be detected as high as the navel. The topography and shape of this kind of tumour are best displayed when they are sectioned in a sagittal direction. The ovoid sha[illegible] the osseous bounda[illegible] male pelvis the pelvic [illegible] the cervix measure, with the soft parts in position, about ten centimetres (four inches); thus the lower segment of a large cervix fibroid is a solid cast of the true pelvis. In one of my specimens the minor (transverse) axis of the tumour measured 12·5 centimetres, this excessive measurement being due to the slow but steady expanding effects of the tumour on the bony walls of the pelvis. It is well to bear in mind that the oval condition of the vaginal pole of a large cervix fibroid corresponds with the shape of the occiput of a recently delivered fœtus at term. The ovoid shape is also attained by subserous cervical fibroids when they grow from the posterior aspect of the cervix as shown in Fig. 2. This kind of tumour as it increases in size pushes the body of the uterus high out of the pelvis on its upper pole, but its relation to the cervical canal is worth some attention. The intracervical fibroid, as shown in Fig. 1, uniformly expands the cervix, and in very large specimens its tissues form a thin covering to the tumour; but a fibroid of the posterior aspect of the cervix elongates it without expanding the canal and is really situated between the cervix and the peritoneum. This is a topographical distinction of some importance in connexion with the clinical aspect of these tumours.

Fig. 2.



A diagram of a fibroid growing from the posterior wall of the cervix, showing its relation to the peritoneum.

Fig. 3.



A diagram of a fibroid growing from the anterior wall of the cervix to show its relation to the peritoneum as it passes from the anterior wall of the uterus to the bladder.

Fibroids on the anterior aspect of the neck of the uterus remain more or less globular and do not distort the shape of the cervix as a rule; when of large dimensions they push their way upwards between the peritoneum and the anterior abdominal wall; in one example under my care the whole of a large tumour of this kind had become extraperitoneal. It is a noteworthy feature of the cervical fibroid that in more than two-thirds of the cases the tumour is solitary. All varieties of cervix fibroids are furnished with a distinct capsule; the tumour tissue on section presents the characteristic whorled arrangement of the common form of uterine fibroid and is microscopically identical with it. Fibroids of the neck of the uterus when they do not cause menorrhagia are very insidious and rarely give rise to serious symptoms until large enough to fill the pelvis and to exert pressure on the urethra, the vesical segments of the ureters, and the rectum. In some cases, especially variety C (Fig. 3), there is direct pressure on the bladder. The frequency of micturition, dysuria, and retention of urine, which are such frequent concomitants of the varieties A and B, are due to the bladder being dragged upwards by the uterus as this organ is pushed out of the pelvis by the growing tumour.

I am induced to prepare this paper with the hope of reconciling some divergent opinions as to the frequency or otherwise of menorrhagia in connexion with cervical fibroids. With this object in view I analysed the clinical reports of 20 cases under my care in the Chelsea Hospital for Women and the Middlesex Hospital. I have appended brief notes of ten consecutive cases in which two points come out very clearly: (1) menorrhagia and metrorrhagia are only noticed with the intracervical variety and bear no relation to the size of the tumour; and (2) hæmorrhages (menorrhagia and metrorrhagia) only occur with intracervical fibroids when the uterus has made attempts to extrude, or has succeeded in extruding, the tumour wholly or partially into the vagina. The corollary is plain. An extruded or partially extruded fibroid is exceedingly liable to become septic and as surely as this happens menorrhagia and metrorrhagia are unfailing consequences.

Case 1.—The patient was a single woman, aged 41 years. She had a large intracervical fibroid. There were profuse metrorrhagia and profound anæmia. The os uteri was widely open. Panhysterectomy was performed on Dec. 14th, 1899. (Chelsea Hospital for Women.)

Case 2 —The patient was a single woman, aged 45 years. She had a very large intracervical fibroid. The os uteri was a mere dimple. Menstruation was normal. She complained of pelvic pressure and retention of urine. Panhysterectomy was performed on May 7th, 1900. (Chelsea Hospital for Women.)

Case 3.—The patient was a single woman, aged 45 years. She had a large fibroid growing from the posterior aspect of the supravaginal cervix. There were menorrhagia and dysuria. Panhysterectomy was performed on Sept. 9th, 1901. (Chelsea Hospital for Women.)

Case 4 —The patient was a married woman, aged 52 years, who had had six children. She had a large intracervical fibroid. The os uteri was patulous. There was profuse and prolonged menstruation. Panhysterectomy was performed on Oct. 21st, 1901. (Chelsea Hospital for Women.)

Case 5.—The patient was an unmarried woman, aged 38 years. She had a large intracervical fibroid pushing the uterus high out of the pelvis. Menstruation was scanty but regular. There was frequent micturition. The os uteri appeared as a dimple at the lower pole of the tumour. Abdominal enucleation and supravaginal hysterectomy were performed on Jan. 27th, 1902. (Middlesex Hospital.)

Case 6 —The patient was a married woman, aged 36 years She had had four children. A large fibroid was growing from the anterior aspect of the supravaginal cervix. There had been amenorrhœa for three months. She had frequent micturition. Abdominal enucleation of the tumour was performed on May 12th, 1902. She was delivered of a boy at full term on Jan. 2nd, 1903. (Chelsea Hospital for Women.)

Case 7.—The patient was a married woman, aged 49 years, who had had two children. She had an intracervical fibroid. There was dysuria. Menstruation was irregular. There was painful pressure on the rectum. Panhysterectomy was performed on March 17th, 1902. (Chelsea Hospital for Women.)

Case 8.—The patient was a married woman, aged 45 years, who had had six children. There was a very large fibroid growing from the anterior aspect of the cervix and extending upwards beyond the umbilicus. The tumour is described in the notes "as big as a football." Menstruation was irregular but not profuse. Supravaginal hysterectomy was performed on Sept. 10th, 1902. (Middlesex Hospital.)

Case 9 —The patient was a married woman, aged 43 years. She had had one child and one miscarriage. She had an extruded intracervical fibroid of the size of a turkey's egg. There was profuse metrorrhagia. Vaginal myomectomy was performed on Nov. 10th, 1902. (Chelsea Hospital for Women.)

CASE 10.—The patient was a married woman, aged 31 years. She was sterile. She had a fibroid of the size of a turkey's egg growing from the anterior wall of the cervix and pressing on the bladder. This filled up the vagina, hindering coitus. Vaginal enucleation was performed on May 18th, 1903. (Chelsea Hospital for Women.)

The largest intracervical fibroid known to me is a specimen (Hunterian) preserved in the Museum of the Royal College of Surgeons of England. It measures 30 centimetres (12 inches) in length by 12·5 centimetres (five inches) in width. Unfortunately it is without history.

A close study of these ten cases brings out some further facts. It will be noticed that in some of them the condition of the mouth of the womb is described in this way: "The os uteri was a mere dimple"; wherever this sentence appears it almost certainly follows that menstruation is described as normal, scanty, or irregular and a closer study of the records shows that the patient is usually a spinster or, if married, sterile. On the other hand, the great majority of the women in whom the intracervical fibroid is a source of menorrhagia have borne children and present a patulous and often widely patulous os uteri. It should also be borne in mind that cervical fibroids of all varieties, though commonly solitary tumours, are occasionally complicated by a submucous fibroid in the body of the uterus and this is, of course, a notorious agent in producing metrorrhagia.

A glance at the brief notes of the ten cases shows that these cervix fibroids do not lend themselves to any routine kind of operation. When of moderate size and associated with a capacious vagina the intracervical kind and those which arise on the anterior aspect of the supravaginal cervix may be easily, expeditiously, and safely enucleated through this channel. Tumours which attain and exceed the bulk of a fœtal head at term almost invariably demand treatment by the abdominal route. I have tried a variety of methods. When the uterus with the tumour in its cervix can be raised out of the pelvis far enough to allow the necessary manipulations then panhysterectomy can be performed easily and quickly. Occasionally the tumour is wide and so fixed in the pelvis that it will be necessary to split the uterus longitudinally and to enucleate the fibroid from its bed; then an ordinary supravaginal hysterectomy can be carried out. The enucleation of a large impacted cervix fibroid requires to be conducted carefully without undue display of force or so much shock is produced that the patient's life will be placed in the gravest peril. However, large cervix fibroids can be safely enucleated even when the uterus is gravid, as Case 6 testifies.

Perhaps the acme of difficulty is that met with when the body of the uterus is occupied by a large fibroid and another, even larger, grows from the posterior aspect of the cervix and tightly blocks the pelvis. In this particular condition the fibroid can be enucleated from the cavity of the uterus; the larger tumour is then shelled out of the pelvis and the uterus is removed as in an ordinary supravaginal hysterectomy. The lower extremity of the capsule forms a pouch and the unexpanded vaginal portion of the cervix lies in its anterior wall; before suturing the stump in order to secure free drainage into the vagina I split the cervix longitudinally with scissors. In one instance in which I divided the uterus longitudinally in order to extract a large, tightly impacted intracervical fibroid, instead of removing the uterus I sutured the two halves and left the organ intact. The patient recovered without even a rise of temperature. In conclusion, there is no form of uterine fibroid likely to test the judgment, resources, and common sense of the surgeon to such a degree as a large cervix fibroid tightly incarcerated in the pelvis. The three diagrams used to illustrate this article were drawn by my colleague Dr. A. E. Giles who has assisted me in the removal of many difficult cervix fibroids.

Brook-street, W.

ERRATUM.—In the paper by Dr. Alexander Marmorek on Treatment with Antituberculous Serum, published in our last issue, the words "in which tubercle bacilli were found" (see THE LANCET, March 26th, p. 859, column 1, line 6) were deleted by the author and printed by us in error.

A CASE OF SLOUGHING OF THE CENTRAL PART OF A UTERINE FIBRO-MYOMA SHORTLY AFTER DELIVERY.[1]

BY JOHN D. MALCOLM, F.R.C.S. EDIN.,
SURGEON TO THE SAMARITAN FREE HOSPITAL.

THE following case is interesting on account of the fact that an acutely formed slough was surrounded by living healthy fibro-myomatous new growth and also because a fibro-myoma touching the mucous membrane and the peritoneum was removed by enucleation without serious hæmorrhage.

The patient's age was 32 years. She married in March, 1902, and miscarried in September of the same year. On Oct. 25th, 1903, she had a still-born child of about seven months' gestation. Her medical attendant was not present but he delivered the placenta an hour later. Much blood was lost for five hours after delivery and many clots were passed during the following four days. On the fifth day the vaginal discharge was very offensive, the patient's temperature was high, and she felt very ill. She gradually got better and the discharge ceased but much pain in the pelvis continued. Her medical man told her that this was caused by a tumour attached to the womb which had been there since her delivery and which would probably get all right. He ceased to attend after about four weeks. The pain increased very much as the patient tried to move about and on Dec. 10th she sent for another practitioner, with whom I saw her seven weeks after delivery, and she was admitted to the Samaritan Free Hospital on the next day. She had then a mass in the pelvis, apparently between four and five inches in diameter, closely attached to the womb, which lay to the right and behind. The swelling was always painful but the slightest manipulation and every movement caused intense suffering. The uterine cavity measured just over two and a half inches in length and there was no vaginal discharge. The temperature was 99·4° F. on admission to hospital but on the next day it was normal and it did not again rise until after the operation. Except for the presence of the mass attached to the uterus and some anæmia the patient seemed to be quite healthy. I thought that possibly there might be an extra-uterine fœtation but a diagnosis of inflamed fibro-myoma seemed to explain the conditions better.

On Dec. 18th, 1903, the fifty-fourth day after delivery, as there was no improvement, the abdomen was opened and a tumour which was obviously a uterine fibroid was exposed. The most prominent part seemed to be covered by little, if anything, but peritoneum and the uterus which was well involuted was attached to the back and right side of the growth. The body of the uterus could be seen and felt standing well out from the growth and they seemed to be slightly mobile on each other. The appearances suggested that the tumour was not very deeply buried in the wall of the uterus and it was therefore decided to attempt to remove the fibroma and to leave the uterus. An incision was made through the capsule and enucleation was effected without much difficulty. Only one vessel bled sufficiently to require a ligature, all other hæmorrhages being controlled by sponge pressure. The tumour was placed, however, much more deeply than I thought, and in removing it the cavity of the uterus was laid freely open. A sound passed through the cervix made this quite certain. Nevertheless, hæmorrhage was unimportant and I therefore closed the wound in the uterine wall. The deeper parts were brought together by a continuous catgut suture, but it was impossible to adjust the mucous surfaces accurately and drainage into the uterine cavity was therefore free. The outer walls of the capsule which had contained the tumour were then inverted, but to do so it was necessary to shorten them considerably. This had the advantage of making their edges much thicker and there was no difficulty in inserting Czerny-Lembert sutures so that no part of the silk entered the cavity from which the tumour was removed. The necessary shortening of these flaps caused very little bleeding. Two small pedunculate fibroids of about the size of marbles were also removed from the back of the uterus and no other tumour was detected. The patient made an uninterrupted recovery, there being a considerable vaginal discharge for the first few days.

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[1] A paper read before the Obstetrical Society of London on Jan. 3rd, 1904.

The tumour appeared to be an ordinary fibroid and showed no sign of degeneration until it was incised. Then it was seen that about half an inch all round had the appearance of an ordinary living fibro-myoma, whilst the central part was a whitish-grey slough. There was no possibility of separating the central from the outer part except by using a knife. There was no odour. After being in spirit a few days the colour had all gone, but it was obvious that the external part had contracted more than the central. The appearance was very similar to that shown when a fibroid in the uterine wall has been incised and kept in spirit, but in such a case it is normal uterine tissue that retracts. Mr. W. Sampson Handley kindly made a section of the growth, including part of the central sloughed tissue and part of the unaltered tissue. The surrounding growth stained well with eosin and hæmatoxylin and showed numerous muscular cells with well-stained nuclei. The sloughed part took on little stain and showed hardly any structure, no nuclei being visible. It was apparently in a state of mucoid degeneration. There was a definite line of demarcation between the well-stained and the slightly-stained parts.

These conditions are unique in my experience. It does not seem that there was an ordinary sloughing due to septic influences absorbed from the uterine cavity. The growth was so close to the mucous membrane that contamination from this source must inevitably have induced a putrid slough of the whole tumour, and the death of the patient would probably have followed, because the growth was as near to the peritoneal as to the mucous surface.

The greater contractility of the outer portion of the growth suggested that the central part was more fibroid and less vascular, but probably the difference was due to a degeneration of the sloughed tissue. Nevertheless, the large number of muscular cells must have subjected the central part of the growth to considerable pressure, and this, together with the diminution of the vascular supply caused by the involution of the uterus, seems to afford the most satisfactory explanation of the sloughing of the central part of the growth. According to this view the slough was aseptic and it is probable that if the patient had been kept absolutely quiet sufficiently long the dead tissues would have been very slowly absorbed.

The advantages of enucleating the tumours and of leaving the uterus in a recently married woman, 32 years of age, are obvious. But it should not be forgotten that the surgical completeness of the operation, whilst it gives the patient the opportunity of becoming a mother, exposes her at the same time to the risks involved in the presence of a long scar in the uterine wall, and this condition must give rise to considerable anxiety if the patient should become pregnant again.

Portman-street, W.

A Mirror

OF

HOSPITAL PRACTICE,

BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Procœmium.

UNIVERSITY COLLEGE HOSPITAL.

A CASE OF TETANUS TREATED WITH ANTITETANIC SERUM; RECOVERY.

(Under the care of Dr. J. ROSE BRADFORD.)

FOR the notes of the case we are indebted to Mr. W. F Annand, house physician.

The patient, a well-nourished, healthy-looking woman, aged 70 years, was admitted into University College Hospital on Nov. 25th, 1903, at 2 P.M., said to be suffering from tetanus. The history was that on Nov. 22nd she began to feel cramp-like pains in her right leg, which during the next two days spread to the abdomen and thence up the spine. On the 24th she was said to have had a typical tetanic spasm. Ten cubic centimetres of antitetanic serum were injected beneath the skin of the abdomen and the patient was sent to the hospital. On admission a large healing ulcer was present on the front of the right leg, measuring six inches by three inches. Its base was firmly fixed to the bone. No other breach of the surface was discoverable anywhere. The temperature was 97·8° F., the pulse was 96, and the respirations were 24 to the minute. There were slight rigidity of the jaw muscles, slight difficulty in swallowing, and inability to protrude the tongue beyond the teeth. There were no other signs of importance. At 4.30 P.M. the patient had an attack of violent spasm. There were intense pain in all the muscles, along the spine particularly, and marked opisthotonos, the body being bent like a bow, resting only on the occiput and the heels. The eyebrows were screwed up, the angles of the mouth were drawn, and the jaws were firmly clenched. The thorax was absolutely fixed and respiration was entirely suspended. The spasm lasted for about a minute and then passed off, leaving the patient very cyanosed and for a short time unconscious. This condition passed away in two or three minutes. From 4.30 P.M. on the 25th to 12.30 P.M. on the 26th there were 11 attacks of spasm at fairly regular intervals, the third, fourth, and fifth being very slight. An enema of 30 grains of chloral had been given after the first attack and another was given after the last. At 2 P.M. on the 26th chloroform was administered, the ulcer was excised and the surface left was scrubbed with peroxide of hydrogen. An injection of 100 cubic centimetres of antitetanic serum was made beneath the skin of the abdomen. On coming round from the anæsthetic two very severe spasms occurred at 6 and 6 45 P.M. The pulse showed signs of failure and brandy was given frequently. She slept well during the night. At 3 P.M. on the 27th a further injection of 90 cubic centimetres of serum was made near the site of the former injection, this time without an anæsthetic. At 4 o'clock there was a severe spasm, resembling in all respects those which had occurred before. Until Dec. 1st the history was uneventful, no further attacks occurring. On that date the temperature rose for the first time, reaching at night 99·8°. During the evening the patient complained of considerable irritation over the front of the abdomen, the lower part of the back, the knees, and the wrists. There was present on examination an urticarial erythematous eruption consisting of minute white papules on a ground of vivid pink. There were slight headache and nausea for from eight to ten hours. On the following day the rash was general. On the afternoon of the 4th the temperature began to rise steadily, reaching 101·8° on the night of the 5th. There was considerable pain in the wrist-joints, the metacarpo-phalangeal joints of the thumbs, and the interphalangeal joints. They were all swollen and excessively tender, the skin over them being red and glossy. On the 5th there was slight laryngitis, with hoarseness and cough. The knee-joints were swollen and fluid was detected in each. By the 7th the rash and the arthritis were lessening and these had gone by the 10th. The temperature continued going up and down until the 14th, the highest rise occurring on the 8th, when the thermometer registered 102·6°. During this time, on the evenings of the 9th and 10th, two syncopal attacks occurred. Another attack occurred on the 14th, when the patient became unconscious, the chest was fixed, and respiration stopped. This lasted a few seconds and then the back arched as in the tetanic spasms at the beginning of the illness. No special measures were taken. From this time onward convalescence progressed uninterruptedly. On the 23rd a Thiersch graft was applied to the ulcer which united perfectly. The patient was discharged well on Jan. 23rd, 1904. Unfortunately the piece of tissue forming the floor of the ulcer which had been excised was lost and no microscopical or other examination was made of it.

Remarks by MR. ANNAND.—The case seems to me to be interesting as showing the result of the large injections of antitetanic serum now recommended. The patient had in all 200 cubic centimetres of serum subcutaneously; the rash appeared on the seventh day from the time of the first injection of 10 cubic centimetres and on the fifth day from the date of injection of the first large dose of 100 cubic centimetres. The arthritis appeared on the tenth or eighth day, according to whether one reckons from the date of the small or large injection. That the successful issue of the case is due to the use of the serum, which was supplied by the Lister Institute of Preventive Medicine, is, I think, indubitable.

MONTAGU COTTAGE HOSPITAL, MEXBOROUGH.

A CASE OF PYLORIC STENOSIS AND GASTRIC DILATATION OF VERY LONG DURATION (21 YEARS); POSTERIOR GASTRO-ENTEROSTOMY; COMPLETE RECOVERY.

(*Under the care of* Mr. B. CROSSFIELD STEVENS.)

THE patient was a man, aged 40 years. He was thin, emaciated, and bedridden, and unable to retain food or to digest it. He stated that his illness dated from the age of 18 years, when a horse rolled on him. Pain in the stomach and vomiting came on soon afterwards and three months later he went to the Sheffield Infirmary, where he was put to bed, kept on a milk diet, and had his stomach washed out. He still vomited and had pain a few hours after food. After three months as an in-patient he was made an out-patient and continued to attend for three years and was able to work occasionally. Ten years previously, still suffering from the same symptoms, he went to the Sheffield Royal Hospital and after five weeks' lavage, dieting, and rest was discharged. From that time up to two months previously, when first seen by Mr. Stevens, he had been treated privately. When Mr. Stevens saw him the emaciation was extreme; the man was unable to take anything without pain accompanied by vomiting, proximate or remote, and was going downhill fast. The friends were very adverse to any surgical procedure until they understood that it was operation or a lingering death. Under carbonic acid gas distension the stomach was quite two inches below the umbilicus. The pylorus could not be felt but most of the pain was at the cardiac end. Succussion splash was easily obtained and was very pronounced. The vomit was acid and frothy; it was never tinged with blood.

Owing to the weak condition of the patient he was given 20 minims of liquor strychninæ hypodermically and a saline enema with brandy and the operation was completed within three-quarters of an hour. The pylorus was a hard gristly mass but gave no indications of being malignant nor were there any adhesions to the gall-bladder or any viscus. The stomach having been washed out a few hours before was empty and large. The ordinary method of posterior gastro-enterostomy was done as Mr. Stevens had seen no vomiting usually after this route. The transverse mesocolon was opened, the stomach was pulled through and clamped, and the jejunum was looped up and ligated with rubber tubing. The anastomosis was made over a bone bobbin to act as a temporary splint for the surfaces to join over. Celluloid thread was used for the serous sutures and catgut for the mucous ones.

The patient was rather collapsed on return to bed. Liquor strychninæ and brandy were given every four hours. Hot water and plasmon were given by the mouth. A little pain and distension were present on the second day and this was relieved by the flatus tube. After this the patient never had a bad symptom; the pulse always kept below 100. The temperature was normal. There was never any hiccough or sickness. Six weeks after the operation the patient was well and walking about and was enjoying his food and had gained weight considerably. Great credit is due to the matron and the nurses for their assiduous attention.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

The Treatment of Urinary Tuberculosis.

A MEETING of this society was held on March 28th, Dr. F. DE HAVILLAND HALL, the President, being in the chair.

Mr. E. HURRY FENWICK read a paper on the Treatment of Early Urinary Tuberculosis. He advocated the use of Koch's new tuberculin in cases where the mucous membrane of the bladder was alone affected by the disease. He had used this remedy since its introduction in 1896 and found that in many instances it afforded real relief to the pain in the lower urinary passages. No claim for cure was advanced. It must not be used unless the tubercle bacilli were found in the urine by a competent observer. Its exhibition had to be carefully watched, for it was liable to light up trouble in one or other kidney latently affected by tuberculosis. In a large number of cases of urinary tuberculosis the cystoscope enabled the clinician to decide as to whether the kidney was affected or not, for the chronic form of the disease was almost always unilateral and the kidney was implicated early in the course of the disorder. When the kidney was shown by the cystoscope to have a ureter condensed and choked by peri-ureteritis he advocated its removal. He gave a list of 25 nephrectomies for tuberculosis with one death. Four of the female cases in this list became pregnant subsequently to the nephrectomy, two being delivered of healthy children. This afforded evidence that a single kidney in a tuberculous patient could bear the stress of pregnancy. Mr. Fenwick considered that the heavy death-rate of nephrectomy for tubercle of the kidney, just as that for carcinoma of the kidney, depended upon the surgeon not operating early, and he contended that the cystoscope would enable earlier interference and more judicious after-treatment. Should the cystoscope show a *single* ulcer in the bladder (and that condition was a rare one) he advised that it should be cut away suprapubically instead of using tuberculin. The same lines were employed in the male affected by genito-urinary tuberculosis. The affected testis or testes, vasa and seminal vesicles must be sacrificed if any good was to be effected. Should, however, the deposits be many and widespread, or should the history of tuberculosis of parts other than the genito urinary tract be obtainable, operation and tuberculin were useless and the best that could be done consisted in hygienic, dietetic, and therapeutic measures.

Dr. A. E. WRIGHT said that he had been engaged on work on somewhat similar lines. The use that had been made with the new tuberculin was not great. The new tuberculin consisted of the protoplasm of the tubercle bacilli and

"vaccine" against tuberculos

against plague and, as he had

against streptococcic infection. The new tuberculin could be used with success in those cases in which the tubercle was local and he had used it in such cases with a fair measure of success. He had inoculated a considerable number of cases and from the examination of the blood he had been enabled to construct a curve showing the increase of immunity. He had, however, only treated one case of urinary tuberculosis but in that case very marked improvement had taken place. He thought that it was only by an examination of the blood that a true estimate of the effect produced by the inoculation could be obtained. After the first inoculation a negative phase was produced which after two or three days became a positive phase. The positive phase gradually fell away and then it was that a fresh inoculation should take place. Immunity was in this way built up and he had treated several of the severer forms of tuberculosis in this manner with success.

Mr. F. SWINFORD EDWARDS said that tuberculosis of the urinary passages was one of the most distressing affections. He had treated a considerable number of such cases with Koch's new tuberculin and in all of them the symptoms were much relieved and three cases might be said to have been cured. This form of treatment marked a great advance. He had never knowingly tried it in tuberculous disease of the kidney. He thought that it might be of value in diagnosis as it gave rise to pain in the affected kidney. He asked why Mr. Fenwick did not recommend it in single ulcer of the bladder.

Mr. J. G. PARDOE said that he was quite certain that tuberculin injections were not only useless but actually harmful in advanced disease of the kidney. He had used it in six cases with unsatisfactory results. He asked whether it was possible to distinguish between an ascending or a descending tuberculosis of the ureter by the nature of the local affection of the bladder in the neighbourhood of the ureter. He said that a solitary tuberculous ulcer was most frequently situated on the trigone of the bladder and that it would be difficult to remove it from this situation.

Mr. J. W. THOMSON WALKER said that he had treated some eight cases of tubercle of the bladder by inoculation and had had three cases under observation for from three to ten months. In only one of these cases was there no improvement while in all the rest there was very marked improvement. The inoculation also tended to diminish hæmorrhage. In three cases of kidney tubercle and in one of ascending tubercle of the ureter no improvement had taken place. In two cases of early primary tubercle of the kidney no improvement had taken place in one, whilst marked improvement had occurred in the other. Tuberculin inoculation was not likely to do any good in the late cases of tubercle of the kidney but it was most beneficial in tubercle of the bladder.

The PRESIDENT asked whether a moderate degree of pulmonary tuberculosis negatived the use of this tuberculin. He also asked whether any special diet had been used and whether any drugs such as urotropin had been given at the same time as the injection.

Mr. FENWICK, in reply, said that when the urinary passages were affected with tubercle the lungs were very seldom affected and when there was pulmonary tubercle the urinary passages were seldom affected except in the late stages of the disease. He had not treated single ulcer of the bladder with tuberculin injection because he thought that it was best treated by removal. He was quite unable to distinguish between an ascending and a descending tubercle by the appearance of the bladder in the neighbourhood of the ureter but when he found that the ureter was retracted then he was certain that the kidney was affected.

CLINICAL SOCIETY OF LONDON.

Intestinal Obstruction immediately following Typhoid Fever.—A Case of Severe and Fatal Hæmaturia of Unknown Origin.—A Case of Attempted Division of the Eighth Nerve within the Skull for the Relief of Tinnitus.

A MEETING of this society was held on March 25th, Dr. FREDERICK TAYLOR, the President, being in the chair.

Dr. E W. GOODALL communicated a paper upon two cases of Intestinal Obstruction immediately following an attack of Typhoid Fever. The first case was that of a boy, 14 years of age, who was admitted to the Eastern Hospital at the end of an attack of typhoid fever, during the latter part of which there had been some abdominal pain. A relapse followed and at the end of this the patient suffered for three days from vomiting, hiccough, and pain in the abdomen. About three weeks later a second relapse took place, which was again followed by an attack of pain, hiccough, and vomiting. During this attack the patient died. At the necropsy the small intestine was found partly to be obstructed about two and a half feet above the valve by a fibrous band stretching from the mesentery to another part of the small intestine. Apparently this band had arisen out of a patch of local peritonitis opposite a deep ulcer. There were many healing ulcers in the small intestines. The second case was that of a young man, 22 years of age, who was operated upon for perforation on the twentieth day of an attack of typhoid fever. At that time there was no generalised peritonitis nor were there any peritoneal bands. The patient did well for about a fortnight when he began to suffer from vomiting. A week later there were other symptoms of partial obstruction and he died somewhat suddenly from a second perforation. At the necropsy a number of small bands were found kinking and compressing various parts of the small intestine. The second perforation was situated about six feet above the valve in an ulcer just above the highest band.—Dr. SEYMOUR TAYLOR inquired if there had been anything in the diet to account for the relapse, as he believed that such an event could frequently be traced to a change of food. As a sequela of enteric fever intestinal obstruction was so rare that most classical treatises were silent upon the subject. —Dr. GOODALL, in reply, said that he did not consider that a relapse in typhoid fever was necessarily associated with a change in the diet. The clinical history and post-mortem appearances of these cases suggested that the bands were formed out of local patches of peritonitis opposite intestinal ulcers.

Mr. WALTER G. SPENCER read notes of a case of Severe and Fatal Hæmaturia of Unknown Origin. The patient was a man, aged 44 years, who had first noticed blood in his urine about a fortnight before his death. His previous health was good. The chief symptom had been an increasing hæmaturia unaccompanied by pain or frequency of micturition. On admission to the Westminster Hospital he was very anæmic, practically pulseless, and dyspnœic. The bladder was distended but was not tense or tender. The temperature was subnormal. He was infused with salt solution, given repeated enemata of water, and stimulated with alcohol and strychnine. He passed urine containing a large proportion of blood and he died within 12 hours of admission. The post-mortem examination failed to throw any light on the cause or source of the hæmorrhage. The urinary tract appeared normal and no gross lesions were observed. The blood vessels were not diseased. Microscopical sections of the kidney, the vesical wall, and the aorta did not show anything abnormal, except that the wall of the latter vessel was perhaps thinner than was usual at this age. A second case of recurrent hæmaturia was also narrated in a man, aged 42 years, in whom the condition was temporarily arrested by suprapubic cystotomy and drainage of the bladder. Cases of hæmaturia unaccompanied by lesions had been referred to by Osler who mentioned Gull's term "renal epistaxis." Klemperer, in discussing this subject, used the term "angioneurosis." Some of the cases might be compared to those of post-operative hæmatemesis, where no gastric lesions were found.—Dr. W. P. HERRINGHAM remarked that in some cases of fatal hæmaturia varicose veins might be seen in the ureter. He thought that much stress could not be laid upon the size of the aortic coats as these were subject to great variation. A vascular origin of the condition was rather suggested by the age of the patients.—Dr. A. E. RUSSELL pointed out the analogy between certain cases of hæmaturia and those of fatal hæmatemesis and referred to a case of the latter affection in which a minute ulcer was found post mortem at the junction of several large vessels.—Dr. WILFRED HARRIS inquired if the coagulation time of the blood had been tested and also whether calcium chloride had been administered.—Mr. C. H FAGGE asked if there were any hæmoglobinuria present in either of the cases.—Mr. GEORGE EASTES inquired if the blood clots had been subjected to careful washing in water with a view to determining their origin by their shape when floated out.—Mr. SPENCER replied.

Mr. CUTHBERT S. WALLACE and Mr. H. J. MARRIAGE described a case in which an attempt had been made to divide the Eighth Nerve within the Skull for the Relief of Tinnitus. The patient was a female, aged 23 years, who developed left otitis media in 1898. Several operations followed and four years afterwards she began to suffer from tinnitus and vertigo, which symptoms increased in intensity to such an extent that her life was rendered thereby well-nigh intolerable. It was therefore decided to attempt to divide the eighth nerve. Numerous experiments were made on the cadaver with the result that a modification of the operation for the exploration of the posterior surface of the petrous bone was finally adopted and this was practised on Sept. 3rd, 1903. The operation was made very difficult on account of the constant discharge of cerebro-spinal fluid and also by the hæmorrhage from the surface of the cerebellum. The eighth nerve was exposed and divided by traction with a blunt hook. Noises were present on the following day. There was no facial paralysis. The wound never showed any reaction and continued to discharge. The patient gradually sank and died on the twenty-first day. At the necropsy it was found that a fine strand of the auditory nerve had escaped division. There was no meningitis and the internal ear presented a normal appearance.—Dr. E. FARQUHAR BUZZARD, who had made a microscopical examination of the nerve after staining by Marchi's method, said that the whole of the vestibular and two-thirds of the cochlear nerves were degenerated as a result of the section. He believed that very little was known with regard to the morbid anatomy of tinnitus, which was not a common symptom in gross organic disease of the brain except where there were lesions affecting the nerve roots at the base. The evidence that it was of central origin was not supported by pathological observation.—Mr. FAGGE referred to two cases in which he had exposed the eighth nerve and he had not found it a matter of great difficulty. He considered that tinnitus was more frequent after mastoid operations than was generally supposed and that it was probably of peripheral origin.—Dr. F. PARKES WEBER mentioned a case recorded by Alt of Vienna in which a leukæmic infiltration of the auditory nerve had been discovered in Ménière's disease, tinnitus being a prominent symptom in that affection.—Mr. WALLACE replied.

EPIDEMIOLOGICAL SOCIETY.—A meeting of this society was held on March 18th, Dr. B. A. Whitelegge, the President, being in the chair.—Dr. H. T. Bulstrode, in the absence of the author, read a paper on the Epidemiology of Enteric Fever and Cholera in Hamburg by Dr. Reincke, medical officer of health of the city and port. The paper was illustrated by maps and diagrams. Hamburg, said the writer, with the adjacent but independent municipalities of Altona and Wandsbek, had a population of more than a million and extended for many miles along the right bank of the Elbe. It was originally built on the "geest," a deposit of the drift which skirted the whole coast from Schleswig to Holland, rising to a height of from 100 to 150 feet as a plateau above the "marsh" or low-lying alluvial beds between it and the sea or estuary, formed by the mud brought down by the rivers. With the exigencies of increasing commerce building had been extended over the marsh and on the "polders" or islands in the estuary, having been rendered possible by driving piles and the construction of dykes and embankments. A larger dyke, the Wetterung, ran parallel with the river, with houses on one side and market gardens and dairy farms on the other. Enteric fever was endemic in the villages of the marsh and probably many cases were caused in the towns by vegetables and milk infected by water from the Wetterung, that of the wells on the "geest" being charged with too much iron for domestic use. Prior to 1830 there was neither sewerage nor public water-supply in Hamburg, but the former was introduced in 1831 and the latter in 1842. The water of the river, however, was still used, as well as polluted, by the enormous floating population of barges, tugs, &c., and above all of the large river craft from the canals connecting the Vistula and Oder with the Elbe, 800 of which were often in the port at a time. The population of Hamburg, which in 1842 was only 160,000, was now 740,000, that of Altona 168,000, and of Wandsbeck 30,000. Each had its own waterworks, Hamburg taking its water from some miles above the town, Altona from below, though it was carefully filtered, but Wandsbek from upland lakes in Holstein. The course of epidemics of enteric fever in Hamburg and Altona was characteristic of the differences in their water-supplies, that of Altona being very much more exposed to pollution at its intake, but, save on some exceptional occasions, far more effectually filtered. Enteric fever in Hamburg showed a gradual curve extending over six months at least, whereas epidemics when they did occur in Altona through some breakdown in the filtering processes exhibited the features of an explosion, rising and declining rapidly within a much shorter period. The lighter incidence in Altona in ordinary years might be partly due to the lesser density of the population, but the sharpness of the line of demarcation was suggestive of its connexion with the distribution of the water-supplies. These accidents were more frequent formerly when the management of the filter-beds during continued hard frosts was less understood than it was now, and since 1893 no serious epidemic had occurred in either town. The number of cases had not of late exceeded 3 or 4 per 1000 population—i.e., from 200 to 300 per annum with about 30 deaths. Some were introduced by foreign shipping and many more by the barges engaged in inland navigation; but whether the residuum had any connexion with the water-supply would be certainly known only when the whole should be derived from deep wells as it would be before many years, though several towns with such supplies had as much enteric fever as Hamburg. The relation between the enteric fever and the movements of the ground water was obscure, as was the cause of the great rise of the curves in 1857, 1865, and 1889, and, in fact, when the level of the ground water was lowest. The same relation was observed at Munich, though there experience showed the absence of any connexion between the fever and the water-supply as clearly as the contrary was at Hamburg, and it was certain that since the improvement in water-supply and sewage disposal at Hamburg the fluctuations of the ground water had exerted no influence. Epidemics of cholera had been spread in like manner; introduced from Russia by the river craft it had followed the course of the inland water-ways except on the last occasion in 1892 when it came by sea from Paris and Havre. Then the influence of the water was conspicuously marked, the cases in Hamburg being 26·42 and the deaths 13·44 per 1000, those in Altona 3·81 and 2·13, and in Wandsbek 3·06 and 2·09, many of those in Altona and Wandsbek having been infected in Hamburg. This epidemic was explosive, attacking the whole city whether on marsh or "geest" simultaneously. Enteric fever had always broken out in epidemic form at the same time as cholera, beginning so much later only as its incubation period exceeded that of cholera, and this was but natural considering how dependent they both were on like conditions of soil and water. A form of choleraic diarrhœa had prevailed at the same time among infants but there had been a decrease of 1000 or 2000 deaths from this cause annually since the great improvement in the sanitary conditions of the town.—Mr. Shirley F. Murphy observed that the paper showed the large part played by water in the spread of the fever which we were apt to under-rate, and though in our milder climate the dangers of frozen filter-beds were less the experience of Altona proved the risks incidental to the use of sewage-polluted water, however carefully filtered. The reduction in the mortality from infantile diarrhœa following improved water service was remarkable, for we did not in this country commonly include water among the causes.—Dr. E. C. Seaton did not think that much enteric fever in this country was due to the use of river water, and though we had had outbreaks, as at Maidstone, owing to pollution of springs there was more typhoid fever in Liverpool and Glasgow with the purest mountain sources than in Hamburg and Altona.—Dr. A. Newsholme compared the cases of Munich and Hamburg, remarking that whatever influence rainfall and ground water might have exerted on the prevalence of enteric fever in former years it ceased to be traceable when the mortality had been reduced by improved sewerage and water-supply. Food and personal infection, especially by unrecognised cases, were more potent. The choleraic diarrhœa of Reincke was quite different from infantile diarrhœa or enteritis and was not unknown here in like association.—Dr. H. Franklin Parsons would on no account extenuate the influence of water, though with more deep wells and better filtration it caused fewer cases than formerly. We had in recent years had water epidemics at Maidstone, Lynn, Gloucester, and other places.—Lieutenant-Colonel R. H. Firth, R.A.M.C., observed that though the close analogy of the relations of cholera and of enteric fever with the water-supply had been amply proved in India we had been able to make no such impression on the latter as we had on the former.—Dr. E. W. Goodall understood that in Holland there was more enteric fever among those who drank from wells than among those who used the water of the canals, which Dr. E. F. Willoughby suggested might be due to the absence of sewers and the pollution of the shallow wells.—Dr. C. Childs remarked that the paper brought out clearly the influence of water in the spread of cholera and the value of efficient filtration. Altona with much fouler water *enjoyed comparative immunity*, thanks to its excellent filtration, which emphasised the terrible effects of a breakdown in the filters. The ground water of Hamburg was dependent on the rainfall and that at Munich on the depth and volume of the river. Pettenkofer began by holding the English view of water-supplies but found that no improvement in this direction had any influence on the prevalence or incidence of the disease, that being often heaviest where the water was the purest, and he deduced his theory from accurate and exhaustive observations.—Colonel J. Lane Notter, R.A.M.C., maintained that in South Africa water played a very small part, the main factors being flies, dust, soiled blankets, and personal infection among young men, dirty, overcrowded, and ill-fed.—After some remarks by Dr. Reginald A. Farrar the President summarised the salient points of the paper.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at Liverpool on March 25th, Dr. W. J. Sinclair (Manchester), the President, being in the chair.—Dr. D. Lloyd Roberts (Manchester) related a case of Epithelioma of the Clitoris. The disease began in the glans and not, as is usual, in the prepuce which in this instance could be freely separated from the glans. Stress was laid on the early and persistent occurrence of intolerable itching and smarting in these cases and on the late appearance of pain. Dr. Lloyd Roberts had only seen three cases of the disease and the age of the patients was always over 50 years.—Dr. H. Briggs (Liverpool) remarked on the rarity of the condition as compared with the frequency of cancer of the penis.—The President said that despite its infrequency the condition was usually seen in an early stage but its treatment was unsatisfactory as speedy recurrence usually took place.—Dr. Nathan Raw (Liverpool) read notes of three cases of Ruptured Tubal Pregnancy which had come under his care in hospital recently. In two of the cases the onset was sudden and alarming, the patient becoming rapidly collapsed and semi-conscious, with all the symptoms of serious internal hæmorrhage. In the third case the onset was mild in its symptoms and the hæmorrhage was limited and not progressive, but in the course of ten days bleeding recurred with most alarming symptoms of collapse. In all three cases the abdomen was opened and found to be full of fluid and clotted blood. The ruptured tubes were ligatured and removed, recovery following in two cases; the third patient died two days after from shock. Dr. Raw strongly advocated early operation in all cases where the hæmorrhage was serious and progressive, although in a few cases it was desirable to wait a few hours until the patient had rallied from the state of collapse.—Dr. Briggs could not realise the meaning of the expression "an abdomen full of blood." He had never seen it and felt that hurried operations were a mistake. He had never operated upon a patient who was in a state of collapse, although it was easy to be persuaded that the patient was dying.—Dr. W. Blair Bell (Liverpool) thought that collapse should be treated by transfusion which was a somewhat neglected method of treatment. Probably the transfusion of four or five pints, together with some adrenalin, would allow of operation being performed in an hour's time.—Dr. Lloyd Roberts held that operation should be carried out as soon as possible after rupture had occurred. When there were signs of severe loss of blood it was impossible to tell whether the bleeding was persisting or not, therefore it was safer to open the abdomen.—Mr. R. Favell (Sheffield) suggested that implantation of the ovum in the isthmus of the tube might account for the severe bleeding in Dr. Raw's case.—Dr. A. Donald (Manchester) said that his experience of ruptured tubal pregnancy amounted to four cases and he considered that many cases of so-called rupture were instances of tubal abortion or tubal mole formation. If the tube had undoubtedly ruptured operation should be performed at once. It was possible that the bleeding might cease if the patient became profoundly collapsed but as soon as she rallied the hæmorrhage would recommence.—Dr. Arnold W. W. Lea (Manchester) had had four cases in which the tube was actually bleeding when the abdomen was opened. As a preliminary measure in such cases he had found benefit from placing a heavy sandbag over the abdomen to diminish the amount of blood passing along the abdominal aorta until preparations for operation were completed. He thought it ought to be possible to make an exact diagnosis as to the continuance or arrest of bleeding.—Dr. W. Walter (Manchester) took Dr. Donald's view. A bleeding vessel in the tube ought to be treated on ordinary surgical principles. The difficulty was to know whether the hæmorrhage was progressing. A history of previous collapses was in favour of a waiting policy but even in such circumstances the responsibility was very great.—Dr. J. E. Gemmell (Liverpool) thought that the symptoms in tubal abortion were due rather to peritoneal irritation than to loss of blood and considered that these two conditions could be differentiated.—Dr. J. M. O. Given (Liverpool) appealed from the general practitioner's point of view for some guidance on this somewhat bewildering matter.—The President remarked that in these cases the difficulties were not apparent to him. He had repeatedly seen the abdomen full of blood and sometimes actually distended by it.—Dr. T. B. Grimsdale (Liverpool) having spoken, Dr. Raw replied.

LIVERPOOL MEDICAL INSTITUTION.—A pathological meeting of this society was held on March 24th, Dr. James Barr, the President, being in the chair.—Mr. C. G. Lee and Mr. E. M. Stockdale showed three specimens of Endothelioma of the Retina. Mr. Stockdale remarked that these tumours were usually known as gliomata. One section showed tubules made up of a layer of conical cells, supposed to resemble the cones of the retina. This was considered to be an appearance noted in early specimens and the tubules were regarded as capillaries with modified walls. Other specimens showed blood-vessels surrounded by a sheath of new growth. In structure, therefore, these tumours resembled what was known under the name of plexiform angio-sarcoma, plexiform sarcoma, and cylindroma. Another specimen showed spaces filled with colloid material surrounded by cells.—Mr. D. Douglas-Crawford exhibited: (1) Section of Urachus; (2) an Excised Osteo arthritic Knee-joint removed for Excessive Hydrops Articuli; and (3) the Lateral Lobes of a Hypertrophied Prostate removed from a patient, aged 72 years.—Dr. K. A. Grossmann demonstrated a case of Removal of an Orbital Tumour of fibromatous nature and of slow growth. After two partial removals evisceration was finally necessary. There was no recurrence in four and a half years.—Mr. G. P. Newbolt showed: 1. A Large Multiple Villous Papilloma removed by suprapubic operation from a patient aged 55 years. Although the growth was very large symptoms had only existed for a year. 2. A Sacculated Bladder, the two parts being connected by an aperture only large enough to admit a probe. The patient was admitted with stricture of the urethra and pneumonia.—Concretions in the Appendix were shown by Mr. F. T. Paul and also by Mr. W. Thelwall Thomas. Mr. Paul was convinced that the immediate cause of appendicitis was almost invariably a mechanical irritant. Mr. Thomas gave some statistics collected by him which showed that concretions were not very commonly found. He mentioned that the duration of illness in his case was only 36 hours and that it was the first attack and would undoubtedly have ended fatally but for operative interference. —Dr. Kelly exhibited an excellent section of Psammoma and Dr. J. W. W. Stephens showed slides of the Leishman-Donovan parasite.—Mr. Keith W. Monsarrat exhibited the Gut from a case of Strangulated Hernia and Dr. A. S. F. Grünbaum showed specimens of New Growth from animals.—Dr. R. J. M. Buchanan read a note on a fatal case of Carbon Monoxide Poisoning from Coal Gas to which carburetted water gas had been added. The chemical and spectroscopic examination showed the characteristic features of CO hæmoglobin. The stomach was also shown and though six weeks had elapsed since death it retained the peculiar cherry red colour and showed no signs of putrefaction. The blood from another fatal case which occurred six years ago was also shown and had retained its peculiar colour and gave the characteristic reactions. Dr. Buchanan considered that gas companies manufacturing water gas should be required to notify the consumer when this was supplied.—Dr. Grünbaum gave a Spectroscopic Demonstration to show that the addition of potassium ferri-cyanide to blood saturated with coal gas altered the absorption bands to one broad indefinite band in the green. This change did not occur with blood saturated with pure carbon monoxide. The essential constituent of coal gas which formed this combination had not yet been determined. —Dr. W. Gordon Little gave a short account of the Purin Bodies and their Metabolism; he demonstrated Walker Hall's purinometer and stated that he found ammonium fluoride to be a better precipitant of uric acid than ammonium chloride, as used in Hopkins's method. He was engaged in observations with the object of finding a quick and trustworthy method of clinically estimating uric acid.

HUNTERIAN SOCIETY.—A meeting of this society was held on March 23rd, Dr. F. J. Smith, the President, being in the chair.—Dr. Paul C. Franze read a paper on the Physiological Action of the Nauheim Springs and the indications for their use chiefly in circulatory disorders. Dr. Franze explained that there were three springs containing chlorides of sodium, lithium, and calcium and carbonic acid gas in various proportions and having temperatures of 85°, 90°, and 95° F. The quantity of carbonic acid was further artificially regulated so as to produce (*a*) thermal baths, (*b*) thermal sprudel baths, and (*c*) effervescing or sprudel baths. The physiological actions of these baths were as follows:—1. An increased metabolism when they were employed colder than body heat. 2. A contraction of the vessels of the skin followed by reaction and dilatation—the well-known glow of the cold water bather—were produced in the Nauheim baths at temperatures only a degree or two below body temperature and with so little violence as to be suitable to cases of debilitated heart. This effect Dr. Franze chiefly attributed to the bubbles of gas stimulating the cutaneous nerves but he thought that in part it might be due to the local action of the salts on the capillaries of the skin. 3. This improved circulation led to a more active metabolism and this to a better and more active digestion and nutrition, whilst the tone of the nervous system was simultaneously improved. Dr. Franze claimed that low blood pressures were raised by the bath and that high blood pressures were lowered by it. The baths also relieved a heart which was too heavily loaded by peripheral spasm and filled an empty heart from the peripheral vessels. In fact, these baths afforded a means of administering the most delicately graduated exercises to the heart and circulation and therefore the cases suitable for the Nauheim baths were any cardiac cases which were not of so severe a degree that baths of any sort would be dangerous. If the patients could bear the journey safely they could bear the treatment. Valvular lesions, simple muscular weakness due to influenza, enteric fever or acute rheumatism, fatty hearts, and even arterio sclerosis with angina pectoris were greatly improved by a graduated course of baths.—Dr. Arthur T. Davies thanked the lecturer and said that he thought too much had been made at Nauheim of the reduction in size of the heart by a bath or two. The heart varied in size from minute to minute.—Dr. Alexander Morison was of opinion that cases of angina pectoris were unsuited for bath treatment.—Dr. T. Glover Lyon thought the benefit of Nauheim arose from its atmospheric depression which discouraged undue exercise.—Dr. E. H. Colbeck said he attributed the benefit of the baths rather to the mechanical action of the water, heat and bubbles than to any chemical action, either direct or indirect, of the chlorides.—Dr. L. A Smith, Dr. Bryant, Mr. H. L. Barnard, and the President also spoke.—Dr. Franze then replied.—A hearty vote of thanks was accorded to the lecturer.

GLASGOW NORTHERN MEDICAL SOCIETY.—A meeting of this society was held on March 22nd, Mr. C. F. Spinks being in the chair.—Dr. James Erskine read a paper on the Hospital History of Glasgow. The ancient hospitals, he said, were ecclesiastical. These old hospitals were placed outside cities, not for isolation, but for the reception of wayfarers. The oldest hospital related to Glasgow was one at Polmadie, called the Hospital of St. John, and was referred to in the year 1316, when Robert Bruce granted it a charter giving it all the privileges which it enjoyed in the time of Alexander III. Later it became a prebend to the Cathedral. St. Nicholas Hospital was founded in 1460 by Bishop Muirhead, probably to take the place of the Polmadie Hospital. The Barony Church now occupied the greater part of the ground of the old St. Nicholas Hospital which at that time housed 12 old men and a priest. Other hospitals were the Back Almons Hous, which accommodated four poor men, and those of the merchants and craftsmen. The Crafts Hospital adjoined the Hospital of St. Nicholas and lodged at first five, and later 13, freemen. Blackader's Hospital, near the Stable Green, was founded about 1524. It was situated where Dobbie's Loan joined Castle-street. It was for the reception of wayfarers and was described as "a house of the poor and indigent casually coming thereto." A hospital also existed at Strathbungo in pre-Reformation times. With regard to hospitals for the sick, a leper hospital was founded in 1350 on the south side of the Clyde, near the Stockwell bridge, but probably not, as was commonly stated, by Lady Lochow. This hospital disappeared about 1760. In the year 1645 wooden huts were erected in Sighthill to accommodate plague patients, the disease being then so prevalent that the University had to remove to Paisley for a time. The town's hospital was erected in 1733 by public subscription and was situated on the Old Green, near the Clyde. The Royal Infirmary was built in 1794 and John Burns was the first resident surgeon and apothecary. It was enlarged in 1816; the fever house was added in 1829 and the surgical house in 1861. The directors of the town's hospital were urged to provide separate accommodation for the insane and as a result the lunatic asylum in Parliamentary-road was begun in 1810 and finished in 1814. In 1842 it was found to be too small and Gartnavel Asylum was erected. Woodilee Asylum was erected in 1875 and Gartloch and Hawkhead Asylums in 1897. The asylum in Parliamentary-road began to be utilised as the town's hospital in 1843. The first municipal fever hospital was the one in Kennedy-street which was erected in 1865 The fever hospital at Belvidere was erected in 1870 and that at Ruchill in 1899. The Glasgow hospitals, including the convalescent homes, now provided no less than 8000 beds for the population of 1,000,000 inhabitants.

BRADFC [illegible] meeting of [illegible] Althorp, th [illegible] Hime made [illegible] Milk in the Feeding of Infants. He strongly condemned the growing custom by which women in comfortable circumstances refrained from suckling their children and substituted artificial feeding. Although the chemical composition of human milk might be more or less closely imitated by [illegible] was made particularly to the antiseptic action of the serum albumin of human milk on the bacillus coli and it was said that this was lost when humanised milk was used. In regard to the sterilisation of milk by heat Dr. Hime pointed out that in most cases many hours elapsed before the milk came into the hands of the consumer and that notable bacteriological and chemical changes might often take place in this time, so that even though the milk were sterilised yet toxins had been formed which could not be got rid of.—Dr. Hime also showed Nocard's Harpoon, designed to remove a fragment of the deep part of a tumour for examination.—Dr. W. A. Evans, Mr. Robert Mercer, and Dr. A. C. F. Rabag'iati took part in the subsequent discussion.—Dr. F. W. Eurich read notes on the Treatment of Gonorrhœa in the Male. He said at the outset that he relied exclusively on the demonstration of the gonococcus as the criterion of the presence of gonorrhœa. He advocated the use of injections of protargol and depended but little on internal remedies. In cases which had become chronic he employed irrigation with protargol under a pressure of about 40 inches of water and said that it was important that the patient should make an effort to micturate while the irrigation was going on, in order that the whole urethra might be exposed to the influence of the antiseptic.

Reviews and Notices of Books.

Aperçu Historique sur l'Hygiène en Belgique depuis 1830 (History of Hygiene in Belgium since 1830). By Professor and Dr. HYAC KUBORN, President of the Royal Society of Public Medicine and of Medical Topography of Belgium. Second edition, revised and enlarged. Brussels: H. Lamertin. 1904. Pp. 339.

THIS volume is dedicated to the Eleventh International Congress of Hygiene and Demography which was held in Brussels last year and also to the fiftieth anniversary of the First International Congress of Hygiene which met at Brussels in 1852 At the first mentioned of these congresses Professor Kuborn presided over the fourth section, which dealt with the questions of industrial hygiene and therefore it is but natural to turn to the chapter in his work which is devoted to this phase of public hygiene. The result, however, is not encouraging. It is but a short chapter recording discussions and the pious wishes that have from time to time been expressed rather than a record of effective laws adopted and enforced. This was to be expected, for it is well known that Belgium is much behind the age with regard to industrial protective sanitary legislation. Nevertheless, Professor Kuborn is able to describe the still more deplorable state of affairs that prevailed some 50 years ago when, for instance, the only restriction to working in coal mines was that the children should be at least ten years old. Then in the unventilated cotton mills of Ghent the mothers and fathers so suffered that their children under ten years old were on an average from seven to nine kilogrammes lighter than the children of agricultural labourers. There were at that time more than 40,000 women who had commenced to work as lacemakers when only seven years old. Anæmia, leucorrhœa, deformities, and injured sight were the general results. In the spinning and other mills children worked from five in the morning to eight at night with three intervals for meals. Of course, their education was as neglected as their health There were hardly any institutions to relieve the misery thus engendered but in time benefit societies and various forms of insurances were organised. At last a Parliamentary inquiry was ordered and this investigation was prolonged for no less than five years from 1843 to 1848. Perhaps it might have lasted a little longer but for the revolutionary upheaval that shook all Europe at the latter date. Then, indeed, a Bill was actually presented by the Government but after a year's discussion, when the danger of revolution was not so evident, it was rejected by the Chambers. The medical profession loudly protested that the health of the nation was seriously compromised. In 1852 the First International Congress of Hygiene met in Brussels and in 1856 a Congress on Poor Relief and Charities further supported the demand for legislative interference with the work of women and children in coal mines, factories, and mills. Some of the mine owners themselves petitioned for a law rendering it illegal to employ boys in mines under the age of 15 years. Governors of provinces protested that the militia in mining districts were so stunted in growth that they could not be relied upon for military service. The Academy of Medicine especially investigated the diseases caused by overwork in coal mines during the years 1858 and 1860 and concluded in favour of forbidding both girls and women from working in the coalpits. In 1863 the proprietors of the Ghent cotton, flax, and silk mills themselves petitioned for a law regulating the hours of labour and some time previously the Chambers of Commerce had recanted their former opinion that protective laws would ruin the trade. They were now in favour of some sort of legislation. A new Bill was presented in 1859, another in 1863, and some Royal decrees were issued dividing industries into two categories, describing the dangers arising in each and conferring on the local authorities some powers to intervene and to impose regulations that might lessen these dangers. Then nothing further was done till 1884. As Professor Kuborn remarks, the legislature went to sleep for 20 years. In the interval countless thousands of workers were brought prematurely to the grave. In 1884, however, a public health service was organised—"Service de Santé, d'Hygiène Publique, et de la Voirie Communal." This is a sort of combination of the work which in England is done by the medical officer of health and the borough surveyor. A Royal decree of April, 1884, forbade boys under 12 and girls under 14 years of age to work in mines or factories and a much stricter control was exercised over the sanitary condition and ventilation of mills, factories, &c.; unwholesome industries also were better classified. In 1894, by the decree of Sept. 21st, the service of factory inspectors was enlarged and improved. No children could be employed under 12 years of age and no woman was allowed to descend into a mine unless she was 21 years old. Nevertheless, such remedies and improvements as have been effected are but patchwork efforts and many crying abuses still exist.

The first two chapters of the volume give a very complete and scientific account of the physical character of Belgium: its climate, its geology, its mineral springs, its sea-bathing and other health resorts, and the climate of its forest and mountainous districts, such as the Ardennes, and this is accompanied by a study of the vital statistics of the places described.

The next section of the work deals with the sanitary services: the medical schools, the vaccination services, the bacteriological institutes, the production of serums, the questions of drainage and rivers pollution, &c. Then we find an analysis of such sanitary legislation, the question of workmen's dwellings, of the control of food-supply, and of beers, wines, and spirits. The diseases of animals and the prevention of the contamination of shell-fish are thoroughly investigated. A chapter is devoted to the hygiene of the school and another to military hygiene. Finally, there are two chapters on infectious and contagious diseases and on the relief and treatment, the hospitals and asylums, intended to assuage the suffering of the poor. In regard to the control of prostitution Professor Kuborn regrets that this should be left to the discretion of local authorities and thinks that there should be a general law applicable to the entire country. He says that "the measures adopted by the town of Brussels have had for result a considerable reduction in the prevalence of syphilis in that capital. The great majority of cases that are seen at the clinic of the hospitals or in private practice are either strangers to the town or prostitutes who have managed to escape from the surveillance of the police."

Perhaps, and especially considering how much the question here raised has been the subject of contest and argument in England, we cannot better conclude this notice of Dr. Kuborn's work than by quoting his opinion. The distinguished professor says: "Generous minds in Belgium and in other countries have dreamed the dream that all control could be abolished. They invoke public morality, the dignity and the freedom of woman. The dignity of the woman who has voluntarily trampled under foot all sense of dignity has nothing to do with the question. As for freedom, do we not applaud the preventive measures that are taken against cholera, small-pox, plague, &c., though they certainly interfere with personal freedom? But anyone carrying on any sort of business is liable to police interference so that he should not sell to the public goods that are adulterated or in any way injurious. It would be a far better argument if it could be shown that the tone of public morality was lowered, but public morality is a thousand times more affected and injured when absolute freedom is granted to the trade in debauchery. Whatever has been done, preached, prescribed, debauchery has always existed and will continue throughout all time and in all countries. The course to be followed is very clearly marked out. In the family circle the child must be well armed and warned against the danger to come. As for the State, it must deal with the facts of the case. This is much, but there is a further consideration. Wherever the authorities have not interfered it has been seen that the terrible ravages of syphilis have spread widely. Then there rises, far and away beyond and above all doctrines, the great question of public and social hygiene, the grave injury done to the health of beings who constitute the family and will become the future generation." In the name of the children, if not of the adults, Professor Kuborn demands the strict application of the Contagious Diseases Acts. Dr. A. Devaux, Inspector-General of Public Health, Dr. E. Dupont, Inspector of the Army Health Services, and Professor U. Laho of the State Veterinary College have assisted in writing this "History of Hygiene in Belgium" and have contributed the chapters relating to their special functions.

Pheasants, their Natural History and Practical Management. By W. B. TEGETMEIER Fourth edition, enlarged. London: Horace Cox, *The Field* Office. 1904. Pp. 255. Price 7*s*. 6*d*.

A DETAILED account of the natural history, habits, food, and treatment of the various species of pheasants had long been a desideratum; this book was projected with a view to supply the want in a complete and comprehensive form. In the new edition the author has given us the natural history and general practical management, not only of the pheasants strictly adapted for the covert but also of the allied species which are best suited to our aviaries. The progress of exploration is continually bringing to light species of pheasants hitherto unknown. A few years ago the only pheasant breeding wild in England was the common species (Phasianus colchicus). Our coverts now possess the Chinese, the Mongolian, the Japanese, and the Prince of Wales's species, while Reeves's pheasant, well adapted both for sporting and culinary purposes, has been bred in the forests of Scotland. Our aviaries have also recently been enriched by the addition of the Amherst pheasant and others which by their exquisite beauty eclipse even the gorgeous colouration and elegant markings of the comparatively well known gold and silver varieties. Altogether 21 species are now known and to these may be added two species of the closely allied birds which have been placed in the genus Calophasis. These differ from the true pheasants in having

16 tail feathers and the lower back of the males transversely barred.

The fact that all true pheasants inter-breed freely with each other and produce fertile offspring may be accepted as proof that they are only superficially distinct from each other. It is now, indeed, difficult to find pure bred specimens of the Phasianus colchicus in this country on account of the frequent crossings with the Chinese pheasant.

The author first treats of the natural history of the pheasants generally—their food, habits, and nesting. Then follows the consideration of their management in preserves, the details of the different methods of feeding the birds, their protection from their numerous enemies, and the formation of coverts. These chapters are succeeded by an account of their treatment in inclosed pheasantries, the hatching of eggs, the feeding of the young birds, and the prevention and cure of their diseases. A detailed description of the different species adapted for turning out is also given and the work concludes with accounts of the ornamental specimens.

The pheasants constituting the genus Phasianus are readily distinguished by their tail feathers, which are 18 in number. Phasianus colchicus was certainly brought into this country at an early period, for it is mentioned in Dugdale's "Monasticon Anglicanum" that the Abbot of Amesbury obtained a licence to kill pheasants so far back as the year 1100. Although many attempts have been made for its domestication the pheasant still retains its primitive habits. Many amusing stories are related in this volume of the attempts to tame and to domesticate individual specimens. The value of the pheasant to the agriculturist is very considerable, as the birds destroy enormous numbers of insects, to say nothing of their liking for the roots of various weeds, but it would be absurd to deny that grain forms their favourite food. The chapter on the diseases to which pheasants are liable is an interesting one; the occurrence of lead poisoning among the birds which have escaped the battue is a curious sequence.

The book is illustrated from life with six coloured plates, 17 engravings, and many woodcuts. The merit of the illustrations is great. To those members of the profession who indulge in the rearing and shooting of pheasants we commend the volume—they will find all the descriptions bright and admirable and the advice practical.

Transactions of the Epidemiological Society of London. New Series. Vol. XXII. Session 1902-03. London: Williams and Norgate. Price 6*s.* net.

MEMBERS of the Epidemiological Society are reminded by the honorary secretaries that the publication of these Transactions has been recently transferred from Messrs. Shaw and Sons to the firm named above from whom copies of back volumes and of the index can be procured. The current volume is fully up to the high level always attained by these Transactions and the value of the present number is enhanced from the fact that abstracts of the discussions which follow the reading of each papers are furnished. As we invariably give a very full abstract of the papers communicated to this society we shall content ourselves here with a brief indication of the contents of the present volume. Lieutenant-Colonel A. M. Davies, R.A.M.C., discusses the Meaning of Climatic Diseases; Professor S. Delépine contributes a very valuable paper on the Bearing of Outbreaks of Food Poisoning upon the Etiology of Epidemic Diarrhœa; and Sir Patrick Manson is the author of a paper upon the Danger of the Introduction of Yellow Fever into Asia if the Panama Canal becomes an accomplished fact. Dr. Louis C. Parkes treats of the Prevention of Diphtheria in Children's Hospitals and Dr. J. T. C. Nash of the Seasonal Incidences of Enteric Fever and Diarrhœa. The subject of the Etiology of Leprosy was brought before the society by Mr. Jonathan Hutchinson and Mr. J. Nield Cook, one of the foreign secretaries of the society, contributes a paper on Bovine and Human Tuberculosis in India. Finally, the society in a highly appreciative obituary notice refers to its late President, Dr. W. H. Corfield. This volume contains numerous charts and tables and some valuable maps constructed by Mr. F. V. Theobald of the Natural History Museum, South Kensington, showing the distribution of the genus "stegomyia" (Theobald) in both hemispheres.

The Thompson Yates and Johnston Laboratories Report. Edited by RUBERT BOYCE and CHARLES SHERRINGTON, with H. E. ANNETT, A. S. GRÜNBAUM, BENJAMIN MOORE, RONALD ROSS, and E. W. HOPE. Vol. V., New Series, Part II. December, 1903. London: Longmans, Green, and Co. Pp. 107. Price 12*s.* 6*d.*

THE recently published number of the above reports opens with a well-deserved tribute to the generous founder of the Thompson Yates laboratories, the late Rev. S. A. Thompson Yates. The Liverpool School of Medicine was indeed fortunate in possessing so sympathetic a benefactor. Not only did he found and equip the buildings but he constantly helped to keep them effective and to maintain them. It would be well if natural science could rely on a large number of such benefactors. The death of Professor Nocard is also feelingly alluded to.

The medical reports open with one on Trypanosomiasis. The expedition sent from Liverpool to Senegambia in 1902 studied the parasites of this disease found in men and horses. In the paper before us the laboratory methods are first discussed. The section on human trypanosomiasis then follows. Beginning with an account of its distribution and prevalence, the report passes on to the clinical signs manifested. The peculiar symptoms noted were irregular patches of a congested or cyanosed character on different parts of the body, an œdematous condition most marked on the face below the eye, and in a slighter degree on the lower parts of both legs, acceleration of the respiration and pulse, bad appetite, and an irregularly intermittent temperature. The differential blood count is explicitly given, showing a constant increase in the eosinophiles, mast cells, and mononuclear elements, the proportional increase being greatest in the first and last. The report then passes on to the consideration of equine trypanosomiasis and here it is pointed out that a listless expression and a slight rise of temperature were always present; so constant was the slight rise in temperature that one of over 101° F. came to be regarded with the greatest suspicion as indicative of trypanosomiasis. The morphological characteristics of the human and horse trypanosome found in the Gambia are then portrayed. The measurements of the flagellum, the position of the micronucleus, the staining of the protoplasm, the undulatory membrane, and other points are described. Two forms were found in the horse, a long and a dumpy form. Though no constant morphological differences between the human and the horse parasite—more especially in the case of inoculated animals—could be detected, still the parasites usually seen in the blood of horses examined in the early infected stage presented marked differences in size and appearance from the parasite usually seen in the blood of the infected natives.

Next we come to the transmission experiments with the tsetse fly. Those on rats were always negative. Experiments were also made to determine the truth of the statement that the tsetse fly carries nagana from animal to animal in a merely mechanical way and that probably no biological change in the parasite intervenes. Two varieties of stomyx instead of glossina were used, with the result that no success was ever obtained in mechanical transmission. The results of inoculation of the Gambian human and equine trypanosomes in animals are detailed, rats and mice being used. From these experiments it would seem at present that the trypanosomes are not of the same species for the following reasons: the more chronic course of the disease produced by the human parasite in all animals; the fact that tame rats infected with the horse parasite certainly die from its effects whilst there is no evidence showing that the inoculation of the human parasite is the only cause of death in these animals; and, lastly, the modes in which the human and horse parasites appear and disappear in the blood of inoculated animals during the course of the disease are not the same. Thus whilst there is a marked periodicity of entrance and exit of the parasite in the peripheral circulation in rats inoculated with the human parasite, this is not marked in the case of the horse parasite. Again, the marked enlargement of the spleen and the presence of hæmorrhagic glands are characteristic features of infection by the horse parasite but are not present in the case of the human parasite. Lastly, the equine parasite in the early stage of the disease can be distinguished morphologically from the human trypanosome found in the native. Mr. Theobald then proceeds to describe a new culicid from Senegal, whilst Professor Ronald Ross contributes an interesting section on a new parasite in man, first found by Major W. B. Leishman, R.A.M.C.

Then follows a note concerning the discovery of the trypanosoma Gambiense. In this it is stated that the claims of Nepveu are incapable of acceptance "without the greatest reservation."

Dr. Glynn and Dr. Matthews in their paper describe the bacteria in public swimming baths. They find that the Liverpool baths compare with others in Lancashire very favourably; that the first-class baths contain fewer bacteria than the second-class; and that the organisms were more numerous in fresh than in salt water. They point out also various injurious effects that bathing in swimming baths may produce, such as nephritis, pneumonia, typhoid fever, diphtheria, and scarlet fever. Other effects are earache and lessening of the vitality of the individual. Liverpool would seem to be especially fortunate in the frequency of the change of water in its swimming baths and in the care and supervision exercised. The report closes with the description of a parasitic disease amongst haddocks. The whole of the report is rendered especially valuable by its well-executed engravings and the many references to the subjects contained in it.

LIBRARY TABLE.

The Municipal Year-book of the United Kingdom for 1904. Edited by ROBERT DONALD. London: Edward Lloyd, Limited. 1904. Pp. 508. Price 3s. 6d. net.—The preface of this useful work is dated Feb. 19th and we think that it was a pity not to delay its publication until after the results were known of the recent London County Council election held on March 5th, for as matters now stand the list of councillors given at p. 11 is quite inaccurate. Another little point which might be altered in next year's issue is the arrangement of the London boroughs. They are nominally arranged alphabetically but St. Marylebone and St. Pancras are placed between Stoke Newington and Wandsworth. If these names were meant to be indexed under the letter S they should, of course, have come between Poplar and Shoreditch as commencing with "Saint." As a matter of fact, we find on p. 396 these two boroughs indexed at the beginning of the letter S. Besides the ordinary information about the various municipalities there are articles dealing with the Education Act of 1902, the housing of the working classes, and other questions of interest.

New Inventions.

A HÆMOGLOBIN SCALE.

THE absorbent paper test in practical hæmatology, provided that the standards are trustworthy, is both simple and satisfactory in evidencing the state of the blood not only as regards genuine anæmic conditions but also in a number of other pathological circumstances. Dr. T. W. Tallqvist of Helsingfors, Finland, has devised a very convenient and accurate appliance for the purpose which consists of a book of absorbent paper divided into squares by perforations, and at the end of the book there is a scale of blood tints of varying degrees of intensity, the minimum being ten and the maximum 100. The normal condition is between 90 and 100 of the colour scale. In order to carry out the determination a square of the absorbent paper is detached from the book and brought to the drop of blood in such a way that it is absorbed slowly until the paper is saturated through. The scales of tints have a perforation in the centre in the form of a letter D but flattened, that is, it is bullet-shaped. The blood stain is placed underneath this perforation in the colour scale and its intensity is thus easily determined by placing it under the degree which corresponds exactly to the tint. The process should be performed in daylight. It is, of course, very important that the tints of the scale should be exact and constant and to that end Dr. Tallqvist personally supervises the printing of the tints before the scale is sent out for practical application. It is obvious that errors of reproduction might easily result which would detract from the accuracy of the method. As a matter of fact, we have found in a few simple experiments which we have made that the tints correspond remarkably with blood itself. Dr. Tallqvist points out that in addition to the assistance which this method gives in diagnosing anæmia it will by careful observation furnish other valuable information also. Thus when a moist ring round the coloured spot appears it denotes a great diminution in the number of blood corpuscles. The greater the diminution of corpuscles the broader is this moist transparent ring. The presence of the ring is thus in general, he says, an intimation that a graver anæmia exists than might at first be supposed, and it is in agreement with this that the phenomenon as a rule does not appear in chlorosis. Even when chlorosis exists to a considerable degree the diminution of blood corpuscles is not excessive, while in pronounced pernicious anæmia diminution is generally the rule. The absorbent paper test appears also to demonstrate the condition of the blood in leukæmia. In attempting to deposit the drop of blood on the absorbent paper a striking contrast to the way in which normal blood is taken up is shown in the fact that the blood in leukæmia is only reluctantly sucked up by the absorbent paper, so that an appreciable time elapses before the spot has dried sufficiently to allow the test to be made. On close scrutiny it will be seen that the shade does not accord with any of those found in the scale, for which reason an estimate of the intensity of the colour cannot be made. Dr. Tallqvist adds that "the great quantity of leucocytes in the blood must, it is true, be considered to belie the change in a physical condition of the blood which in such cases reveals itself. Only a great augmentation of the amount of white blood corpuscles such as we find in leukæmia is shown in the above named manner on the absorbent paper; possibly the changed condition of leucocytes themselves plays a part therein." This simple test, carefully standardised in the way described, places in the hands of the practitioner a very valuable instrument for diagnosing certain conditions of the blood. The test is very easily applied and the results obtained, when compared with a trustworthy scale, correspond remarkably well with those obtained by more complicated blood-testing apparatus. The scale, with a sufficient number of squares of absorbent paper, occupies no more space than does a thin pocket-book.

THE LANCET.

LONDON: SATURDAY, APRIL 2 1904.

War Office Changes: The Army Medical Service.

THE War Office Reconstruction Committee has now issued the third and final instalment of its report. Lord ESHER, Admiral FISHER, and Sir G. CLARKE have certainly lost no time in bringing their labours to a close and in formulating a complete scheme for army reform and the reorganisation of the War Office. The document is in most respects a masterly one but we are not called upon to write an appreciation of its general merits save in the most general terms. These will be weighed by politicians and by the public as they should be. We are mainly concerned with the position which is designed by the Committee for the Army Medical Service, for here we can claim to speak with knowledge of what is wanted.

The appearance of the third report has been awaited by us, therefore, with no little curiosity in order to ascertain what was to be this position, and now that we know we have to confess that the grave misgivings which we previously expressed instead of being dissipated have been accentuated. For the director-general of the Army Medical Service is to have no place in the new Army Council. The proposed new army system will commend itself to ordinary citizens because it is commonly employed by them in all great and successful industries and businesses. It takes into account our peculiar conditions and requirements, national characteristics, and habits of thought and work, instead of slavishly adopting and following some foreign method like that of the German army corps system, for example, which is suited to the conditions of Germany, but which is not necessarily suited to ours. Now it has to be borne in mind that as regards army medical reform Mr. ARNOLD-FORSTER'S predecessor in office, after very full and deliberate investigation, came to the conclusion that, both as a matter of serious national interest and as the result of recent bitter experience, the medical and sanitary services of the army should occupy a representative official position worthy of their very high and important responsibilities. What was then done by Mr. BRODRICK has now been undone. We wish that we could share in the feeling that if the new proposals of Lord ESHER'S committee are adopted the medical and sanitary needs of the army will be secured; but we fear that the constantly recurring evils and causes of public complaint, instead of being removed, are more likely to become stereotyped by placing the director-general under the adjutant general—a military member of the Army Council.

The third report is a voluminous and important document containing many excellent diagrammatic tables. Beginning with a covering letter to the Prime Minister and closing with a concluding section, both of which are written in a terse, and trenchant style, this final instalment of the report will be read with all the attention and interest attaching to the previous portions of it. Following a tabular statement—Table B—instituting an interesting comparison of the Admiralty system and the proposed War Office reconstitution we come to Section I. dealing with "the adjutant-general" and containing a reference to the duties assigned to his office as those to *personnel* in all that belongs to the care of the soldier in peace and in war. The work of this branch should, it is recommended, be divided into five main groups, one of the five being named "Medical and Sanitary Matters" and comprising the Army Medical Service. Briefly stated, it may be said that stress is laid on the importance of the sanitary service in peace and in war and the committee proceeds to meet the criticism that a place ought to have been provided for the director-general of the Army Medical Service, who was a member of the defunct War Office Council, by pointing out that the Army Council is not, and cannot be, a representative body as regards all the several departments. Sanitation in war and in peace is, the report states, closely bound up with discipline, and the proper position of the director-general of the Army Medical Service is, therefore, under the adjutant-general whose duties are specially connected with the person of the soldier. "We do not admit," says the report, "that, under this arrangement, the status and the power of the head of the medical services will be lowered. We believe, on the contrary, that his position will be considerably strengthened in peace and in war. The council as a whole is now responsible for the welfare of the soldier. It has full powers over the whole range of military requirements and there should be no danger that sanitary considerations will be neglected. The adjutant-general, as a member of the council, occupies a far stronger position than his predecessors and will be able to represent effectively the medical needs of the *personnel* of the army with which he is specially charged. Moreover, the director-general, if necessary associated with a civil representative of the Army Medical Service Advisory Board, should be summoned to the council whenever his advice and specialist knowledge are required." The committee considers, however, that it is desirable to strengthen the hands of the director-general as regards the control of his expenditure and that some discretionary powers of purchase should be given to meet pressing needs. We may add that the construction of all new barracks and hospitals is proposed to come under the civil member of the Army Council and that the Army Hospitals Committee should advise as regards designs, sites, and sanitation of barracks and hospitals. The Army Sanitary Committee is to be abolished as a permanent committee.

We cannot endorse the view of the committee that under its proposed arrangement "the status and the power of the head of the medical services" will not be lowered. But we take a much broader and more important ground than this—namely, as to what is best for the nation and for the public service. The matter is one of a very exceptional kind. Our contention is that from the nature of the case no adjutant-general, however able, nor anyone without special knowledge and training can be in a position to represent, much less to initiate, the medical, sanitary, and hospital requirements of the army. He must, so far as these are concerned, depend entirely upon the advice of others. The method of procedure seems indirect and roundabout. With regard to the Committee's injunction that the director-general, associated if necessary with a civil representative of the Advisory Board, should be summoned to the council "whenever his advice and specialist knowledge are required," we may remark that his advice might not "be asked for," be obtained too late, or not be accepted, but he would nevertheless not escape responsibility in case of failure. It becomes a very different matter, however, when the head of a large and important army department has a place officially assigned to him on a council. There can be no doubt about the immense loss of life entailed in war by preventable causes of disease; and if these are to be limited in future, and if our army hospital service arrangements are to be the best practically attainable, authority and power must bear some relation to responsibility and to the importance of the objects in view. We hold, therefore, that medical and hygienic considerations require to be represented independently, directly, and prominently in the councils of the War Office by some duly constituted medical authority; they should not merely reach it through the medium of any military member of the Army Council. We consequently regard the view taken by the committee in this portion of its report as a retrograde step so far as medical and sanitary considerations are concerned.

In other respects it may fairly be claimed for the scheme formulated by Lord Esher's committee that it is a self-balanced one, its several parts apparently holding well together and representing a sort of organic unity. But something more is, after all, required than facility of administration. The proposals in the report of the Esher committee and the Government action in regard to them will be sure to be discussed thoroughly in Parliament, and we hope that the points that we have raised, and various other questions relating to the Army Medical Service, about which much uncertainty seems to exist, will then be cleared up to the satisfaction of the medical profession.

Self-Medication.

Few things are more curious among the histories of the many delusions about single subjects which from time to time have afflicted individuals not otherwise apparently of unsound mind than those which relate to an unreasoning trust in the virtues of drugs and to an overpowering propensity for swallowing them. An eminent physician not long deceased was once giving evidence in a will case and on being asked by counsel what fact he chiefly relied upon as establishing the insanity of the testator replied without a moment's hesitation: "Chiefly upon his unquestioning faith in the value of my prescriptions." It might perfectly well be contended that this evidence failed to establish the point at issue and that faith in the prescriptions of a physician hardly deserved to be stigmatised in so severe a manner. But admitting this, there is still little to be said in favour of the sagacity, even if we admit the sanity in respect of disposing power, of the numerous people who spend money and thought over the business of physicking themselves and who usually, if not indeed always, bring this business to an unfortunate conclusion. We are indebted to a paragraph in the columns of our contemporary the *Daily Mail* for an account of an old lady upon whom an inquest has lately been held at St. Leonards and who is described as having been in the habit of taking every night "nine compound rhubarb pills, several mixtures, four tablespoonfuls of senna, three teaspoonfuls of cascara, and a quantity of magnesia." The description of the drugs and of the dosage cannot be said to be pharmaceutically exact. It would be interesting, however, to know whether the medicines taken were effective for their supposed purpose and whether the lady died from exhaustion from over-purgation, or whether they were really powerless to empty an overloaded large intestine; but this inquiry, after all, is only by the way. The real point of interest in the case is that a lady who as the widow of a officer in the army may be presumed not to have bee wholly uneducated and who is described as having "di liked doctors" should yet have been so enamoured of wh our ancestors called "doctor's stuff" as to swallow it i such prodigious quantities and with consequences so unfo tunate to herself. Is her case to be regarded as exceptiona or does she merely furnish an extreme example of a preva lent and growing popular craze ? Our fears lean toward the latter conclusion and there are only too many facts fro which it may derive support.

The whole tendency of what may be called popul pharmacy during the last few years has been in th direction of introducing to the public a great variety powerful medicines, put up in convenient forms, and adve tised in such a manner as to produce in the unthinking belief that they may be safely and rightly administere at all times and seasons, without any guidance fro medical knowledge and without any reference to the actu state of the recipient, as remedies for the popular nam of some real or supposed malady. All this, of course, ha been greatly promoted by column after column of advertis ment in magazines and lay newspapers; but we a compelled to admit that the medical profession cann be held free from some amount of blame in the matter from some responsibility for the way in which drugs hav lately been popularised and brought into common use a articles of domestic consumption. Medical men have failed we think, sufficiently to impress upon the public and upo patients that the aim of reasonable people should be to kee themselves in health rather than to be always straying, a it were, upon the confines of disease and seeking assistanc from drugs in order to return to conditions from whic they should never have suffered themselves to depart. Th various alkaline salts and solutions, for example, th advertisements of which meet us at every turn, and whic are offered to the public as specifics, safely to be taken without anything so superfluous as the advice of medica men, for all the various evils which are decribed by th advertisers as gout or as heartburn, or as the consequence of "uric acid," do unquestionably, in a certain proportio of cases, afford temporary relief from some discomfort or inconvenience They do this notwithstanding persistence in the habit or in the indulgence, whatever it may be, the over-eating, the want of exercise, the excessive consumption of alcohol or of tobacco, which is really underlying the whole trouble which the drugs are supposed to cure and which at the very best they only temporarily relieve, while they permit the continuance of conditions leading ultimately to degeneration of tissue and to premature death. This is the moral which it is, we contend, the duty of the profession to draw from the daily events of life. The natural secretions of the human stomach are acid and the acidity is subservient to the digestive functions. It cannot be superseded by artificial alkalinity without serious disturbance of nutrition; and the aim of treatment, in the case of all digestive derangements, should be to cure them by changing the conditions under which they arise, not to palliate them for a time by the neutralisation of acid, which may, indeed, give relief from present trouble, but which leaves unaltered the conditions upon which the trouble really depends. Those who look down the obituary lists of the newspapers will be struck by the fact that large numbers of people, in prosperous circumstances, die as sexagenarians from maladies to which various names are given but which are, as a rule, evidences of degeneration and of premature senility while many who pass this period go on to enter upon an eighth or ninth decade of life. The former class, we have no doubt, comprise those who have lived without restraint of their appetites and who have sought to allay some of the consequences thence arising by self-medication, while the latter class comprise those who have lived reasonably and who, if annoyed by imperfect digestion, have sought relief by ascertaining and by abandoning the errors from which it sprang.

The Attitude of the Legal Profession towards the Medical Profession.

IN a letter published in THE LANCET of Feb. 27th, p. 611, Dr. E. MAGENNIS, writing of the conduct of barristers in Ireland, deplored the disappearance of that courteous treatment of the medical witness which once characterised cross-examination but which at the same time did not prevent the most vigorous investigation of the facts, and he drew attention to the unwarranted impertinence, frequently amounting to positive insult, which appears to arise from the assumption that the medical witness must not only be prejudiced but ready to give perjured evidence on behalf of the party employing him. There are many who agree with Dr. MAGENNIS, and who will add that the discourteous treatment of the medical witness is not altogether confined to the Irish courts, although they may admit that such conduct is comparatively rare in England and that in either country it is not that of advocates of high standing and repute. Others, again, are ready to call attention to the contradictions of medical witnesses and to regret that in some instances these should be of a character to bring discredit to the medical profession. In this case, however, as in the others, the man who deserves blame is the exception rather than the rule; he is not one of those who should be taken as types of an honourable profession. The medical profession is at a disadvantage when we compare it with others which are called upon to supply expert evidence in courts of law, and this in more respects than one. Expert evidence is not evidence of fact, it is evidence of opinion based upon scientific knowledge. Medical men give evidence of fact when they speak in the witness-box as to physical conditions which have come under their actual observation; when they draw inferences from those conditions as to the duration of injuries, as to the amount of incapacity produced, or as to the cause of them so far as these points lie outside the limits of their knowledge, they then become expert witnesses. In the same capacity, for the most part, they testify as to the mental condition of persons of doubtful sanity. These are examples of occasions upon which medical witnesses express opinions which they are qualified to give but which may well differ from those of other equally well-qualified persons who have looked at the same facts from a different point of view or who, holding different opinions upon doubtful topics, have a perfect right to express them. All such witnesses are entitled to be treated by members of the bar with the respect due from one learned profession to another.

In most of the actions heard in courts of law there is a winning and there is a losing side, and sometimes the winner gains so easy a victory that it seems wonderful to onlookers that the loser should have been allowed by his advisers to go into court at all. Nevertheless, he has not seldom let himself be involved in litigation because he was advised by his counsel that he had a "good case." Sometimes a suitor, successful before the judge who first tries his case, may find himself taken to the Court of Appeal upon a point of law, a matter of expert opinion, and again the decision of the Court of Appeal may, upon the advice of counsel, be challenged in the House of Lords. The loser there will have to bear the costs of both the lower courts, and the cause of his liability will be to a great extent the conflict of expert opinion founded upon facts which are hardly in dispute. Barristers and judges if they are sometimes blamed in private for opinions found to be wrong are not publicly cross-examined with regard to them, nor are they at any time accused of having been influenced by corrupt motives. The legal profession enjoying such immunity, and conversant as they are with the honest differences of opinion which may exist upon obscure subjects, should remember that, although witnesses who form and who express opinions upon controversial topics must submit their views to be tested by relevant questions, they should never incur without good reason the suggestion of incompetence or venality. In one respect a peculiar disadvantage of the medical expert witness is shared by the lawyer, and this fact should be a bond of sympathy between them. Both have to form their opinions more or less upon information given to them by men and women who are frequently the persons most interested in the questions raised. The engineer gives his evidence, often contradicted by others, after inspection of the ground or machinery or other inanimate objects in relation to which it is sought. The connoisseur of pictures or the expert in handwriting has before him an inanimate article of the genuineness of which he has to judge without reference to its history, by the aid only of his knowledge and observation. The chemist by analysis compels the substance submitted to him to reveal the secrets of its composition. The medical man, no doubt, to a large extent can observe for himself but at the same time he is to a considerable degree dependent upon stories of sensations alleged to be present in his patient, which may be invented or grossly exaggerated, and upon untrue statements upon all sorts of material subjects. For example, in accident cases he may be misled as to the manner in which an injury was received, as to its immediate effects, or as to the condition of health of the injured person before the accident occurred. The legal expert, in a similar manner, not only has to give an opinion upon questions of law but often has to base a prediction as to the possible success of his client in litigation upon information as to the evidence to be given which may not be borne out when the witnesses come into court.

The disadvantage, however, which particularly affects the medical profession is that its evidence is the expert testimony which is most often required. We have referred to some of the commoner kinds of expert evidence other than that of medical practitioners, but the engineers, the experts in art, the graphologists, and the chemists, who give evidence during any year, can hardly approach in number the medical witnesses who have to give evidence in cases of all kinds and to submit to cross-examination. Hence it has happened no doubt that the suggestion of readiness to espouse a side has been more often levelled against the medical witness than against others. All evidence of opinion is liable to be contradicted by the holders of opposite views upon the same scientific subject. The differences of human opinion have been proverbial from very early times in the history of the human race. In the law courts they are most commonly observable among medical men, and in the law courts the temptation is always present to the advocate to discredit the evidence against him by all means in his power, even by the imputation of corrupt motives by word or manner. It is not, however, the duty of the advocate to win the cause of his client *per fas atque per nefas*. As Sir ALEXANDER COCKBURN avowed upon a well-known occasion, amidst the cheers of his brother lawyers, the arms which he wields he should use as a warrior, not as an assassin. It rests with the judges, and with the honourable men in their profession in Ireland and elsewhere, to see that none among them gives occasion for such criticism as that of Dr. MAGENNIS to which we have referred.

Annotations.

"Ne quid nimis."

THE STATE REGISTRATION OF NURSES.

IN an annotation which appeared in THE LANCET of May 23rd, 1903, p. 1463, we referred to a paper read at a conjoint conference convened by the Matrons' Council and by the Society for the State Registration of Trained Nurses. This paper dealt with the State registration of nurses as it affects Poor-law infirmaries. In the course of our remarks we said: "Neither has it yet been clearly shown that the public and the authorities of the two great nursing institutions (the hospitals and the infirmaries) have arrived at an agreement upon the desirability of State registration of nurses." We have now before us a manifesto signed by many leaders of the medical profession, by chairmen and other officials of hospitals, and by many matrons both of metropolitan and provincial hospitals. This manifesto says that the objects claimed for registration are benefit to the public who would be able to ascertain from the register the competency of the nurse employed and benefit to the "trained nurses" themselves who are alleged to be placed at a disadvantage by the employment of imperfectly trained persons. The manifesto continues: "We believe that these claims are mistaken and that any system of State registration would be detrimental to the public and harmful to the nurses themselves, for the following reasons." We have not the space at our disposal to give the reasons in detail but the protesters call attention to the fact that registration must be based upon some system of examination and that such examination would in no wise test the personal qualities upon which the main value of a nurse depends, such as good temper, manner, tact, discretion, patience, and unselfish womanliness. Already all important hospitals where nurses are trained give to those who are instructed in their wards and whose work has been well done certificates of service after the usual term of three or four years. Such certificates are sufficient testimony of technical knowledge and experience and would not be improved upon by registration or examination. Such are the main objections which the signatories put forward. The names of the signatories, among whom are Lord Lister, the Hon. Sydney Holland, Miss Eva Lückes, and many others who are leaders in their several spheres, cannot but add weight to the opposition already in evidence to the proposal for State registration.

THE RECENT EPIDEMIC OF SMALL-POX AT HALIFAX.

WE have received a copy of a report presented to the county borough council of Halifax by Dr. J. T. Neech, the medical officer of health, describing the epidemic of small-pox which occurred in that town during the year 1903. The report not only deals with the statistics of the outbreak but Dr. Neech makes some remarks on, and suggestions for, the prevention of epidemics of the disease which are well worthy of note. Two charts are given which are interesting in several ways. They show the number of individuals who were infected by two men in the early days of the epidemic. They also demonstrate the difference in the effect produced in the spread of the disease by early cases on the one hand and by cases further advanced on the other. He is of opinion that the virus of the disease when in the body may be confined to the eruption and may not be present in the blood stream or tissues generally and therefore he considers that it is necessary that there should be some abrasion of the skin over the eruption in order to allow of the escape of the virus. From this it would follow that with each succeeding day of eruption the disease would become more infectious. Dr. Neech adduces evidence in favour of this assumption. He instances cases in which the disease was detected in an early stage and no further cases followed. For instance, a young man developed an ordinary discrete attack of the disease; seven other persons occupied the house in which he lived, none of whom were infected. He describes another case, that of a man staying in a lodging-house. He was suffering from small-pox in the papular stage. He used the same towel as the other lodgers and six men were thus infected. Dr. Neech suggests that friction with the towel destroyed the epidermis over the papules and so the virus of the disease was deposited on the towel. The man subsequently visited certain public-houses and seven more cases were traced to him. The period of infection then corresponded with the commencement of the falling of the scales from his body. When the man was admitted to the hospital he acknowledged that the rash had been out a month. Careful investigation showed that he had been the means of communicating the disease to 40 people These facts corroborate the views generally held—namely, that small pox patients are capable of communicating infection to others, perhaps during the stage of incubation, certainly during the initial stage, right through the disease, till not a trace is left on the skin of desiccated pustules or scabs or of the subsequent desquamation. The infection, however, is considered to be much more virulent at certain stages of the disease than at others; it is most virulent during the later periods of the rash, when vesiculation, pustulation, and scabbing have occurred, and least so during the incubation stage. Dr. Neech gives some interesting figures which prove in a most convincing manner the value of vaccination. For instance, the following table is worthy of reproduction :—

—	Unvaccinated.			Vaccinated.		
	Cases.	Deaths.	Mortality per cent.	Cases	Deaths.	Mortality per cent.
Under five years ...	10	4	40 0	—	—	—
Over five years ...	30	1	3 3	101	1	0 99
Totals	40	5	12 5	101	1	0 99

Dr. Neech describes the treatment which was adopted and also offers some observations on the cost of the epidemic. The facts stated in the report, apart from the value of vaccination, go to show the great necessity that exists for early notification and isolation of cases of small-pox; that success in controlling an epidemic depends upon this; and that it is the unrecognised cases, presumably of a mild type, which spread the disease.

STREET AMBULANCES.

IN THE LANCET of March 19th, p. 821, we referred to certain proposals recently put forward by the Metropolitan Street Ambulance Association with regard to a plan for providing London with a street ambulance service. Mr. William Thorburn, who is deputy chairman of the medical board of the Manchester Royal Infirmary, has forwarded to us a cutting from the *Manchester Guardian* of March 23rd containing a scheme proposed by himself for a somewhat similar service for Manchester. London, owing to its unwieldy size and to its being not one town but about 20, labours under peculiar difficulties with regard to any organisation which has to deal with London as a whole. So far as we know there are only two organised bodies of this description, the one being the Church and the other the London County Council, and neither of them at present has undertaken an ambulance service. Mr. Thorburn's suggestion for Manchester is that one or more ambulances should be stationed at the infirmary or other points and that there should be telephonic communication with all police stations or police beats. When an accident happened the nearest police constable would communicate with the ambulance station by means of a telephone attached to an alarm post something like the present fire-alarm posts. The ambulance vehicle should be a horsed or motor carriage which should be always ready to start and which should be accompanied by a medical man of the standing of a house surgeon. The drivers should be members of the police force. Mr. Thorburn's scheme, it will be seen, does not differ much from that outlined by the Metropolitan Street Ambulance Association, which we published on March 19th except in the somewhat important point that it eliminates the fire brigade and substitutes the police. Also Mr. Thorburn's scheme provides for a constant medical service. This, we think, is a point which should be insisted upon for London. It would, of course, mean an increase in the junior staffs of the hospitals and here the money question comes in. There would have to be at least two, and preferably four, house surgeons who should be in readiness by day or night to go with the ambulance, and although the pay or the keep of a house surgeon is not a serious item yet the additional expense would fall hardly on a hospital which is generally not too well off as regards its finances. In Manchester, however, such problems would not be so difficult of solution and we congratulate Mr. Thorburn upon a well-thought-out plan which if carried out will, we imagine, be of great service.

EASTER EGGS.

THE custom of offering a gift of eggs at Easter still survives and it is not difficult to surmise in what sense the egg was taken to be a symbol. Nowadays, the custom unhappily has almost lost its former quaintness and dignity and presents of all kinds are made to assume the form of an egg. Even the real egg itself must be coloured to give to it a festive appearance consistent, as it is thought, with a time of rejoicing and so the symbol is vulgarised by painting the egg with an unnatural colour, such as a blazing red, a practice, moreover, which may be open to objection on hygienic grounds. There is no guarantee that the colouring matter employed is of natural origin and artificial colouring may easily contain poisons. The diversity of colours used for the purpose is such that the choice is almost certain to include some of the aniline derivatives many of which are poisonous, while others, though they themselves may be harmless, may contain adventitious poisons. The craze for an artificial brilliancy of colour brings its reward in the shape of copper peas, dyed milk, annatto-stained butter, sugar coloured with salts of tin, and sweets and jam with brilliant anilines. It is hardly surprising that there are those amongst us who envy the lot of our ancestors who lived and ate when simplicity was the order of the day and before it was conceived that natural and simple products could be "improved."

PURPURA PRODUCED BY THE UPRIGHT POSITION.

THE fact that fatigue and walking influence the development of purpura and may produce a relapse if the patient gets up too soon is recognised. At a meeting of the Société Médicale des Hôpitaux of Paris on Feb. 4th M. C. Achard and M. H. Grenet described under the name of "purpura orthostatique" the following remarkable case in which purpura was produced under the simple influence of standing and even of sitting, and independently of fatigue. A labourer, aged 32 years, with signs of softening at the apices of both lungs and a purpuric eruption on the legs, was admitted to hospital. The eruption was symmetrical and consisted of petechiæ and rounded ecchymoses on both legs. The pyrexia was slight and did not exceed 100 4° F. The patient complained of vague pains in the knees. He was put to bed for ten days and the eruption disappeared, leaving only a few copper-coloured stains. He then got up for three or four hours but did not leave the ward and scarcely walked at all. In the evening the eruption reappeared and he complained of fatigue and pains in the knees. He was kept in bed for eight days and the spots entirely disappeared. He then got up for two hours and the eruption reappeared in the evening. He went to bed for six days, at the end of which he sat in an armchair for three hours without moving about. In the evening several spots appeared on the lower part of the legs. He was kept in bed for eight days. When he got up he was very fatigued and complained of pains in the legs but the purpura did not recur. M. Achard and M. Grenet thought that the purpura was due to a special "fragility" of the vascular system which led to rupture of the capillaries under the influence of the increased blood pressure of the vertical position. But they also suggested that vaso-motor disturbances, provoked by slight change in the equilibrium of the circulation, played a part. Potain has shown that the extravasation of blood in purpura is always preceded by vaso-dilatation. At the following meeting of the society other speakers related cases of purpura in which a relapse was provoked by the patient getting up. M. Besnier, the dermatologist, long ago observed this fact and enjoined care in allowing patients to get up.

THE VICTORIA HOSPITAL FOR CHILDREN.

THE above-mentioned hospital, which was founded in 1866, has, like nearly every other hospital in London, found it necessary to expand its buildings and to make alterations so as to bring them into accordance with modern ideas upon hospital hygiene. The original hospital began its beneficent work in one of the old Chelsea manor houses, by name Gough House. As time went on an out-patient department and a nursing home were added, but the actual hospital building remained the same, the number of beds having increased from 32 in 1868 to 70 in 1890. In 1898, owing to a report by the medical officer of health of Chelsea, the number of beds was reduced to 42 and the committee then decided to erect new wards on a site which was formerly the garden of Gough House but of which the freehold had been acquired by the hospital. On March 25th and 26th these wards were thrown open to inspection and we can cordially congratulate the committee and its architect upon the result of their labours. The building is now complete and ready for immediate occupation. It contains in the basement a large and up-to-date kitchen, store-rooms, nurses' and servants' dining-rooms, and a passenger lift controlled by electrical power. On the ground floor there are two wards, each containing 16 beds. They are the "Louise Ward," named after the generous patron of the hospital, and the "Alfred and Leopold Ward," which was named by Princess Louise, Duchess of Argyll, in memory of the late Duke of Edinburgh and the late Duke of Albany. On the first floor there are two more similar wards, one named the "Cadogan Ward" after the president of the hospital and the "Farquhar Ward," named in memory of the late Mr. Harvie Farquhar, for many years chairman of the hospital and a most kind and generous supporter. On the second floor there are again two similar wards, one named the "Annie Zunz Ward," to perpetuate the memory of the wife of the munificent founder of the Zunz bequest. On this floor there is an outside staircase leading to an isolation block of three wards, containing four beds in each. Thus it will be seen that the new hospital contains 108 beds in all. Each ward is complete with kitchen, bathroom and lavatory, and in case of an infectious outbreak it can be shut off without affecting the rest of the building. The lavatory contains, in addition to the usual water-closet, a douche for washing out bed-pans and a cupboard with a flue in which vessels containing stools which have to be kept for inspection can be placed. The operating theatre is constructed on the most modern principles and is ventilated by fans which drive air through a water screen and over warm coils, so that it enters the theatre washed, warmed, and moist. An exhaust fan in the ceiling removes the air as used. There is also in the building a complete milk sterilising apparatus and also arrangements for sterilising or disinfecting dressings and mattresses and other bedding. There is in addition a complete x-ray department. Balconies are placed outside every ward and there is also a complete clinical laboratory. As mentioned in THE LANCET of March 26th, p. 885, a sum of £13,000 is still required, which the committee hopes to raise by means of a bazaar to be held in June. We can only wish all success to the committee's effort, for the hospital is certainly a well-built and well-planned institution.

IS EPILEPSY A FUNCTIONAL DISEASE?

IN the *Journal of Nervous and Mental Disease* for March Professor Allen M. Starr of New York draws attention to the importance of having a correct view regarding epilepsy. In medical text-books from the earliest times epilepsy has been classed as a functional disease and this view does not seem to have been questioned seriously. Yet a careful review of facts ascertained recently, says Professor Starr, seems to demonstrate the fallacy of the prevailing opinion and to prove conclusively "that epilepsy is usually, if not always, an organic disease." This conclusion is based upon a careful study of 2000 cases of epilepsy which have been seen personally and of which satisfactory records were kept. In the first place it was found possible to draw a fairly sharp line clinically between Jacksonian epilepsy and so-called idiopathic epilepsy. In Jacksonian epilepsy the attack is always recognised by the patient as one of a similar series and consciousness is not lost, at least in the earlier stages of the attack. Four types of Jacksonian epilepsy are recognised—viz., the so-called "motor" type in which the attack starts with a local spasm; the sensory type which is marked by a hallucination (generally crude) of one of the senses at the onset, followed by a temporary suspension of the power of perception in that sense; an aphasic type in which a sudden interference with the function of speech takes place, either in the power of understanding or in the power of uttering speech; and a psychical type in which dreamy states of the mind or imperative ideas dominate consciousness, arresting the normal flow of thought and often leading to automatic acts the object of which is not clear and of which no conscious memory remains. In all these types, says Professor Starr, we consider the Jacksonian attack a sure indication of local irritation of the brain cortex and a symptom of local organic disease. In many cases of idiopathic epilepsy (38 per cent. of Professor Starr's cases) the attack was preceded by a conscious sensation or aura. This aura was in many cases identical in character with the aura initiating a Jacksonian attack. The only difference between a Jacksonian attack of the "motor" type and an idiopathic attack was the extent of the spasm, which in the former began locally and involved only a portion (seldom the whole) of the body, whereas the latter involved the body in a general convulsion. Occasionally, however, the Jacksonian attack ran into a general convulsion. In the cases of idiopathic epilepsy examined 76 showed numbness in the arm, 27 numbness in the leg, 22 numbness in the face, and four showed numbness in the trunk. "Had these patients had a local spasm and not a general convulsion after the aura, we should at once have suspected a lesion of the sensori-motor area." Visual hallucinations were present in 68 cases, auditory hallucinations in 30 cases, and hallucinations of smell or taste in 14 cases of idiopathic epilepsy. "Had these patients not had a general convulsion following," adds Professor Starr, "we should have suspected a lesion in the occipital, or temporal, or uncinate convolutions respectively." The nitted fact that Jacksonian epilepsy is due to anic disease and the close resemblance in many es (about 23 per cent.) between the attacks of ksonian epilepsy and idiopathic epilepsy seemed to our the view that in these cases, at least, idiopathic *lepsy was due to actual organic lesions. Idiopathic* lepsy was often associated with mal-development of brain, the clinical condition being one of imbecility idiocy, hemiplegia of infancy, diplegia of infancy ttle's disease), or infantile paralysis of the cerebral e. Of 400 cases of mal-development of the brain lysed in his "Text-book of Organic Diseases," Professor rr found that 156 patients, or 39 per cent., were subjects epilepsy. Idiopathic epilepsy was a disease of childhood youth. Thus of 2000 cases, 622 developed before the of ten years and 755 between the ages of ten and 20 rs; that is, 68 per cent. developed before 20 years of age—mely, during the period of most rapid development of brain. When epileptics were carefully studied it was ally possible to find evidences of signs of mental d physical degeneracy (stigmata), particularly in those o had been epileptic from infancy or early childhood. e ancestral history of epileptics frequently revealed the valence among the parents and near blood relatives of ilepsy itself, alcoholism, tuberculosis, or serious nervous ease. On the contrary, the epilepsies of advanced life, ich are happily few in number (only 26 cases developed er the age of 50 years) could almost invariably be traced to docarditis and atheroma, and the patients were very prone suffer from attacks of thrombosis or cerebral hæmorrhage. om a consideration of these various lines of argument it emed to be probable, concludes Professor Starr, that ilepsy was an organic disease. In conclusion, it was inted out that the gliosis found by Féré and Chaslin in ilepsy, by Alkzeimer and others in epileptic imbecility, d recent studies by Pierce Clark and others concurred to ow that a diffuse cerebral gliosis underlay epilepsy.

THE LATE SIR EDWIN ARNOLD.

Sir Edwin Arnold, Oriental scholar, philosopher, poet, d journalist, has, in his seventy-second year, passed to where the Silence sleeps." His considerable merits as a et will certainly preserve his name in all records of glish literature. It may be that the "Light of Asia" ined a popularity by the novelty of its setting rather than the originality or subtlety of its thinking, but none the ss it was the work of a man of genius. But apart from his erits as a man of letters and an untiring worker in the rious fields of literature his memory will be cherished many members of the medical profession whom he umbered among his personal friends. For Sir Edwin rnold was an admirer of medicine and always found me to follow, as far as a layman might, the advance of edical science. In 1895 he delivered the introductory ddress and presented the prizes at the opening of the inter session at St. Thomas's Hospital Medical School. hat address bore evidence of the keen interest which he ok in medical progress. In it he spoke with praise and conlction of the work which had been done and of the benefits hich were likely to accrue from the pathological researches f the day, while the important rôle which proper nursing lays in the treatment of disease was fully recognised. It is an teresting fact that during the Crimean war Sir Edwin rnold wrote some verses to the founder of modern nursing—lorence Nightingale. These verses were incorporated in the ddress and then made public, we believe, for the first ime.[1] His attitude towards experimental physiology was nstructive. While holding strongly to the ethics of the eligion of Buddha, with its beautiful tenderness for all living creatures, yet he said in one of his speeches: "If to give my own life under torture would certainly lead to the saving of very many other lives I should hate and scorn myself if I had not the will so to die; and as between men and beasts I suppose it is true that we are 'more than many sparrows.'" *Sir Edwin Arnold was a versatile and brilliant littérateur* and a man of wide knowledge and many sympathies.' Such men are ever the friends of medicine. One of Sir Edwin Arnold's sons is a member of the medical profession and is Government medical officer to the sanitary authority and port health officer at Levuka, Fiji.

THE NORTH-WEST LONDON HOSPITAL.

WRITING in the *Times* of March 29th, Lord Rathmore, chairman of the committee of the North-West London Hospital, refers to the appeal which is being made for financial support to the hospital and states that Mr. George Herring, the treasurer, has most generously offered to add one-third to the amount received in response to the appeal. Mr. Herring is well known as a liberal benefactor of charitable undertakings. The Hospital Sunday Fund Supplement *to* THE LANCET *of June 6th, 1903, p. 1640,* shows that in each of the years 1899, 1900, and 1901 he gave £10,000 to the Metropolitan Hospital Sunday Fund and in the year 1902 a still larger amount. From his intimate acquaintance with the financial aspect of hospital work his advocacy of the claims of any particular institution must carry great weight.

ACUTE SUPPURATIVE THYROIDITIS.

ACUTE suppurative thyroiditis is very rare and usually is secondary to some infectious disease. In the *American Journal of the Medical Sciences* for January Dr. Henry Roth has recorded the following case in which it was primary. On Nov. 26th, 1902, a man, aged 40 years, was admitted to hospital. He was suddenly taken ill with a chill and high fever on Nov. 23rd and gradually became worse. On admission his temperature was 103·2° F. and his pulse was 128. He seemed in a state of profound sepsis, being cyanosed and sweating profusely. A diffuse tender swelling extended from the suprasternal notch to the upper border of the cricoid cartilage. The most prominent portion of the swelling was red but there was no fluctuation. Over the shoulders were engorged veins. The patient was breathing badly and could swallow only with difficulty. Acute thyroiditis of unknown origin was diagnosed. Under chloroform a median incision was made from the thyroid cartilage downwards for two and a half inches. When the muscles were separated the thyroid presented as a smooth, dark-blue body with a dull capsule. On incising it on the left side a few drops of pus escaped and areas of necrosis were observed. The wound was drained with iodoform gauze. After the operation the temperature rose to 107°. The patient became worse and died on the following day. At *the necropsy the thyroid gland was found to be enlarged* and swollen; the right lobe was more enlarged than the left and showed areas of softening. On microscopical examination the connective tissue was found to be infiltrated with leucocytes which obliterated the acini. In places there were areas of necrosis and abscesses. On inoculating agar from the thyroid gland the streptococcus was obtained in pure culture. As the thyroid gland has no duct it is little exposed to infection and is usually invaded from the circulation. According to Mygind, thyroiditis is most common in females in the second and third decades and rarely occurs in previously healthy persons or as the result of injury but usually complicates or follows typhoid fever, rheumatic fever, diphtheria, influenza, malarial fever, erysipelas, puerperal fever, sepsis, orchitis, or prostatitis; it may also occur during or after scarlet fever, pneumonia, and pyæmia. According to Robertson thyroiditis is most common after rheumatic or typhoid fever.[1] After the latter it is usually suppurative and may be due entirely to Eberth's bacillus. Thyroiditis may terminate in resolution, suppuration, or gangrene. Gangrenous thyroiditis is attended by severe symptoms and usually is due to streptococcic infection. In the case related above the local signs might have been produced by ordinary phlegmonous inflammation but the constitutional symptoms were too severe. The latter were perhaps due to interference with the thyroid secretion. Dyspnœa, dysphagia, and movement of the swelling with the trachea are usually present at some stage of thyroiditis. In suppurative thyroiditis early incision and drainage are imperative. This treatment was of little use in the present case because the patient came under treatment too late, when the constitutional symptoms were severe.

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[1] THE LANCET, Oct. 5th, 1895, p. 829.

THE RECENT DISMISSAL OF ASSISTANT MEDICAL OFFICERS BY THE METROPOLITAN ASYLUMS BOARD.

OUR readers will recall the recent comments in the medical and lay press upon the arbitrary dismissal of certain assistant medical officers of the Metropolitan Asylums Board. We hear that the Board has now offered compensation to these gentlemen and that the compensation has been accepted. The Board, we think, would not have consented to pay anything to its ill-treated employés had it felt certain of the legality of its own position. A spirit has recently prevailed at the counsels of the Board which is inimical to the medical men who hold its appointments. Evidence of this spirit has been recently forthcoming and justifies our belief that nothing would have been paid to the dismissed assistant medical officers if they, or certain of them, had not made clear their intention of not tamely submitting to injustice. Economy is urged by the Board as its reason for slighting the medical staff. We beg to call attention to the result of this economy as evidenced by the payment of these sums of money in compensation. The feeling in the medical profession is growing strong in regard to the management of the Metropolitan Asylums Board and we hope that the Local Government Board will make it an early duty to inquire into the whole situation, for the policy of running counter to medical opinion may land the Metropolitan Asylums Board in a very inconvenient situation. If those of the managers of that Board who are responsible for the recent attitude of the Board towards its medical department should obtain control over the counsels of the Board the metropolis may be placed in the dangerous position of being left without adequate scientific service in the infectious hospitals. We wish that the Local Government Board would boldly take the initiative in the matter and would instruct its nominees upon the Metropolitan Asylums Board to give proper attention to the rights, the privileges, and the views of the medical staff.

A RETURN OF PERSONS EMPLOYED IN TEXTILE FACTORIES AND LAUNDRIES.

A SUPPLEMENT to the annual report of the chief inspector of factories and workshops for the year 1902 was issued last week. It contains a number of interesting details so far as classification could be made in regard to the textile industries. Applications for the returns were addressed to occupiers in January, 1902, but it is computed that about 100,000 returns were outstanding on the last day prescribed for their receipt. The general summary of persons employed in textile factories and laundries contains 15 tables. As regards textile factories the number of departments, owing to the greater separation of manufacturing processes in the return, far exceeded that of previous years. The number of persons employed, however, showed a further decline and this would have been more marked but for the fuller inclusion of non-textile departments in the textile returns for 1901. The decrease was relatively greatest in Ireland and least in England and Wales. The diminution in each of three groups—children (half-timers under 14 years of age), young persons (full-timers under 18 years of age), and adults—was more than sufficient to explain the total decrease of persons employed. The only class showing an increase is that of female adults. An increase is recorded in the trade groups "wool, worsted, and shoddy," "hosiery," and "lace," the chief decrease being in "flax, hemp, jute, and china grass," "silk," and "cotton " The falling off in half timers since 1889 is shown in Table VII. In regard to laundries the return embraces 1774 factory laundries and 3876 workshop laundries registered in the department. Of the total of 5650 the southern division (which comprises London, Kent, Southampton, and Plymouth) included 3860. The figures are not so large as those shown on the inspectors' registers, the return having revealed the closure of many small laundries. It is stated that the corresponding returns for non-textile factories and workshops are being prepared and will appear in due course.

THE SPOROZOA IN RELATION TO DISEASE IN MAN AND ANIMALS.

IN his fourth lecture[1] delivered at University College, London, on March 21st, Professor E. A. Minchin dealt with a group of the sporozoa known as the hæmosporidia which comprise parasites that live in the blood of vertebrate animals and man. They constitute a class of organisms important from the medical point of view, since some of them are the active causes of malarial and other serious fevers. The hæmosporidia resemble the coccidia in many respects, but the latter are parasitic only on the epithelial cells of the alimentary canal whereas the former live in the red corpuscles of the blood. The hæmosporidia multiply endogenously by the process of schizogony or fission, but under certain conditions their continued life is impossible unless they pass through the body of another host, generally a mosquito. Much of the life-history of the malarial parasite has been known for 20 years, but Schaudinn by his recent researches has revolutionised many of our ideas about the hæmosporidia and sporozoa generally. His investigations of halteridium, a species of hæmosporidia found in the red corpuscles of the owl and other birds, have shown that a flagellate stage exactly like that of the trypanosoma of African sleeping sickness occurs in the hæmosporidia. Following the classification of Wasilewski two classes of hæmosporidia are recognised—viz., the hæmamœbæ, which exhibit an amœboid phase in their life cycle, and the hæmogregarinæ, which are gregariniform and exhibit no amœboid phase. The first class, or hæmamœbæ, include the following forms: the hæmamœba malariæ of quartan ague discovered by Laveran, the hæmamœba vivax of tertian ague, and the plasmodium immaculatum of pernicious malaria (Grassi), all of which are able to affect man; the proteosoma præcox of birds (Danilewsky) which dwells within the red corpuscles, the plasmodium Kochi of apes, and the halteridium of birds, a. curved halter-shaped parasite found in the red corpuscles; the piroplasma bigeminis of cattle, which is the cause of Texas fever, and the piroplasma canis and the piroplasma equi which affect dogs and horses respectively. The second class, or hæmogregarinæ, include parasites which occur only in the blood of cold-blooded animals (reptiles and amphibians)—e.g., the drepanidium ranarum discovered by Lankester, the hæmogregarina stephanopii of the water-tortoise, and karyolysus, a parasite which lives on the red corpuscles of the lizard. The intermediate hosts of these parasites are various. Thus all the three varieties of malarial parasite are conveyed to man by mosquitoes or gnats, a species of culex (gnat) carries proteosoma and halteridium to birds, and ticks carry the piroplasma to oxen. The bites or punctures of these insects conveys the parasite into the wound or puncture in the skin. In the case of Texas fever the young ticks infected by the piroplasma from the ovum of their mother carry the disease to oxen and other animals on which they live. An ox infected with this parasite develops all the symptoms of Texas fever within 45 days, during which period the parasite is multiplying and growing within its blood until a stage of virulence is reached which culminates in the symptoms of this fatal malady. The malarial parasites are dangerous to man, especially at the periods of spore formation in the blood, when they are literally produced in millions and prove destructive to the corpuscles and dangerously toxic to the patient.

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[1] References to the first, second, and third lectures will be found in THE LANCET of March 12th, p. 736, and March 26th, p. 889.

PARTIAL RESECTION OF THE ASTRAGALUS FOR CONGENITAL TALIPES VARUS.

MANY operations have been devised for the treatment of congenital varus of the foot and in Lorenz's classification there are as many as 14 groups of operations, most of them with several varieties. They include osteotomies, removal of one or more bones, and the removal of portions of one or more bones, and all these are in addition to the division of tendons and other "soft" structures. Lund seems to have been the first to suggest removal of the astragalus and he has been followed by several others, especially Erskine and Mason, who have devised modifications. Verebely removed with a sharp spoon all the cancellous tissue of the interior of the astragalus, so that the foot could be wrenched into position but the articular surfaces were not interfered with. Lücke and Albert advised removal of the head of the astragalus and Hüter excised a wedge-shaped piece of bone from the outer half of the neck of the astragalus. In the present number of THE LANCET is published a letter from Mr. A. W. Hayles of Pontnewydd, Mon., who relates a case of talipes varus which he treated by excising a wedge shaped piece of bone from the astragalus, the apex of the wedge being downwards. The result of the operation was very good, as ultimately the boy was enabled to run about. Mr. Hayles's operation seems to be a modification of Hüter's method and certainly deserves a trial in some of the milder forms of this deformity, but we should not expect it to prove successful in any very marked case of talipes varus.

THE medical officer of health of the Cape Colony states that for the week ending March 5th there were 8 cases of plague discovered at Port Elizabeth, all in coloured persons. There were 4 males and 4 females and 7 of them are dead. All the patients contracted the disease in tenements in Rudolph street. No other cases of plague in human beings were discovered throughout the Colony, but plague-infected rodents were found at Port Elizabeth and East London. Of 315 rats examined in the Cape Town and Harbour Board area none was affected by plague. As regards the Mauritius a telegram from the Acting Governor received at the Colonial Office on March 25th states that for the week ending March 24th there were no cases of plague. As regards Johannesburg 4 fresh cases were reported on March 29th.

THE third contribution to the report on "The Pollution of Tidal Waters, with Special Reference to Contamination of Shell-fish," by Dr. A. C. Houston, was issued this week. We understand that the bacteriological condition of the London water companies' intakes on the Thames is considered to be unsatisfactory. We propose to deal with this report in a future issue.

AT the next meeting of the Incorporated Society of Medical Officers of Health to be held at 8 P.M. on Friday, April 8th, at No. 9, Adelphi-terrace, Strand, London, W.C., a paper will be read by Dr. J. Howard-Jones, medical officer of health of Newport (Mon.), on the Control of Measles Epidemics, to be followed by a discussion.

THE annual dinner of the West London Medico-Chirurgical Society will be held at the Trocadéro Restaurant, Piccadilly, London, W., on Wednesday evening, May 4th, at 7 30. Communications should be addressed to Dr. Charles Buttar, 10, Kensington-gardens-square, W.

THE Lord Mayor, accompanied by the Lady Mayoress, aldermen, and sheriffs, will open the Fifteenth Universal Cookery and Food Exhibition at the Royal Albert Hall on Tuesday, April 26th, at 2 P.M.

IN the Court of Appeal on Tuesday the decision of Mr. Justice Byrne in which he declined to remove from the register the mark "tabloid" was confirmed and the appeal was accordingly dismissed.

THE annual dinner of the Pharmaceutical Society of Great Britain will take place on Tuesday, May 17th, at the Whitehall Rooms of the Hôtel Métropole, London, S.W., at 7 o'clock P.M. precisely.

DR. H. R. Fuller, physician to the late Duke of Cambridge, has been appointed by the King a Member of the Fourth Class of the Royal Victorian Order.

THE AMENDMENT OF THE WORKMEN'S COMPENSATION ACT.

MR. Arnold J. Greene of Wigan, who has had considerable experience of the working of the Workmen's Compensation Act, 1897, as medical adviser to the Northern Employers' Mutual Indemnity Company, has sent us a pamphlet containing notes and suggestions as to matters of interest to the medical profession in connexion with the administration of the Act. We understand that Mr. Greene is likely to give evidence with regard to this subject before a committee at the Home Office to consider proposed alterations in the existing conditions and his evidence may have been given before these observations appear, but the matter is one which concerns not only the medical profession but employers of labour and working men and the interested attention of a much larger section of the public may at any time be drawn to it. The original Act, which only applies to certain descriptions of work, has already been extended so as to benefit the agricultural labourer and its future application to all kinds of service, including sea service and even domestic service, must be regarded as by no means impossible. With the general effect of the Act most people are familiar; it provides compensation for the accidental injury or death of workmen based upon the actual loss in wages traceable to the occurrence. It also has brought into existence "medical referees" appointed by the Home Secretary for purposes connected with the Act, which are specified in its schedules and in regulations issued by the Home Office to govern its administration.

Mr. Greene's principal recommendations as affecting the medical profession have as their object the increasing of the usefulness of the medical referee, for reasons and by methods which he specifies. The instituting of medical referees, no doubt, was intended by those responsible for the

Workmen's Compensation Act, 1897, as a means of dealing with the conflict of medical evidence which was likely to arise in cases where the duration and extent of the workman's disability from work as well as the cause of it had to be taken into consideration and to be estimated with exactness, for under that Act there were not to be what the law knows as "general damages," the loss of wages alone was to be considered. The duties assigned to the medical referee, which Mr. Greene thinks might be enlarged, arise out of an option given to the workman who may go before him at an early stage in the case and out of the power possessed by the arbitrator to refer to him for report a case in which conflicting medical evidence has been given.

The first class of case arises in this way. Under Paragraph 3 of the first schedule of the Act a workman who has given notice of an accident shall, if so required by his employer, submit himself to examination by a qualified medical practitioner to be provided and paid by the employer. Under Section 11 he is under a similar obligation when he is in receipt of weekly payments under the Act—that is to say, the employer or the person indemnifying him (i.e., an insurance company) has the right of ascertaining, by employing a medical man for the purpose, whether the workman continues to be incapacitated. On this latter occasion, however, the workman has an alternative. If he prefers not to go before the employer's medical man, or goes and is dissatisfied with the certificate so obtained, he may go before the medical referee whose certificate as to the workman's condition at the time is conclusive evidence with regard to it.

On the occasions described it will be seen that, in the first place, the medical referee does not come upon the scene at all until weekly payments are being made—that is to say, until a fortnight at least has elapsed since the accident; and that, in the second place, the workman has the option of calling in the medical referee but the person liable to pay compensation has not. The medical referee can then give a certificate which will be conclusive as to the workman's condition when it is given, but although it may be known that medical men called in by the workman and employer respectively hold differing views only one party and not the other can prevent further discussion by obtaining such a conclusive certificate. It is to the latter point that Mr. Greene more particularly calls attention and he gives many good reasons why the workman in but few cases exercises the right given to him. These may be summed up by saying that the working man who has one medical opinion in his favour may count, if an arbitration is held, upon being awarded compensation, at all events up to the date of the arbitration. If, therefore, his claim is exaggerated and the symptoms which he professes to exhibit are assumed he has everything to lose and little to gain from a visit to an impartial and experienced observer who may give a conclusive certificate against him. It is with considerable force and justice that Mr. Greene recommends that it should be in the power of the person who compensates to refer doubtful cases to the medical referee as well as in the power of him who is claiming compensation and also that he should be called in as soon as possible. It scarcely seems to require demonstration that a medical man will not be able to determine whether certain alleged physical conditions have existed as the result of an accident many weeks or many months after it has occurred with the same confidence that he would have felt had he been summoned to see the patient directly notice of the accident was given to the employer. An instance of an actual case is given by Mr. Greene in which a workman sustained a simple fracture of the leg in May, had his compensation stopped in October, and in March of the following year sought for renewal of compensation, supported by a certificate of a medical referee to the effect that he was suffering from a compound fracture of the leg and from injuries to the shoulder, both the result of the original accident. In order to defend this claim the employers had to go to arbitration in May, a year after the event, on the point that the injuries were not obtained in their employ, and the county-court judge had consequently to refer the case to the medical referee for the reconsideration of a certificate which according to the Act was final. The result of the proceedings was that the man was found to have had a simple fracture, as already known by his employers, and the alleged injured shoulder was eventually put down to alcoholic neuritis. It can hardly be disputed that in order to enable a medical referee to give a certificate with certainty upon any case he should have seen it at the earliest possible stage and, as Mr. Greene properly points out, he should hear not only the workman's statement but that of his employer in order to form a correct opinion as to the nature of the occurrence. An untrue statement by the workman that he has been insensible for three days after the accident or in bed for six months may now be made before the medical referee without anyone being there to contradict it.

With regard to the part taken by the medical referee where there is an arbitration two rules are to be noted: "Before making any reference—i.e., to the medical referee—the committee, arbitrator, or judge shall be satisfied, after hearing all medical evidence tendered by either side, that such evidence is either conflicting or insufficient on some matter which seems material to a question arising in the arbitration and that it is desirable to obtain a report from a medical referee on such matter." "In any case of special difficulty the judge or appointed arbitrator may require the attendance of the medical referee at any proceedings in the arbitration subsequent to the receipt of the report (i.e., of the medical referee's report), at a date and hour to be arranged, and the medical referee shall attend accordingly, but this regulation shall not authorise the medical referee being called as a witness." It will be observed that the medical referee is not introduced into the proceedings for the purpose of clearing up the doubt which may naturally arise in the mind of a lay arbitrator until after the hearing which should close the proceedings has taken place. Mr. Greene suggests that on the application of employer or workman a medical referee should sit with the arbitrator as assessor, on the grounds that he would thus be better able to advise the arbitrator from a medical aspect and that he might sometimes be able to clear up a doubtful medical point by a judicious question. Mr. Greene is of opinion that the occasion for such assistance by the medical referee would not often arise and that is, no doubt, why he suggests that he should only be present at the request of one of the parties. It is, however, so difficult to foresee what points may arise and what unexpected evidence may cause unlooked-for differences of opinion that it might fairly be contended that the presence of a medical referee was desirable in all cases where the nature and extent of the workman's injuries were not already ascertained beyond dispute. Any alteration in the rules which tended to introduce finality at as early a stage as possible in the proceedings should be welcomed by both parties, so long, of course, as possible injustice arising out of inevitable error was guarded against.

With regard to the personal qualifications and position of the medical referee Mr. Greene recommends that he should be the best man obtainable, rendered independent by being debarred from private practice and remunerated with an adequate salary. He suggests that recourse might be had to such men as have retired through the enforcement of an age limit from active connexion with the large hospitals and adds the recommendation that experience in ophthalmic surgery should form part of their qualifications. He would divide the country into areas of from 2000 to 4000 square miles, according to population and to the occupations of the population, and he goes into calculations based upon figures within his experience as to the number of cases which could thus be dealt with and which would be likely to occur. He points out that the services of the medical referee need not be confined to the Workmen's Compensation Act but that he could afford advice upon other occasions where medico-legal points arose.

Mr. Greene also draws attention to the possibility of improvement in other matters connected with the practical working of the Workmen's Compensation Act outside the office and duties of the medical referee. He points out the desirability of fixing a definite time limit within which the workman must take proceedings. At present he must claim compensation within six months but, having done so, may delay his request for arbitration for an indefinite period. Mr. Greene would permit the employers' medical representative to be present at a post-mortem examination held by order of the coroner in cases of death likely to lead to a claim for compensation. He refers to the hardship arising indirectly through the Act with regard to old, weak, and diseased workmen, owing to their predisposition to sustain injury or to continue incapacitated in consequence of it and predicts that a medical examination of all workmen engaged will some day be necessary. He discusses the difficult question of the workman who refuses to submit to a simple and obvious surgical operation and who by his refusal may continue in a condition of disablement while at the same time he enjoys a pension paid by his employer. He also refers to the treatment of workmen by unqualified persons and to the danger of their injuries being thereby increased. For example, the injured workman improperly treated by a herbalist or other quack may suffer from blood poisoning and may require his employer to pay for a prolonged illness or his relatives may claim compensation for his death. Mr. Greene approves of the retention of the rule by which the workman can claim no compensation for the first 14 days after his accident and whereby he is discouraged from exaggerating trifling injuries. He illustrates his point with figures An indemnity company compensating in respect of 34,601 workmen, but not paying for the first fortnight, had 1338 claims made against it in one year. An accident club in the same locality with 45,792 members, paying compensation for the first fortnight, including, of course, injuries of less than a fortnight's duration, had 8493 claims made against it in the same period. The workman who has once begun "to play" and has thereby got his muscles and the skin of his hands soft is obviously under a temptation to continue his rest for the longest period possible, and the employer at whose expense he does so naturally regards the payment of "compensation" where it is not necessary on account of disablement as unjust to himself.

The possible amendment of the Workmen's Compensation Act is, as has been suggested above, a matter of interest to all employers and workers besides those now affected, but, whether its scope is to be enlarged or not, it is desirable that the procedure under it should be made as far as possible, rapid, inexpensive, and conducive to just and fair results. At present the Act has not been a success, for such results as have been attained under it have led to an expense in litigation, through necessary appeals upon obscure points, that has been almost without parallel, and cases which have pressed with undue hardness upon the employer or, less frequently, upon the workman have not increased that goodwill and mutual confidence between master and man the existence of which is of great importance in a manufacturing community. The circumstances in which medical men appear as witnesses are often unsatisfactory and, as has been shown above, under the Workmen's Compensation Act the conditions imposed by law are such as to increase rather than to diminish the contradictions of medical opinion which are inherent in all legal proceedings when compensation for alleged injury is claimed and disputed.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.

THE annual general meeting of the members of the Medical Graduates' College and Polyclinic was held at 22, Chenies-street, London, W.C., on March 28th, Dr. C. THEODORE WILLIAMS being in the chair.

Dr. WILLIAMS, in moving the adoption of the report and balance-sheet, said that the College was continuing its work satisfactorily. He regretted that they had for some time lost the services of Sir William Broadbent as their president, but he was glad to announce that that gentleman would take an active part, as he had always done, in their clinics. Dr. Williams then made a sympathetic reference to the death of Sir William Kynsey who had been a vice-chairman of the Polyclinic. Referring to financial matters, he announced amid applause that Mr. James Berry had been elected treasurer, which, he said, was a sure sign that they were to have good help in finance The annual report showed that the number of members was keeping up very well. There was a slight falling off at one time when there was some doubt as to the future of the Polyclinic but the number had risen immediately after that under the able management of the secretary, Captain A. E. H. Pinch, with the result that it was hoped that the number of members shortly would reach 1000. Dr. Williams, continuing, said he did not think that the great advantages of the Polyclinic were sufficiently widely known. No other establishment offered the same kind of teaching that was to be found in the clinics held at 22, Chenies-street. The great point was that everything was arranged for the use and advantage of medical practitioners. He did not know of any place where a medical man could have the privilege in one year of examining something like 1000 cases and of hearing them demonstrated. The laboratory work at the Polyclinic under Captain Pinch had attained great perfection and it ought to be known that members would get their work done just as well by sending specimens to be examined at the Polyclinic as if they were forwarded to any similar research association. In regard to the composite course of lectures, its success was assured because no fee was to be charged in future. He did not know of any institution which gave its members 186 extra lectures without payment. Lectures were given by men of undoubted authority who had made certain subjects their own and who constituted a sort of court of appeal. In fact, someone had told him that there was only one appeal beyond the lecturers at the Polyclinic and that was the post-mortem room. Dr. Williams then referred with approbation to the change that had been made under the editorship of Dr. C. O. Hawthorne in the *Polyclinic Journal*. He concluded his remarks by describing the steps which had been taken to place the finances of the Polyclinic on a sound basis.

Mr. JAMES BERRY having seconded the motion, it was put by Dr. Williams to the meeting and carried unanimously.

A vote of thanks, proposed by Dr. G. CRAWFORD THOMSON, seconded by Dr. J. R. GABE, was duly passed to the retiring members of the council: Mr. S. Cathcart, Mr. W. H. A. Jacobson, Dr. Boyd B. Joll, and Dr. F. J. Payne.

The meeting then confirmed the interim election of Mr. E. Clarke and Dr. Hawthorne as members of council and the following five gentlemen were elected members of council: Mr. G. Lenthal Cheatle, Mr. J. Jackson Clarke, Dr. A. P. Luff, Mr. C. G. Drummond Morier, and Dr. H. Campbell Thomson.

A cordial vote of thanks to Dr. Williams concluded the meeting. It was a general matter of congratulation that peace and harmony had prevailed in place of the strenuous discussions which had characterised the last few meetings.

THE
MINERAL WATER OF KARA-HISSAR-I-SAHIB.

WE have been favoured by His Excellency the Turkish Ambassador with a case of samples of this interesting mineral water, the source of which is a spring in the district Kara-hissar-i-Sahib, in the province of Broussa in Asia Minor. We understand that the water has been employed in the Hamidié Hospital for Women and Children, Constantinople. The temperature of the spring is 17° C.; the water is perfectly clear and bright and has an agreeable alkaline taste. It has a cleansing effect in the mouth and contains a slight excess of carbonic acid gas. On analysis the following results, given in grammes per litre, were obtained in THE LANCET laboratory:—

Sodium carbonate	2 24
Calcium carbonate	0 20
Sodium chloride	0 23
Borax	0 01
Total	2 68

The total saline constituents thus amount to 2·68 grammes per litre. The carbonic acid gas being in excess, the carbonates obtained on evaporation are present in the water as bicarbonates. There were present also traces of lithium salts but there was no evidence of organic impurity. A noteworthy constituent is borax. Generally speaking, this mineral water resembles in composition the waters of St. Galmier, Gieshubler, Fachingen, and Ems, all of which are reputed to be useful in diseases of mucous membranes. The alkaline waters of Fachingen, which resemble in particular that of Kara-hissar-i-Sahib in containing chiefly carbonate of sodium and chloride of sodium, are employed in diseases of the kidney and bladder. In some clinical reports emanating from the Hamidié Hospital it is stated that the water has been given with good results in chronic gastric affections, and in bronchial catarrh and also in affections of the bladder—e g., cystitis. This favourable action of the water may be referred to the alkaline salts and lithium which it contains, while borax is doubtless an important contributory factor. The water is exported in bottle, but there is no reason why the spring should not form the basis of a hydro-therapeutic establishment on the lines of the continental watering places mentioned above.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

ELECTION OF PRESIDENT.

AN extraordinary Comitia was held on March 28th, Sir W. S. CHURCH, Bart., K.C.B, the President, being in the chair.

The PRESIDENT delivered the usual annual address in the course of which he referred to the lives of eight Fellows who had died during the year—namely, Dr. E L. Birkett, Dr. W. S. Playfair, Dr. W. H. Corfield, Dr. J. Tatham, Dr. Alfred Sangster, Dr. J. W. Hue, Sir E. Sieveking, and Dr Alexander Davidson. The President then referred to the distinctions which had been conferred on certain members of the medical profession and to the award of medals, prizes, and scholarships connected with the College. He also detailed the lectures which had been delivered, especially drawing attention to the Harveian Oration and to the first FitzPatrick lectures. In speaking of the endowments presented to the College during the year he once more thanked Dr. Horace B. Dobell and Dr. George Oliver for their generosity. He then reviewed some of the work accomplished by the College and the many important committees which had been appointed during the year.

Dr. J. E. POLLOCK proposed that the College should express its thanks to Sir W. S. Church for having acted as President during the past five years and also for his address and should request permission to have it printed.

This motion was put to the College and carried by acclamation.

Sir W. S. CHURCH returned thanks to the College and acceded to the request to have his address printed. He then vacated the chair.

The Registrar (Dr. E. LIVEING) read the regulations which govern the election of President and the election was then proceeded with. At the first ballot the following was the result: Sir William S. Church, 44 votes; Sir William Broadbent, 42; Sir R Douglas Powell, 35; Dr. P. H. Pye-Smith, 29; Dr. W. H. Dickinson, 3; Sir Dyce Duckworth, 2; Professor Clifford Allbutt, 2; Dr. J. F. Payne, 1; Dr. F. W. Pavy, 1; and Dr. Robert Barnes, 1. A second ballot was then taken with the result that Sir William Church was elected, receiving 91 votes while Sir William Broadbent received 69.

The charge was delivered by the Senior Censor (Sir DYCE DUCKWORTH) and the PRESIDENT pledged his faith to the College.

Sir W. S CHURCH thanked the College for the honour conferred upon him in being again elected President.

A Licence to practise physic was granted to Colin Alexander Campbell, M B. Toronto.

The College seal was set to a "Declaration of Trust" accepting a sum of £2000 from Dr. George Oliver for the endowment of "The Oliver-Sharpey Lectureship or Prize" on the terms agreed to at the last meeting.

The following communications were received: 1. From the Colonial Secretary, moving the College to establish an examination and diploma in tropical medicine. The matter
ras referred to the Committee of Management for report.
. From the clerk of the Privy Council, asking on behalf of
he "Physical Deterioration Committee" observations from
he College on a scheme for establishing a permanent
nthropometrical survey of the United Kingdom. The
quut was referred to the same committee that reported on
, and ysical Disability of Recruits," the President to
fer the two new members in place of Dr. G. Vivian Poore
a of a c J. J. Pringle who were unable to serve. 3.
e result e secretary of the Royal College of Surgeons
ave had d, reporting certain proceedings of its Council
yers, an lth and March 10th. 4. From the English com-
down to the International Congress on School Hygiene
at Nuremberg, April 4th to 9th, inviting the
point a representative on the committee and to send delegates to the Congress. The President announced th
he had nominated Sir Lauder Brunton to act as delega
of the College and Dr. F. Warner to serve on the commit
5. From the secretary of the Sanitary Institute,
College to send delegates to the annual congress t
at Glasgow, July 25th to 30th. It was resolved
delegates to the congress, the names to be announc
next Comitia.

After some further business the PRESIDENT diss
Comitia.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 1

THE FRENCH SYSTEM OF SURGICAL EDU CONTRASTED WITH THE ENGLISH.[1]

FOR the following accurate history of the Fren
of surgical education, we are indebted to Mr. BENN
for several years, taught anatomy in Paris, and
qualified to write on the subject.

In 1792, the National Convention decreed the
of all universities, colleges, corporations, &c.
France. However, before the expiration of t
found it indispensable to provide for the
medical men, and in consequence Fourcroy
deputed to devise some system which, it
admitted, should be founded upon the
"Medicine and Surgery were one and i up a
Republic." The Faculty of Medicine reene
organised, and formed the model upo e by the
Faculties were subsequently constructed no doubt,
In Paris we at present find the fol sent at the
have entrusted to them the business so difficult to
respective departments, viz.:— ected evidence
The Faculty of Theology n that it might
The Faculty of Law medical referee
The Faculty of Medicine and extent of the
The Faculty of Mathemati tained beyond dis-
The Faculty of Letters. ended to introduce
There are similar bodies o in the proceedings
same purposes, in other great o long, of course, as
Now the re-union of *all* ble error was guarded
city, Paris for example, c
city; and the re-union of cations and position of
stitutes *The University of* mends that he should
The great officers of th independent by being
a Chancellor, a Treasure remunerated with an
Paris, and their jurisdict ecourse might be had to
in France; the accounts, enforcement of an age
them, and they constitute rge hospitals and adds
Each Faculty confers t in ophthalmic surgery
tion of four years' study, ons. He would divide
but the Faculty of Scien to 4000 square miles,
addition, the subordinate occupations of the
and bachelor in letters. s based upon figures
has but to present himself of cases which could
For the *bachelorship* i likely to occur. He
classics, history, geograph ical referee need *not*
ship in sciences, he is exa ation Act but that he
matics, physics, natural hi where medico-legal
Before a student is adn
the Faculties, with the view the possibility of
he must first possess the d with the practical
bachelor in letters, where on Act outside the
insured on his part. He points out the
The election of PROFESS within which the
prior to the restoration o nt he must claim
"Concours," or a public t done so, may
adhered to in the disposal of th definite period.
In the year 1822, the Facult dical repre-
suppressed through political mot xamination
professors by concours was discont likely
was reorganised in the following year.

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[1] The details of the system of education prescribed a
of Medicine and of the manner of conducting the electio
by "Concours" and the "new regulations" of the "
of Surgeons in London" have not been transcribed.

then created, that of "Agrégé" or Fellow—their number is unlimited; 24 were appointed by the Government in the first instance, and it is now determined to elect a small number annually, and by concours.—When a vacancy takes place amongst the professors, the chair is now filled by the Government electing an individual from the Agrégés to fill it.

REPORT OF THE PUBLIC HEALTH COMMITTEE OF THE METROPOLITAN BOROUGH OF POPLAR.

ON Feb. 26th, at the meeting of the public health committee of the metropolitan borough of Poplar, Mr. Frederick William Alexander, the medical officer of health, reported upon the introduction of a case of small-pox into the metropolis as follows:—

Small pox.

A coloured man suffering from small-pox walked into the oplar Hospital on Feb. 18th and could give no proper account f himself except his name. He stated that he had been leeping with other coloured men in a lodging house near a hurch in Poplar. The ambulance nurse, before taking the tient to the South Wharf, endeavoured to find out his ress by calling at several lodging-houses but the patient not known. As soon as the authorities at Poplar Hospital honed to the public health department that the case been removed the chief disinfector commenced to call seamen's lodging-houses and common lodging-houses. ondon County Council was communicated with so that pspectors of the common lodging-houses might make hs. The medical officer of the South Wharf was ed to and asked to put further questions to the who was evidently a sailor) as to the name of his where he came from. The patient did not know of his ship but he stated that he had come ort News. The medical officer of the Port was immediately telephoned to and asked to ies as to all ships which had arrived from vs. On the 19th the Port of London medical ned that the patient, with two other coloured other men, all cattlemen, had left the in Victoria Docks on the 16th but he where they had gone to. In the meantime ector, Mr. Johnson, and the chief disinfector airies at the seamen's and common lodging- hnson found that the patient had slept at -house in High-street, Poplar, with the on the nights of Feb. 16th and 17th. e London County Council found some of " in common lodging-houses in White- oloured men were revaccinated and taken lter in Glaucus-street to be bathed and to lisinfected. The men spent the night at there is no male attendant the chief the shelter. The bed and bedding from common lodging-house were removed to pparatus and the three rooms were dis- washed.

further reported to the public health letter received from the London County the question of the amendment of the vs:—

. IV., Cap. cvi., 6 & 7 Will. IV., Cap. 37).

o the letter of the clerk of the London ating that the Council has under consideraof the desirableness of the Council seeking or the better protection of the public than the existing law as regards the sale of nder had the following remarks to offer. d sold in the City of London and liberties in ten miles of the Royal Exchange under eo. IV., Cap. cvi., which was passed on 2, and outside the ten-mile radius under the 6 & 7 Will. IV., Cap. 37, which was passed on 36. The statutes are almost identical. If the of George IV. be repealed and the adulteration ions be re-enacted Mr. Alexander suggested that the lteration provisions of the Act should be enforced by the tary authority. The adulteration sections of the Geo. IV. Act, being Sections ii., x., xi., xii., and xiii., and the penalty provisions which follow, should be re-enacted in modern language. A section should be inserted to the effect that meal or flour of wheat, barley, rye, oats, buck-wheat, Indian corn, peas, beans, rice, or potatoes should be stored separately in properly marked sacks or bins. The properly appointed officers of the local authority should have the right to enter any premises and without purchasing to take any samples of dough or bread, or samples of meal or flour of any grain from any sacks or bins, and to submit the same to the public analyst, and, if found to be adulterated, proceedings should be taken. The taking of samples in this manner, without purchasing, would not be a new procedure, as inspectors have power, for the purposes of analysis, to take without purchasing samples purporting to be butter and cheese—butter under Section 10 of the Margarine Act, 1887 (50 & 51 Vict., Cap. 29), and cheese under the Sale of Food and Drugs Amendment Act (62 & 63 Vict., Cap. 51, Section 5). The baker should be protected by warranty in a like manner as the vendor is protected under the Sale of Food and Drugs and Margarine Acts and then Sections x., xi., and xii. of Act of 3 Geo. IV., Cap. cvi., would, if re-enacted, be well met. The warranty would also apply to Section xii., so as to protect those persons who sell but do not make bread. So far as Section xii. is also concerned, which enacts that bread made of mixed meal or flour is to be marked with a large Roman M, it would be better that when bread is made wholly or partially of the meal or flour of any other sort of corn or grain than wheat, or of the meal or flour of any peas or beans, to have all such bread marked or stamped with the name of its component parts so as to be intelligible to the public who do not know what a large Roman M means. Potatoes should be added to this section as these ingredients are included in 6 & 7 Will. IV., Cap. 37, Section 10, which is similar to 3 Geo. IV., Cap. cvi., Section xii., but there is a proviso in Section 10 of the Bread Act of William IV. which can be added and is as follows:—

> Provided always that nothing in this Act contained shall extend or be construed to extend to require any bread made of the meal or flour of wheat only, and in the making of which potato yeast shall be used, to be marked as hereinbefore mentioned.

The powers of entry should be on the same lines as those proposed in the Bill of the London County Council (General Powers), clause 27:—

> The sanitary authority of any sanitary district, or any officer or person duly authorised by them in that behalf, shall have the right to enter at all reasonable times any house, building, or premises in that district for the purpose of examining whether there is any contravention of this part of this Act or of any by-law made thereunder, or for the purpose of carrying into execution this part of this Act or any by-law made thereunder.

The suggestions were adopted by the council of the metropolitan borough of Poplar.

At the same meeting Mr. Alexander, with very great regret, reported the death after a short illness of Mr. F. J. Anthony, sanitary inspector and inspector under the Food and Drugs Acts and canal boat inspector for the Bromley North Division. Mr. Anthony died on Feb. 24th. Mr. Anthony had been in the service of the Poplar sanitary authority since 1880, a period of 24 years. He first acted as disinfector and having qualified himself by passing the examination of the Sanitary Institute he was appointed sanitary inspector to the Bromley North Division in June, 1893. During his 24 years' service Mr. Anthony had also charge of the infectious disease mortuary belonging to the council in Wellington-road. The medical officer stated that he always found Mr. Anthony a most trustworthy and fearless officer.

ASYLUM REPORTS.

London County Asylum, Bexley Heath (Report for the year ending March 31st, 1903).—The average number of patients resident during the year was 2079, comprising 1019 males and 1060 females. The admissions during the year amounted to 519—viz., 224 males and 295 females. Of these 483 were first admissions. Dr. T. E. K. Stansfield, the medical superintendent, states in his report that a female nursing staff has been substituted for male attendants in the male infirmary wards, "a change that has so far been in every way satisfactory. It has added materially to the comfort, the general well-being, and the successful treatment of the patients concerned. ...... The success justifies an extension of the principle, but unfortunately the structural arrangements of the asylum offer what at present appear to be insurmountable difficulties. This is a matter which, in my opinion, ought to receive very careful consideration when the plans of another asylum are being considered." Among the admissions melancholia was the form of mental disorder manifested in the largest number of cases (31·4 per cent.), mania was present in 26 per cent., and delusional insanity, principally of the paranœic type, in 10 per cent. General paralysis affected 40 cases, or 7·7 per cent. "The physical condition of the admissions as a class was poor, and many, indeed, were mere human wrecks on the verge of dissolution." A hereditary predisposition to insanity was present in 28 per cent. of the admissions, a neurotic heredity was present in 14 per cent., tuberculous parentage occurred in 11 per cent., and alcoholic heredity in 6·5 per cent. Evidences of syphilis were made out in 106 cases, or 21 per cent. of the total number of admissions. The forms of mental disease with which it was principally associated were general paralysis (31 cases), acute melancholia (20 cases), acute mania (14 cases), primary dementia (eight cases), organic dementia (five cases), and delusional insanity (five cases). "It will thus be seen that the relation of syphilis to general paralysis was out of all proportion to that of any other form of mental disease." Alcohol as a personal factor was considered to be present in the causation of 103 cases, or 20·5 per cent., and it was an associated factor in 24 cases each of syphilis and neurotic heredity. The number of patients discharged as recovered during the year amounted to 180—viz., 76 males and 104 females, or 8·6 per cent. of the average number resident. The deaths during the year amounted to 250, or 12 per cent. as calculated on the same basis. Of the deaths five were due to senile decay, six to cerebral hæmorrhage, seven each to epilepsy and renal disease, eight to colitis, nine to bronchitis, 11 to syphilis, 19 to pulmonary and other forms of tuberculosis, 32 to cardiac disease, 61 to general paralysis of the insane, and the rest to other causes. The Commissioners in Lunacy state in their report that the wards and dormitories were in excellent order throughout, that the patients were in a satisfactory condition as regards dress and personal neatness, and that the medical case-books and post-mortem records were intelligently and carefully kept. The committee of management states in its report that improvements have been made in the electric battery supplying the light of the institution, that a hospital villa is to be provided for male patients at a cost of £13,000, and that the amount expended on additions, alterations, improvements, and repairs reached the sum of £5721.

London County Asylum, Horton (Report for the year ending March 31st, 1903).—The average number of patients resident during the year was 958, comprising 537 males and 421 females. The admissions amounted to 2019—viz., 1028 males and 991 females. Of these 2015 were first admissions. Dr. F. Bryan, the medical superintendent, states in his report that of the whole number of admissions 1544 were transfers from other asylums. "The asylum is now practically complete in all its departments and in full working order. ...... The chief difficulty during the year has been the engagement of a trustworthy staff. While the admission of patients has been regular, the supply of attendants and nurses has been very intermittent. ...... I believe that we have now the nucleus of a very good staff." The number of patients discharged as recovered during the year amounted to 88—viz., 49 males and 39 females, or 9·2 per cent. of the average number resident. The deaths during the year amounted to 108, comprising 70 males and 38 females, or 12·3 per cent. as calculated on the same basis. Of the deaths two were due to epilepsy, three to colitis, four to renal disease, five to senile decay, nine to pneumonia, 14 to pulmonary and other forms of tuberculosis, 16 to general paralysis of the insane, 28 to cardiac disease, and the rest to other causes. There have been four inquests during the year. In three of these the jury returned the verdict of "Death from natural causes." In the fourth the patient, during an attempt at suicide by choking, died suddenly from syncope. The Commissioners in Lunacy state in their report that the asylum was opened for the general reception of patients from the County of London in March, 1902, and that it was designed to accommodate 2000 patients. A small isolation hospital for infectious cases forms part of the institution. "The organisation of the asylum," adds the report, "has made good progress," as was apparent at a visit made on July 15th, 1902. At a second visit on March 30th, 1903, the Commissioners state that the dress and personal appearance of the patients were found to be satisfactory, that the day-rooms, dormitories, and bedding were exceedingly well kept, and that the medical case-books were well and efficiently kept up to date notwithstanding the large number of admissions. As regards provision in case of fire it is suggested that arrangements should be made for a night watchman to be on continuous service in the main building during the whole year. The committee of management states in its report that the water-supply of the asylum is good in quality and sufficient in quantity, that the laying out of airing courts and paths in the grounds is fast approaching completion, and that the sum of £3302 was expended on repairs, additions, alterations, and improvements during the year.

Ennis District Asylum (Report for the year ending March 31st, 1903).—The average number of patients resident during the year was 398, comprising 213 males and 185 females. The admissions during the year amounted to 133—viz., 77 males and 56 females. Of these 74 were first admissions. Mr. Francis O'Mara, the medical superintendent, states in his report that the admissions were 11 in excess of those for the previous year and that the cause of insanity in 30 per cent. of them was due to hereditary predisposition. "In only five cases was intemperance in drink the alleged cause." The number of patients discharged as recovered during the year amounted to 35—viz., 20 males and 15 females, or 8·8 per cent. of the average number resident. The deaths during the year amounted to 26, or 6·5 per cent. as calculated on the same basis. Of the deaths one was due to renal disease, two were due to pneumonia, three to epilepsy, four to pleurisy, six to pulmonary and other forms of tuberculosis, and the rest to other causes. The health of the patients throughout the year was fairly good. In the months of November and December an epidemic of influenza occurred and 50 patients were attacked but without fatal results. Plans have been approved of, and prepared for, the extension of the asylum and a scheme for a new water-supply from Ballycoree Lake is under consideration. The Inspector of Lunatics states in his report that the food of the patients was of good quality; that the condition of the asylum on the whole was satisfactory in spite of some unavoidable degree of overcrowding which would, however, be soon relieved; that the patients appeared quiet and contented; and that the medical case-books and registers were well kept. The committee of management states in its report that the average weekly cost of maintenance per patient was 9*s.* 9*d.*, or nearly 6*d.* less than that for the previous year. The amount contributed from private sources in respect of the maintenance of the patients, having regard to the comparative poverty of the asylum district, continues satisfactory. There are now 36 patients on whose behalf such contributions are made and during the financial year a total sum of £477 4*s.* was received from this source.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8521 births and 5469 deaths were registered during the week ending March 26th. The annual rate of mortality in these towns, which had been 18 6, 19·0, and 19·7 per 1000 in the three preceding weeks, declined again last week to 18·7 per 1000. In London the death-rate was 18·4 per 1000, while it averaged 18·8 per 1000 in the 75 large provincial towns. Among these large towns the lowest death-rates were 8·7 in Willesden, 9·4 in Walthamstow, 9 6 in Hornsey, 9·9 in Leyton, 11·8 in Bootle, 11 9 in Croydon, 12·0 in East Ham, and 12·2 in Merthyr Tydfil; while the highest rates were 23·3 in Birmingham and in Burnley, 23 5 in Salford, 24·2 in Plymouth, 24 3 in Manchester, 24·5 in Birkenhead, 24·8 in Warrington, 28 7 in West Bromwich, and 30·0 in Stockton-on-Tees. The 5469 deaths in these towns included 532 which were referred to the principal infectious diseases, against 503, 500, and 539 in the three preceding weeks; of these 532 deaths 200 resulted from whooping-cough, 176 from measles, 51 from diarrhœa, 46 from diphtheria, 32 from scarlet fever, 21 from "fever" (principally enteric), and six from small-pox. No death from any of these diseases was registered last week in Hornsey, Leyton, Hastings, Bournemouth, Ipswich, Burton-on-Trent, or Bootle; among the other large towns the highest death-rates from the principal infectious diseases were recorded in Great Yarmouth, Norwich, Wolverhampton, St. Helens, Manchester, Salford, Burnley, Leeds, West Hartlepool, and

Gateshead. The greatest proportional mortality from measles occurred in Brighton, Norwich, Stockport, St. Helens, Manchester, Salford, Oldham, Burnley, Leeds, Sunderland, and Rhondda; from diphtheria in Great Yarmouth; and from whooping-cough in Wolverhampton, Walsall, Birmingham, Aston Manor, Salford, Burnley, West Hartlepool, and Cardiff. The mortality from scarlet fever, from "fever," and from diarrhœa showed no marked excess in any of the large towns. Of the six fatal cases of small-pox registered last week in these towns, one each belonged to London, West Ham, Nottingham, Birkenhead, South Shields, and Tynemouth. The number of small-pox cases remaining under treatment at the end of last week in the Metropolitan Asylums hospitals was 110, against 41, 54, and 74 at the end of the three preceding weeks; 54 new cases were admitted during the week, against 13, 21, and 26 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 1578, 1601, and 1624 at the end of the three preceding weeks, had declined again to 1585 at the end of last week; 145 new cases were admitted during the week, against 153, 192, and 176 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 371, 414, and 375 in the three preceding weeks, rose again last week to 383 and were 131 above the number in the corresponding period of last year. The causes of 52, or 1·0 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Nottingham, Bradford, Newcastle-on-Tyne, Cardiff, and in 46 other smaller towns; the largest proportions of uncertified deaths were registered in Willesden, Birmingham, Smethwick, Liverpool, Blackburn, Burnley, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 21·2, 21·5, and 23·0 per 1000 in the three preceding weeks, declined again to 22·3 per 1000 during the week ending March 26th, but was 3·6 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 15·6 in Leith and 20·0 in Perth to 28·1 in Dundee and 31·6 in Paisley. The 737 deaths in these towns included 29 which were referred to whooping-cough, 22 to measles, 15 to diarrhœa, seven to small-pox, seven to diphtheria, four to "fever," and two to scarlet fever. In all, 86 deaths resulted from these principal infectious diseases, against 89, 68, and 65 in the three preceding weeks. These 86 deaths were equal to an annual rate of 2·6 per 1000, which was 0·8 per 1000 above the mean death-rate from the same diseases during the week under notice in the 76 large English towns. The fatal cases of whooping-cough, which had been 36, 21, and 24 in the three preceding weeks, further rose to 29, of which nine occurred in Aberdeen, seven in Edinburgh, four in Glasgow, three in Paisley, three in Leith, and two in Greenock. The deaths from measles, which had been 22, 20, and 23 in the three preceding weeks, declined again to 22 during the week ending March 26th, and included 15 in Glasgow, three in Dundee, and three in Greenock. The fatal cases of diarrhœa, which had been 19, 13, and 18 in the three preceding weeks, increased again to 19, of which eight were registered in Glasgow, four in Dundee, and two Greenock. The deaths from small-pox, which had been three, five, and seven in the three preceding weeks, were again seven during the week under notice, and included four in Greenock, two in Glasgow, and one in Leith. The fatal cases of diphtheria, which had been five, four, and three in the three preceding weeks, increased again to seven, of which three occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 155, 156, and 185 in the three preceding weeks, declined again to 165 during the week ending March 26th, but were 65 in excess of the number in the corresponding period of last year. The causes of 24, or more than 3 per cent., of the deaths registered in these eight towns were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 26·4, 28·3, and 27 7 per 1000 in the three preceding weeks, rose again to 30·4 per 1000 during the week ending March 26th. During the past four weeks the death-rate has averaged 28·2 per 1000, the rates during the same period being 18 8 both in London and in Edinburgh. The 221 deaths of persons belonging to Dublin registered during the week under notice showed an excess of 20 over the number in the preceding week and included 14 which were referred to the principal infectious diseases, against 13, 11, and 20 in the three preceding weeks; of these, five resulted from measles, five from whooping-cough, two from diphtheria, one from "fever," and one from diarrhœa, but not any from small-pox or from scarlet fever. These 14 deaths were equal to an annual rate of 1·9 per 1000, the death-rates last week from the principal infectious diseases being 1·7 in London and 1·3 in Edinburgh. The five fatal cases of measles showed a slight increase over the number in the preceding week. The deaths from whooping-cough, which had been ten, six, and 13 in the three preceding weeks, declined again last week to five. Two fatal cases of diphtheria were registered, against one in the preceding week. The 221 deaths in Dublin last week included 43 among children under one year of age and 58 among persons aged 60 years and upwards; the deaths of infants were slightly in excess, while those of elderly persons showed a marked increase over the number in the preceding week. Eight inquest cases and six deaths from violence were registered, and 91, or more than a third, of the deaths occurred in public institutions. The causes of 14, or more than 6 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel O. R. Bartlett, Hounslow, holds himself in readiness for duty at Sierra Leone. Major O. R A. Julian, C.M G., is appointed to the Thames District for duty. Lieutenant-Colonel H. L. E. White joins at Woolwich for duty as recruiting medical officer. Major V. H. W. Davoren is ordered to the Western District for [illegible] Macdonald, A M.R., assumes [illegible] dquarter Staff, Edinburgh, vice [illegible] A.M.R.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major J. G. Saville to be Surgeon-Lieutenant-Colonel (dated March 15th, 1904). Surgeon-Major F. H. [illegible] landers), to be Surgeon-Captain (dated March 26th, 1904).

THE WAR IN THE FAR EAST.

The *Sciet*, a Russian journal, says that in a short time several Roentgen-ray apparatus will be sent forward to the front for use on behalf of the wounded.

According to the *Novoe Vremya*, the government zemstvo (council) of Moscow in allocating funds decided to institute a series of medical supply depots on the route followed by the army and the zemstvos of other governments have decided to assist in the organisation of this service.

Amongst the questions affecting the supply of materials to the hospitals, &c, at the seat of war, says the *Novoe Vremya*, there is that of furnishing good drinking water, which raises the question of a large supply of ice. The executive committee of the Red Cross Society has decided to take measures to supply the hospitals, &c., in Southern Manchuria with ice-making machines. At the same time large provisions of natural ice will be made at various points.

A note in the *Novoe Vremya* says that half of the students at the Women's Medical Institute have expressed their readiness to go to the Far East. It is stated that at this institute over a thousand women are zealously studying in all branches of medical knowledge. The establishment is supported by voluntary contributions and without aid from the Government. The hopes which had been entertained that the Government might be able to lend material aid have naturally now been weakened by the outbreak of war.

The under-mentioned gentlemen have been appointed dental surgeons to the troops from April 1st, 1904, under the conditions already announced: C. D'E. Foubert, L.D.S. R.C.S Irel.; A. Rice, L.D.S. R.C.S Eng.; H. G. H. Cowell, L.D.S. R.C.S. Edin.; H. C. Toone, L D.S. R C.S. Eng.; J. B. Gillies, L.D.S. R.C.S. Eng.; C. W. Randall, L.D.S. R C.S. Eng.; A. F. A. Howe, L.D.S. R.C.S. Eng.; and J. K. Clark, L.D.S R C.S. Eng.

Inspector-General of Hospitals and Fleets (retired) A. B. Messer, honorary physician to His Majesty the King, has been awarded the Greenwich Hospital pension of £100 a year, rendered vacant by the death of Inspector-General William Macleod, C.B.

Lieutenant-Colonel L. A. Waddell, C.I.E., I.M.S, has been appointed Principal Medical Officer and Antiquarian with the Thibetan Mission and escort.

Correspondence.

"Audi alteram partem."

NEUROTIC HEREDITY AND CANCER.

To the Editors of THE LANCET.

SIRS,—Although cancer is not especially frequent amongst asylum populations, yet the instances of its occurrence (visible or verified by necropsy) which have come under my notice in asylums have been in cases of hypochondriacal melancholia and imbecility, psychoses in which neurotic heredity is seldom or never absent. In private practice neuropathic conditions in cancerous patients or their near relatives are met with or heard of so frequently in comparison with the apparently direct transmission of cancer that one is impelled to believe that the real hereditary connecting link between the cancer of the parent and that of the offspring is not cancerous but neurotic. Taking in the first place those of my own cases in which the cancer was distinctly visible or tangible and otherwise perceptible (of cervix uteri, pharynx, neck, or tongue), and the diagnosis, moreover, confirmed by other medical men, I find I have notes of six cases in which either the patient or a near relative (son, daughter, father, mother, brother, or sister)—sometimes the patient and several relatives—presented one or more of the following conditions: hysteria, neurasthenia, transitory delusional and hallucinatory attacks, general paralysis (in a male patient's father), eccentricity, weak-mindedness, paraplegia, spastic paraplegia, marked asymmetry, malformation of the ears and other features, opaque nerve fibres, phthisis, or anæmia. Then five other of my cases (gastric, vesical, or renal cancer) presented in themselves or the near relatives eccentricity, delusions of suspicion, extreme timidity, migraine, severe neuralgia, excessive intolerance of pain, strabismus, malformation of the ears, or transverse fissuring with puffiness of the lips.

Straban (quoted by Talbot, "Degeneracy,") gave an account ("Marriage and Disease") of a family of which the father died from gastric cancer at 60 years of age, a paternal uncle cut his throat at 56 years of age, and the mother died from a fit at 54 years of age. There were seven children; of these one died from cancer, one from convulsions in infancy, and three from phthisis, one was epileptic (had been twice in asylums and was married, without issue), whilst only one was sane and fairly healthy. Referring to history one finds illustrious victims of cancer who have been undoubtedly neurotic. Napoleon is an instance in point. Witness his epileptic fits, his window-counting obsession or obsidional impulse, and his intense egoism, not to speak of his "star" and his "familiar" which may have been mere clap-trap. Other illustrious personages who have died from cancer have had relatives eccentric, epileptic, suicidal, paralytic, or periodically insane.

Let us now reverse the process and look from the neurotic subject to the cancerous relatives. A young adult female patient of mine who suffered from severe though curable chorea was descended from grandparents two of whom (the maternal) died from cancer; her mother is neurotic, eccentric, and the subject of chronic eczema, and her maternal aunt has had a cancerous breast removed. Two female patients suffering from dementia præcox sprang from a grandfather who died from gastric cancer at the age of 60 years, whose brother and sister died at a later age from senile dementia, and of whose sons one was a ne'er-do-well, three were alcoholic (two of whom died from phthisis), and one was kyphotic. A female patient, aged 62 years, who has nearly all her life suffered intensely from symptoms which she prefers to call "nerves"—viz., pains and paræsthesiæ of all sorts, with fancies that she is affected with any fatal disease of which she hears, so that in some of her periodical exacerbations her condition has bordered on agitated melancholia—had a brother who died from cancer of the throat. Her daughter and sons are distinctly neurotic and eccentric. Her daughter has four children, each of whom is, or has been, affected with one or more of the following—viz., chorea, convulsions, nystagmus, chorea major, flightiness, unruliness, dwarfism, congenital cataract, aural and ocular malformations, dorsal hairiness, psoriasis, molluscum, and rickets.

Talbot ("Degeneracy") quotes from Kiernan[1] a description of a degenerate family of which the following are some of the items. The progeny of a nymphomaniac and her strabismic migrainous cousin were a ne'er-do-well, a periodical lunatic, a dipsomaniacal daughter who died from gastric cancer, deformed triplets who died at birth, an epileptic imbecile son, a hermaphrodite, a prostitute, a double monster born dead, a normal daughter, and a paranoiac son. The progeny of a female sexual invert and her cousin, a versifier, soon divorced, were a daughter with periodical nymphomania, who had some artistic and literary ability, and a son who died from gastric cancer. The progeny of a normal woman and her ataxic husband were a dead-born sarcomatous son, a gouty son, twin boys paralysed in infancy, twin girls normal, a normal son, and a son ataxic at 14 years of age.

As collateral evidences may be adduced: 1. The marked relationship between the presence of nerves and the spread and limitation of cancer in the skin and muscles, as shown by Mr. G. Lenthal Cheatle[2] (The common origin of the epidermis and the great nervous centres from the epiblast is worth bearing in mind in this connexion.) 2. The fact observed by Mr. D'Arcy Power[3] that after operation recurrence is diminished in frequency and postponed by change of scene and surroundings, which is well known to be a useful measure in the treatment of diseases of the nervous system. 3. The beneficial action of radium on some malignant and certain nervous diseases.[4] 4. The simultaneous increase of cancer and functional nervous diseases in civilised communities. 5. The markedly greater incidence of cancer in certain urban (Australian metropolitan) than in the surrounding rural districts.[5] (Syphilis, alcoholism, and tuberculosis are much more probably co-results with cancer of urban life than causes of the disease.) 6. The rarity of cancer as well as of nervous diseases amongst savages.

It may be objected that animals suffer from cancer. But are they not also subject—at all events, those of which we know most—to chorea, convulsions, paralysis, and hydrophobia? The observations here submitted are too few to be conclusive, but I think they are sufficiently numerous and relevant to warrant investigation in this direction. Those who are best fitted to offer evidence on the point are private practitioners who actually *know* the patients and their near relatives. Should it be proved conclusively that the neurotic—not necessarily the degenerate—constitution is a predisponent of cancer it hardly needs saying that the knowledge of this relationship would be of great service in the diagnosis of the early stages and perhaps to some extent even in the prophylaxis of that disease.

I am, Sirs, your faithfully,

Liverpool, March 16th, 1904. JAMES SHAW, M.D. R.U.I.

PS.—That cancer is, or appears to be, most common in districts which are very well watered and wooded is by no means an insuperable bar to the acceptance of the view that neurotic heredity is the chief predisposing cause of the disease. Such districts must naturally include deep secluded valleys where insalubrious climatic conditions and the custom of intermarrying closely tend to accentuate and to perpetuate any original neurotic taint.—J. S.

PARTIAL RESECTION OF THE ASTRAGALUS FOR TALIPES VARUS.

To the Editors of THE LANCET.

SIRS,—I am not aware if the undermentioned simple modification of Lund's operation for talipes varus has been tried before. In September, 1902, I was asked to see a boy, aged eight years, who since the age of three years had been unable to walk (even to school) I found a typical case of talipes varus. The lad was placed under chloroform by my assistant and after tenotomy of the tibialis anticus and posticus I made an incision through the skin over the dislocated portion of the astragalus and drawing the tissues on each side I removed a wedge-shaped piece of this bone as large as possible but leaving the articular surfaces (the apex being downwards). After tenotomy of the tendo Achillis I dressed the wound and put on a splint of my own construction. The plantar fascia I left intact as I considered in so young a subject that it would stretch. The wound healed rapidly. The boy used a pair of Messrs. Down Bros.' boots until they wore out, since when he has used ordinary ones. He can now run about without trouble. I would draw your notice to the following points: (*a*) the ease with which the operation was done in a cottage, taking less than 30 minutes; (*b*) the fact of it being practically bloodless; and (*c*) the deep restraining ligaments being apparently reached without difficulty. I have not had an opportunity of performing this operation again but thought perhaps that someone more fortunately situated might like to try it.—I am, Sirs, yours faithfully,

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[1] Medicine, September, 1897.

[2] Brit. Med. Jour., Dec. 12th, 1903.

[3] Quoted in the Hospital, Dec. 19th, 1903.

[4] Dr. A. Darier: THE LANCET, March 5th, 1904, p. 652.

[5] Dr. G. Cooke Adams: THE LANCET, Feb. 13th, 1904, p. 422.

Alfred W. Hayles,
Surgeon to the Owmbran Colliery, &c.
March 25th, 1904.

PREVENTION OF INFECTIOUS DISEASE IN BATH.

To the Editors of The Lancet.

Sirs,—In his letter in your issue of March 26th, p. 896, Dr. Preston King has shifted somewhat from the very decided position he took up in his previous communication, inasmuch as he now admits that if Section 126 of the Public Health Act, 1875, be taken alone my contentions are quite right.

It was his definite statement to which I chiefly took exception, because I was satisfied he could not support it by *any section of any Act of Parliament.* I know that many others share his opinion in this matter, but I entirely disagree with this view of the question and as the point involved seems to me to be an important one I will give a few of the reasons upon which I base the opinion I hold. In the first place I will point out that the word "dangerous" does not appear in the Notification Act. Had this been so Dr. King's case would have been a much stronger one, but the absence of that important word, in my opinion, materially weakens his argument. Again, the objects of Section 126 and the Notification Act are not altogether similar. The sole purpose of Section 126 is to prevent the spread of dangerous infectious disorders, whereas the primary object of the Notification Act is to provide *for* the notification of infectious disease to local authorities. Of course, I am aware that its ultimate object is the prevention of the spread of infectious diseases. The Notification Act gives power to local authorities to make diseases notifiable for temporary periods. This has been frequently taken advantage of in the case of chicken-pox. Now chicken-pox is not scheduled because it is a dangerous infectious disorder but because it very much resembles mild and *modified forms of small-pox. It is simply done* to obtain information and to enable the authority to investigate these cases and to secure as far as possible the notification of all cases of small-pox.

Does a step of this kind on the part of a sanitary authority

Act was adopted or not and according to whether other diseases than those mentioned in the Act were included therein. Surely it cannot be argued that an adoptive Act could define and modify in a district in which it was not in force an important section of the Public Health Act, which Act is the foundation of the whole sanitary administration of the country. In 1899 the Notification Act was made compulsory throughout the country except in Huddersfield. This Act not being in force in Huddersfield, has Section 126 a different application in that borough?

It seems to me most unlikely that erysipelas can be held to be a dangerous infectious disorder and the so-called puerperal fever is only dangerous and infectious to lying in women. It is neither dangerous nor infectious so far as the general public are concerned. Consequently if Section 126
applies at all to this disc
very partial and limited cha
legislature included in the
not dangerous infectious d
term and did not include therein diseases that admittedly bear those characteristics, how can it be held with any weight of reason or force of argument that Parliament intended the Notification Act to define, to modify, and to limit the application of Section 126 of the Public Health Act? The vagueness is in the assumption that Parliament intended this rather than in the meaning of the term "dangerous infectious disorder."

I am, Sirs, yours faithfully,
J. T. Neech.
Halifax, March 28th, 1904.

SYPHONAGE AND HYDRAULIC PRESSURE IN THE LARGE INTESTINE.

To the Editors of The Lancet.

Sirs,—I gather from Dr. Keith's remarks in a recent number of The Lancet that he has seen only the brief account given in the reprint, with notes, of my article in the *Edinburgh Medical Journal*, but much additional evidence will be found in my book (Churchill). A large part of Dr. Keith's criticism is directed against the existence of tonicity in the longitudinal bands, but all of this falls to the ground, for the fact has been confirmed by actual observation. I used glass tubes in most of my experiments because I wanted to see what was going on, but I obtained precisely the same results with a length of old garden hose, bent to imitate the flexures of the colon, and I contend that the concertina like shortening of the bowel and other by-effects of the tonic contraction would give a rigidity at least equal to this. Moreover, I pointed to many clinical and other phenomena which are perfectly explained by the syphon hypothesis and by no other.

Arguments drawn from observations in animals have but little bearing upon the case, for the simple reason that the colon is horizontal. Were this the case in man peristalsis, though handicapped by the presence of saccules and the absence of any true circular fibres, would probably suffice. To take a case of orthopnœa, of perhaps years' duration, how can peristalsis of a large-bored and feeble ascending colon suffice alone to propel the intestinal contents? Dr. Keith also seems to question my point that the ileo-cæco-colon is constructed on hydraulic lines, but surely this is indisputable and has only to be pointed out to be at once recognised. It has, at any rate, the endorsement of a large number of physicists with whom I have been in communication.

I am, Sirs, yours faithfully,
R. W. Leftwich.
March 26th, 1904.

A DISCLAIMER AND PROTEST.

To the Editors of The Lancet.

Sirs,—I have just received by post a book entitled "*Fruitless Experiment*," edited by Stephen Smith, M.R.C.S., and published by the London Anti-Vivisection Society, in which my name appears as a contributor. I should esteem it a favour if you would allow me to state that the article in question is published without my knowledge or consent and that I strongly object to the unauthorised use of my name and work in this connexion.

I am, Sirs, yours faithfully,
William Murrell.
Welbeck-street, W., March 28th, 1904.

THE INSTITUTE OF MEDICAL SCIENCES APPEAL AND SIR DONALD CURRIE'S GIFT.

To the Editors of The Lancet.

Sirs,—Your leading article of last week, commenting on the munificent gift of Sir Donald Currie to the school of advanced medical studies about to be formed in connexion with University College Hospital contains the following: "It is possible that Sir Donald Currie's gift will indirectly postpone the completion of the scheme of building new laboratories at South Kensington."

We hope and believe that, on the contrary, it will, by drawing attention to the needs of the University and its medical faculty, stimulate other donors to come forward and thus enable the Senate, now that the success of the scheme for the incorporation of University College is so nearly assured, to carry through the second important proposal which it has put forward—viz., the founding of an institute of medical sciences at South Kensington, the necessity for which is in no way affected by Sir Donald Currie's gift. A large sum is still required for this purpose and donations will be gratefully acknowledged by

Yours faithfully,
J. K. FOWLER, } Honorary treasurers, Institute
H. T. BUTLIN, } of Medical Sciences Fund.

35, Clarges-street, W., March 29th, 1904.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Plague Epidemic: Continued Rise in Mortality.

THERE has been a steady increase in the number of deaths from plague throughout India during the past three weeks and the weekly total is approaching 30,000. The principal increases are in the Punjab and the Bombay Presidency but the disease is raging in the United Provinces and is developing in Kashmir. Bombay city records about 100 deaths a day and the recrudescence is rapidly developing in Calcutta. Karachi city is again very severely attacked and compared with other places the outbreak is widespread and virulent. Both Calcutta and Bombay city seem to show this year a lateness in the annual recrudescence, but while this recurrence in Calcutta has been hitherto very regular in season there has been a tendency to develop later each year in Bombay. In Karachi the outbreaks have generally developed in the teeth of the hot weather. Although there is no reported plague in Madras city the general mortality is very high (45·7 per 1000) and there is no epidemic of cholera or small-pox to account for it. The ten years mean is 34 9. The first division of the city shows a death-rate of 50 per 1000. The sanitary administration of this city is behind the times and the commissioners have recently declined to allow the health officer to meet those of Bombay and Calcutta for consultation upon an improved system of death returns. There is no municipal laboratory in Madras city, which is put down to poverty but which can only be explained by indifference in sanitary matters.

The health officer's report for Bombay during the last quarter of 1903 shows a death-rate of 36·76 per 1000, notwithstanding that plague was much less than in the corresponding week of the previous year. The municipal dispensaries seem to be working well. The registration of births and the vaccination of infants seem to be very defective in Bombay but in this respect Calcutta is just as bad, if not worse.

March 10th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Diploma in Public Health at the University of Liverpool.

THE University of Liverpool has enlarged its sphere of usefulness by the institution of a diploma in public health. The diploma will be awarded only to candidates who shall have passed the prescribed examination and before entering for any part of it they must have held for not less than 12 months a registrable qualification in medicine, surgery, and midwifery. They must also present satisfactory certificates of having attended approvedcourses of study. The examination for the diploma will be held once yearly, at the end of the summer term. The first examination will take place at the end of the summer term, 1904. The examination will be conducted in two parts and candidates may present themselves in Parts I. and II. separately or at the same time, provided that no candidate will be admitted to Part II. unless he shall have satisfied the examiners in Part I. No candidate's name will be published until he has been successful in both examinations. Prior to admission to the examination he must have presented satisfactory evidence (1) of having attended, during at least three months, an approved course of instruction in public health at the University; (2) of having attended (after obtaining a registrable qualification) during at least six months practical instruction in the laboratories of the University in chemistry as applied to public health, bacteriology, and the pathology of those diseases of animals which are communicable to man; (3) of having attended during not less than three months (after obtaining a registrable qualification) the clinical practice of an approved hospital for infectious diseases; (4) of having (after obtaining a registrable qualification) during six months (of which at least three months shall have been distinct and separate from the period of laboratory instruction required under 2) been diligently engaged in acquiring a knowledge of the duties, routine and special, of public health administration under the supervision of a medical officer of health who is also a teacher in the department of public health of a recognised medical school; or (1), in England and Wales, the medical officer of health of a county, or of a single sanitary district having a population of not less than 50,000, or a medical officer of health devoting his whole time to public health work; or (2), in Scotland, a medical officer of health of a county or counties or of one or more sanitary districts having a population of not less than 30,000; or (3) in Ireland, a medical superintendent officer of health of a district or districts having a population of not less than 30,000. The subjects of examination in Part I. shall comprise chemistry, microscopy, physics, and engineering, all as applied to public health, together with practical pathology and bacteriology. Part II. will include the etiology of disease, sanitary law and administration, vital statistics, sanitary reporting, and practical examination in infectious diseases. The fee for the examination for the diploma shall be £5 5*s*.

University of Liverpool: First Degree Ceremony.

The University of Liverpool conferred its first degrees on March 25th; the occasion was one not merely of interest but also opened a new chapter in the academic record of the city. In the absence of the Chancellor (the Earl of Derby, K.G.) the ceremony was performed by the Vice-Chancellor (Principal A. W. W. Dale). The degrees conferred were those of bachelor of medicine and bachelor of surgery, the recipients of which were Mr. Stanley Brown, Mr. William E. Cooke, Mr. Arthur Hendry, and Mr. Herbert R. Hurter. The Vice-Chancellor, addressing the new graduates, said they would stand first on the roll that now opened. Their names would head a list which the years as they passed would lengthen. But even now they would not stand alone for any length of time, for the University had extended an invitation of incorporation to graduates of the Victoria University of Manchester who received their teaching and training in Liverpool and the manner in which that invitation had been accepted was enough to prove its wisdom. Already more than 300 applications for incorporation had come in and almost every post was adding to the number. Until those letters reached him he had hardly realised how much work the old college had done, how much its influence had spread, and to what remote continents and under what strange skies. The four graduates were presented by the Dean of the medical faculty (Professor B. Moore) to the Vice-Chancellor who, in formally admitting them, said: "By virtue of the authority vested in me I admit you to the degrees of bachelor of medicine and bachelor of surgery." The ceremony took place in the Senate room of the University.

Liverpool Chamber of Commerce: Appointment for Professor R. W. Boyce, F.R.S.

At a meeting of the committee of the African trade section of the Liverpool Chamber of Commerce held on March 16th it was resolved, on the motion of Sir Alfred Jones, K.C M.G. (the chairman of the section), that Professor Rubert W. Boyce of the University of Liverpool and Dean of the Liverpool School of Tropical Medicine should be appointed as a special advisory member of the committee in matters relating to health and sanitation. Professor Boyce had taken a great interest in the sanitation of the West Coast of Africa and his appointment as a special member of the African trade section of the Chamber of Commerce is recognised as a fitting tribute to his energies in that direction.

Presentation to Dr. Thomas Clarke, J.P.

An interesting ceremony took place at the town-hall on March 23rd, the occasion being a presentation to ex-Alderman

Dr. Thomas Clarke from his former colleagues of the city council, from which body he retired in November of last year. The Lord Mayor, who was accompanied by the Lady Mayoress, made the presentation which consisted of a richly chased silver Georgian tea and coffee service and salver and on the latter was engraved the following inscription: "Presented to Alderman Thomas Clarke, J.P., from his colleagues in the city council as a mark of their high esteem and personal regard upon the occasion of his retirement. November, 1903" Dr. Clarke was a member of the city council for 11 years and during that time he occupied the chairmanship of the hospitals committee. When he began his work in connexion therewith the accommodation in the city hospitals was limited to about 350 beds, now there was accommodation for close on 1000 patients. Dr. Clarke, in returning thanks for the gift, said the advance which had been made in the manner in which cases of infectious disease were treated by public bodies was very remarkable and that Liverpool was now, or shortly would be, in a position to meet all possible requirements and would take a very high place among the cities of the Empire in regard to the ample accommodation provided for dealing with those diseases.

Health Committee and Vaccination.

The health committee of the city council passed a resolution on March 17th informing the Local Government Board of its approval of the Revaccination Bill now before Parliament and requesting the Board to do all in its power to secure its becoming law.

Cheshire Hospital Scheme.

The joint Mid-Cheshire hospital authority decided to apply to the Local Government Board for power to borrow £14,500 for the erection of an isolation hospital for Northwich rural and Northwich, Winsford, and Middlewich urban districts. The entire scheme is estimated to cost about £16 000, one-third of which will be borne by the Cheshire County Council. The authority is the first joint hospital committee created under an order in Cheshire.

March 28th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Health Report of the Sanitary Authority of the Port of Cardiff.

Dr. Edward Walford, the medical officer of health of the Cardiff Port sanitary authority, has just issued his annual report and a perusal of its pages reveals the indebtedness not only of Cardiff but of the adjacent districts to the sanitary staff of the authority, for it is due to its vigilance that cases of infectious disease upon incoming vessels are detained at the port of Cardiff. During 1903 five cases of small-pox, 12 of typhoid fever, and one of diphtheria were thus detained and treated in the Cardiff borough isolation hospital. No cases of plague or of cholera were brought into Cardiff, although 20 vessels entered the port from places which were either infected, or suspected of being infected, with plague, and the medical officer of health examined in accordance with the Local Government Board regulations 513 persons on the suspected ships. In connexion with these 20 vessels the rat-catchers employed by the port sanitary authority destroyed 1405 rats, either in traps or by sulphurous acid gas, the carcasses being burned. Cardiff is well provided with an isolation hospital, situated on Flat Holme Island, in the middle of the Bristol Channel, for cholera, yellow fever, or plague patients. There is accommodation for 16 patients in three wards and there is ample room on the island for the erection of tents or huts A crematorium is attached for the destruction by burning of the bodies of persons dying in the hospital. The institution belongs to, and is administered by, the Cardiff authority but the Bristol authority has the use of the crematorium while the Barry and Newport authorities pay an annual sum of £40 and the Bridgwater authority pays an annual sum of £20, in return for which patients are received from the three districts named and charges are made of three guineas a week for the first patient received and two guineas a week for every additional patient and a further sum of seven guineas in respect of the cremation of the body of any of these patients who die in the hospital. Of the 11,674 vessels which entered the port during 1903 no fewer than 8072 were inspected by Dr. Walford's staff of six inspectors and 1228 had one or more sanitary defects. Dr. Walford states that shipowners and masters willingly carry out the recommendations of the port sanitary authority, with the result that the proportion of vessels having sanitary defects amongst those which frequent the port of Cardiff has decreased in a very marked degree. The Cardiff and county public health laboratory rendered useful aid in examining bacteriologically the drinking-water from 66 vessels. In 46 instances the samples were found to be impure.

New Workhouse at Newport.

The new workhouse which has been erected by the Newport (Mon.) board of guardians was formally opened on March 26th. The population of the Newport union is approaching 120,000 and the accommodation provided in the new buildings is for 600 inmates. The total cost is £58,900, a sum considerably in excess of the original estimate of £37,000 made four years ago. The ten blocks for the inmates include four for men, four for women, one for eight married couples, and one for infants. Each of these blocks has a separate yard and garden. There are telephones between the principal blocks and most of the buildings are lighted by electricity.

Vagrancy in Monmouthshire.

The Monmouth board of guardians has been making successful efforts to deal with the large number of able bodied tramps who pass through the county. Permission was obtained last year from the Local Government Board to increase the task of stone breaking from four to six hundredweights and it was decided that every tramp who refused to complete his task should be dealt with by the justices. During the past six months an average of six men monthly have been imprisoned for periods varying from 14 days to one month and a marked diminution in the number of tramps calling at the workhouse has taken place. In the first quarter of 1903 the number was 1073, but during the same period of the present year it was only 577.

Keynsham Rural District Health Report.

Mr. J. O. Heaven, the medical officer of health of the Keynsham rural district, which lies between Bristol and Bath, reports a death-rate of 9 52 per 1000 among a population of 8507 persons during 1903. This is lower than any death rate recorded in the district during the past ten years. There was only one death from infectious disease during the year, the case being one of scarlet fever.

March 28th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

University of Glasgow: New Appointment.

THE Glasgow University Court has at a recent meeting appointed Mr. Frederick Soddy, M A. Oxon., lecturer on physical chemistry for five years, the appointment to date from Oct. 1st next. Mr. Soddy is well known for his work in radio-activity which he conducted in association with Professor Rutherford at McGill College, Montreal At present he is engaged with Sir William Ramsay, K.C.B., LL.D., at University College, London, in a research on the gases produced by radium.

Commemoration Day at the University of Glasgow.

Arrangements are now practically completed for the celebration of the first commemoration day of the University of Glasgow. The date is fixed for Tuesday, April 19th, which is also graduation day In the forenoon a Divine service will be held in the Bute Hall, which will be followed by an oration by Sir William Ramsay, of University College, London, on Joseph Black, the lecturer in the old College on chemistry from 1756 to 1766 and the enunciator of the doctrine of latent heat. There is a peculiar fitness in Sir William Ramsay delivering this oration as he himself began his brilliant career in chemistry as one of the teaching staff at Gilmorehill. At the graduation ceremony which is to follow the oration Sir William Ramsay, among others, is to receive the honorary degree of doctor of laws. In the evening a banquet is to be held in the Bute Hall, at which Sir William Ramsay will be entertained as the guest of the evening. This banquet is open to graduates and other members of the University. As there will be a great number of applications for tickets these will be balloted for a few days before the banquet.

Closing of the Winter Session at Glasgow.

The closing of the winter session of the University, Anderson's College Medical School, and St. Mungo's College took place on March 24th. At Anderson's College the medals, prizes, and certificates were presented by Lady Primrose, who was accompanied by the Hon. the Lord Provost (Sir John Ure Primrose, Bart.), while at St. Mungo's College a similar duty was performed by Mr. Hugh Brown, president of the governors.

University of St. Andrews.

At the annual ceremonial of graduation, held on March 29th, the degree of LL.D. was conferred (*honoris causâ*) on Sir Charles Gage Brown, K.C.M.G., M.D.

March 29th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Irish Poor-law Medical Service.

THE *Irish Times* has always shown itself a friend to the Irish Poor-law Medical Service and has pressed forward its claims and referred to its grievances again and again. THE LANCET has for years been in sympathy with the underpaid medical officers who take care of the poor in Ireland. The *Irish Times* of March 28th contains a leading article in which it is reiterated that so far the dispensary and workhouse medical officers have cried aloud in the wilderness without effect and that between the Local Government Board on the one hand and the local boards of guardians on the other the grievances of the Poor-law medical officers of Ireland remain unredressed. A special commissioner from the *British Medical Journal* has recently visited Ireland and in his report, after specifying the notorious grievances of this service, which have appeared in print elsewhere for years, makes the following bold and somewhat revolutionary suggestion. He advises the creation of the post of director-general of the State medical service in Ireland who would have under him four provincial inspectors-general and 20 county inspectors; that the workhouse infirmary service and the dispensary service should be amalgamated; and that the medical officer should, after a certain date, enter the service by competition. These proposals, however much their realisation might be desirable, are not, it occurs to me, likely to lead to any practical result. The Irish Medical Association has failed to obtain any redress of the grievances of the Poor-law medical officer as regards frequently inadequate salary, holiday leave, sick leave, and fixed salary or superannuation. Nobody has doubted the justice of these claims. It seems impossible to do so, but the local boards of guardians have such matters practically in their hands and much injustice results. The Local Government Board of Ireland has really done nothing for the oppressed medical officers although it is a State service and under State control. The Irish Medical Association has not succeeded in doing anything although it can influence many Members of Parliament. Unfortunately its own members seem "more Hibernico" at variance and the necessary pressure has not been exerted.

Royal Victoria Hospital, Belfast.

At the annual meeting of the friends of this charity, which was held on March 22nd, Mrs. W. J. Pirrie being in the chair, a very satisfactory report was received from the construction committee. The gross total for the building fund was £108,994 and the expenditure was £125,961, leaving a deficiency of £16,967. A portion of this was paid by Mr. and Mrs. Pirrie as the work progressed and they also gave a large sum towards the furnishing. At the last meeting of the construction committee it was found, however, that there was still a debit balance of about £11,000, which Mr. Pirrie, in the most generous way, said that he and his wife would make good. This magnificent generosity of Mr. Pirrie has relieved the construction committee from a great responsibility. A very hearty and cordial vote of thanks, on the motion of the chairman of the board of management (Mr. W. Crawford, J.P.), seconded by the President of Queen's College, and supported on behalf of the medical staff by Professor J. W. Byers, was then passed to Mr. and Mrs. Pirrie. It is to their untiring industry and unselfish devotion that there is now such a complete hospital in Belfast, so advantageous for the sick and so valuable for the clinical school. In addition to their own noble gifts (upwards of £20,000), and the trouble and the time spent in collecting £100,000 for building and £50,000 as an endowment fund, Mr. and Mrs. Pirrie have during the past seven years laboured ungrudgingly in the general furtherance of the scheme. In her speech, when moving the adoption of the annual report, Mrs. Pirrie urged the claims of the hospital for further support so that all the beds might be utilised.

Ulster Hospital for Women and Children.

At the annual meeting of the friends of this charity on March 25th it was reported that 221 children in the wards and 1859 in the out-patient department were treated, while in the women's department there were 84 intern and 373 extern cases. There were four intern maternity and 147 extern labour cases. All the debt on the hospital has been wiped out and there is a balance at the bank of £527.

Ulster Medical Society.

The seventh general meeting of this society was held in the physiological laboratory of Queen's College on March 24th, Dr. J. Campbell, the President, being in the chair. Professor T. H. Milroy gave a microscopic demonstration of Ascending Degeneration in the Spinal Cord after Section of the Posterior Sacral Roots. He also showed a Method of Demonstrating the Action of Drugs upon the Blood-pressure and upon the Volume of Organs. Dr. J. A. Milroy read a paper on Some Products of the Action of Reducing Agents upon Blood Pigment. Professor J. L. Smith read a paper on the Infectivity of Typhoid Fever. Pathological specimens were also shown by various members of the society.

Death of Mr. James Stuart, M.D. R.U.I.

Dr. James Stuart of Ballymena died from pulmonary tuberculosis on March 23rd in London, at the residence of his friend, Dr. John Simpson, in Carleton-road, Tufnell-park, N. Dr. Stuart studied at Queen's College, Belfast, and graduated as M.D. of the Queen's University in 1877. He afterwards settled in Ballymena where, by his skill, kindly nature, and extreme attention to work, he developed a very large practice. He was buried in the New Cemetery, Ballymena, in the presence of an immense number of sorrowing friends.

March 29th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Motorists' Fractures.

AT the meeting of the Academy of Medicine which was held on March 15th M. Lucas-Championnière gave an account of fractures which are peculiar to those who deal with motorcars. Fracture of the forearm, for instance, is particularly common. It is produced in the following way. When the handle of the starting gear is turned in the ordinary manner a "back fire" is wont to occur and so the handle is violently reversed. The main cause of this accident is that the chauffeur has omitted to retard the sparking before turning the handle of the starting gear. If the chauffeur holds the handle of the starting gear too tightly so that he has no time to disengage the pawl which connects it with the axle of the motor he may fracture his radius by tearing (*arrachement*). If, however, he holds it lightly and stops turning at the proper moment he can throw it out of gear by a simple turn of the wrist. There are also cases on record where the handle even when left to itself reverses suddenly and comes into violent contact with the arm causing a fracture by direct violence. The leg may also be fractured in the same way. As a rule the fractures in question are caused by *arrachement*, but some are due to direct violence. M. Lucas-Championnière has studied with great care the mechanism of these fractures. According to him the *arrachement* is due to the sudden reversal of the wrist and a violent strain on the ligaments connecting the hand with the lower end of the radius. All these fractures heal well under gentle movement and massage. The paper was illustrated by three radiographs.

Honours to Professor Cornil.

The friends and pupils of Professor Cornil have taken the triple occasion of his resignation as physician to the hospitals, of his scientific jubilee, and of his promotion to the rank of officer in the Legion of Honour to give him a gold medal designed and executed by the sculptor, M Pillet The medal bears a head of Professor Cornil on the obverse and on the reverse the graceful figure of a woman as symbolising science while in the background appears the elevation of the Hôtel Dieu The 200 subscribers to the medal met for a banquet at the Grand Hotel on March 8th, Professor Debove, Dean of the Faculty of Medicine being in the chair One after another the President and such well known men of science as Franck Chauveau, Bar, Berger, Blondel Chaumat, Léon Labbé, and others spoke in honour of their master whose reply was couched in words at once dignified and touching in their simplicity There is no need to give a detailed description of Professor Cornil s work to the readers of THE LANCET All the world knows that to him is due the renaissance in France of pathological histology Thanks to him this branch of science has become one of the glories of French medicine Professor Cornil it was too who organised and handed over to his pupil Professor Chantemesse the principal French bacteriological laboratory, exclusive of the Pasteur Institute In collaboration with M Ranvier he has written many excellent treatises on medicine and during the 20 years that he has sat in the Senate he has been the cause of the passing of the most important Acts dealing with hygiene, the Assistance Publique, and higher education

The National Periodic Congress of Gynæcology, Obstetrics, and Pediatrics

The fourth session of the above named congress will meet at Rouen from April 5th to 10th The president is M Richelot, *agrégé* professor at the faculty, surgeon to the Paris hospitals and member of the Academy of Medicine M Richelot will also be president of the gynæcological section, while the section of obstetrics will be presided over by M Guillemet, professor in the Nantes School of Medicine, and that of pediatrics by M Kirmisson, member of the Academy of Medicine Nine chief subjects are put down for discussion Any medical man, Government or other official (*administrateur*) philanthropist student in medicine, or midwife may attend the congress Names and subscriptions should be sent to Dr Albert Martin, professor at the Rouen School of Medicine

A New Professor

Dr Paul Reclus, an *agrégé* professor, surgeon to the hospitals, and member of the Academy of Medicine, has just been appointed to the chair of operative surgery and surgical apparatus Dr Reclus, who was born in 1847, was *externe* to the Paris hospitals in 1868, in 1871 he won a medal and was appointed *interne* In 1875 he won the gold medal and in 1876 was appointed anatomical assistant at the faculty and took his doctor s degree He won the silver medal for his thesis In 1877 he was appointed prosector, in 1879 surgeon to the hospitals coming out first among the competitors, and in 1880 he was made *agrege* He was laureate of the academy in 1878 and in 1882 won the Godard prize at the institute for his work on syphilis of the testicle In 1895 he was elected a member of the Academy of Medicine Among the many lectures which he has delivered are the free course in clinical surgery delivered at the Broussais the Pitié and the Laennec Hospitals, to the last of which he is attached He has published many important books and papers and his name will be always connected with cystic disease of the breast and with an operation for the establishment of an artificial anus in the iliac region

False Reports as to a Typhoid Fever Epidemic in Paris

The political journals have begun a campaign against the water supply of Paris which is apparently inspired by the personal feeling of certain prominent hygienists against the Director of Public Hygiene and also by some financiers who wish to influence public opinion and the Government in favour of a scheme for supplying Paris with water from the Swiss lakes So at least says the rumour and I give it without assuming any responsibility for it Its existence however, will explain the evident desire to produce a panic As a matter of fact the number of cases of typhoid fever in Paris is barely above the normal for this season of the year Last year the number was 11 per 100 000 while this year the proportion is 14 The total number of cases at present under treatment is 300 20 years ago the proportion of typhoid fever cases was 123 per 100 000

March 29th

BERLIN

(FROM OUR OWN CORRESPONDENT)

Defective School Children

SOME years ago the Berlin school authorities arranged that children who were found to be in some degree defective, though not unable to attend school, should receive instruction in special classes in connexion with the municipal schools All children are regularly examined by the medical officers of the schools and in accordance with their advice the defective ones are selected for the special classes Up to the present time 1300 children have been removed from the ordinary classes, being 0 6 per cent of all the pupils of the Berlin municipal schools According to statistical returns 1 per cent of the children in Germany are defective, so that there probably are still about 0 4 per cent in Berlin whose abnormal condition has not been recognised on examination According to a paper read by Dr Nauratzky before the Berlin Society for School Hygiene the parents as well as the teachers often fail to realise a child's condition mistakes attributed to laziness or to stupidity being often in reality a symptom of defective intelligence As to the causes of the defective state in question Dr Nauratzky found that in about 60 per cent it was due to heredity, especially to alcoholism on the part of the father or mother In about 30 per cent the social condition of the child s family had an influence , among the very poor habitual insufficiency of food interfered with the normal function of the brain The third group included children who had suffered from some exhausting illness before the third year of life. The first group of children was always, and the third group was nearly always, incurable, whilst in the second group the mental functions might return to the normal standard if the child was well fed and well cared for Symptoms of mental defect which ought to be recognised by the teachers were partly intellectual, such as bad memory and slowness of comprehension and were partly moral Children who neither by punishment nor by persuasion can be deterred from habitual untruthfulness, from playing truant, and from infractions of school discipline must always be suspected of mental defect

Medical Qualifications in Germany

According to the official gazette (*Reichsanzeiger*) 1562 medical men became legally qualified during the year 1903—a number considerably greater than during either of the two preceding years in each of which respectively the numbers that passed the State examination were 1432 and 1344 The highest number ever attained was in 1891 when 1570 candidates passed—only eight more than became qualified in 1903 Owing to the overcrowding of the profession it is some consolation to learn that the number of medical students shows a regular though slight decrease during the last few years The number of dental qualifications in 1903 was 162 as in the preceding year

The Antivaccination Movement

The antivaccination movement is as strong in Germany as in England, although the law with respect to compulsory vaccination is much stricter in the former country A journal which denounces vaccination recently asserted that in defiance of the law the children belonging to the Imperial family had never been vaccinated In order to ascertain whether this rumour had any foundation the *Zeitschrift fur Arztliche Fortbildung* applied to Dr von Leuthold, the Emperor s physician in ordinary, who in reply wrote that he was authorised by His Majesty to send the editor a copy of [illegible] by Dr Zunker, the physician [illegible] the successful vaccination [illegible] y s children are certified in accordance with the law

March 29th

QUEEN CHARLOTTE'S HOSPITAL —A grand morning concert in aid of Queen Charlotte s Hospital, Marylebone road, of which Her Majesty Queen Alexandra is patron and the Princess of Wales is vice patron will take place at the Queen s Hall Langham place London, W on Thursday, May 5th at 3 o clock Madame Melba who has kindly consented to sing on this occasion is arranging the programme Tickets £1 1*s* 10*s* 6*d* , and 5*s* , may be obtained from the Social Bureau 30 New Bond street, London, W , and from the secretary of the hospital

Obituary.

DEPUTY SURGEON-GENERAL HENRY CAYLEY, C.M.G., F.R.C S. ENG., I.M.S., A.K.C.,

HONORARY SURGEON TO THE KING.

THE announcement of the death of Deputy Surgeon-General Cayley in last week's papers came as a shock to most of those who were included in his large circle of friends, for it was most unexpected even by many of those who knew him best. Of a spare build, addicted to the joys of the saddle, shooting, and golf, and to most field sports, he led a temperate life which might have been expected to be prolonged for many years. His fatal illness is reported to have been the result of a fall from his horse while on active service in South Africa, on the occasion of which he fractured several ribs and received other injuries. He passed away at Leavesden, Weybridge—to which beautiful neighbourhood he retired on vacating his appointment at Netley—on March 19th in the seventieth year of his age. He was buried at Weybridge cemetery on March 23rd.

Henry Cayley was a scion of the old family of Cayley which was settled at Owby in the thirteenth century, a member of which subsequently purchased the estate of Brompton in Yorkshire and there resided in early Stuart times. His ancestor, Sir William Cayley of Brompton, was knighted by Charles I. and was created a baronet by Charles II. soon after the Restoration as a reward for services and loyalty during the Civil Wars. From this Sir William Cayley the subject of this memoir was but fourth in descent, a rare example of five generations extending over a period of 300 years and one which is mainly accounted for by the late periods in life at which his progenitors entered the bonds of matrimony. Henry Cayley was one of a large family; of his six brothers, the third, Sir Richard Cayley, is an ex-Chief Justice of Ceylon, while the fifth, Dr. William Cayley, is well known as the accomplished physician who has been so many years connected with the Middlesex Hospital.

Henry Cayley was born on Dec. 20th, 1834, and was the fourth son of the late Edward Cayley, J P., and Frances, a daughter of the Rev. Richard Twopeny, M A., rector of Little Casterton in Rutlandshire. At an early age he entered the medical school of King's College Hospital where he proved to be a painstaking and methodical student. At the end of his curriculum, towards the close of the year 1855, when just 21 years of age, he was enrolled as a Member of the Royal College of Surgeons of England. He entered the Bengal army as an assistant surgeon shortly before the Indian Mutiny, served through it, and received the medal when the hostilities were brought to a successful termination. His bent was, however, rather towards the civil than the military side of the great service of which he was a member and, an opportunity occurring, use was made of his special knowledge of diseases of the eye to appoint him to the chair of ophthalmic surgery in the Calcutta Medical College. This appointment he held for many years; the position brought him a large and ever-increasing special practice and great practical knowledge. His skill in the extraction of cataracts and in other operations connected with the eye is still remembered in Calcutta, where his influence in the medical school was great. He was duly elected to a Fellowship of the University of Calcutta. He became a Fellow of the Royal College of Surgeons of England in 1886 and, a year later, on April 29th, 1887, he retired from the Bengal army with the rank of deputy surgeon-general and after a service which extended over a period of more than 30 years. Soon after his return to this country he settled down at Elm Grove, Watford. It was at about this time that he was appointed a member of the Medical Board at the India Office, of which Sir Joseph Fayrer was then the President, but before he finished the usual term of membership, owing to the unexpected death of Dr. D. B. Smith (1889) a vacancy occurred in the Army Medical School at Netley. The professorship of military and tropical medicine was rendered vacant; it was offered to Cayley and was accepted by him. At Netley Cayley had a difficult position to fill: his lectures were rather severely criticised. He practically succeeded to the chair of Surgeon-General Maclean (for Dr. Smith's tenure of the post had been but a short one), whose flow of language and wonderful descriptive power had brought the diseases of the tropics vividly before the young officers in a way that will never be forgotten and is a treasured memory to many. Cayley, although a teacher of considerable experience in India, was not gifted with a good delivery or with any pleasing flow of language, and these circumstances, taken with his rather diminutive stature, quiet, almost shy, manner, and rather low intonation, caused at first a want of appreciation. It was, however, soon found that his lectures were prepared in a most careful and conscientious manner. In respect to his previous opportunities as a teacher it was no fault of his that he was placed in a difficult position at Netley, but it was the fault of a system which could convert, by a touch of the pen, an ex-professor of ophthalmology into a professor of medicine. It is certain that he strove to make himself the master of all modern methods of diagnosis and he followed Dr. Smith's example of spending a considerable period each day in the wards of the hospital and aiding the young officers in the diagnosis and treatment of their cases. In him his colleagues found a loyal supporter on all questions which concerned the well-being of the school and as a member of the senate he did all he could to strengthen the position of the executive. His quiet, sympathetic manner with the suffering, his straightforwardness, his true kindness of heart, and his consideration for others will ever form a bright example and will be remembered by those who were at any time his colleagues.

After holding the professorship for about seven years and on reaching the age limit Cayley finally retired and it was thought that his connexion with the army was closed. He settled at Cherrahurst, Weybridge, where he continued his active outdoor life. When he retired from India in 1887 he brought back to this country a settled habit of early rising which we believe he never relaxed. While at Netley it was a common thing to meet him in the neighbourhood taking a canter soon after dawn or to find him returning after an early swim. He was a warm advocate of yachting both as a source of pleasure and as a means of restoring health and we doubt if any other member of the Royal Southern Yacht Club derived greater satisfaction from this pursuit than did Henry Cayley, although his boat was only a tiny craft. His retirement from Netley, however, was not destined to mean the last of his public services. The South African war was being waged, there rang through England a note which told of the need of more hospitals and officers to administer them; he heard the call of duty and responded, though he had nearly completed his sixty-fifth year. He offered his services to the War Office and was chosen to proceed to the front as the senior officer of the Scottish National Red Cross Hospital, with the rank and title of colonel. In South Africa he did most excellent service, never sparing himself, while his tact and kindly manner helped to make the paths easy for those who had actually to minister to the sick and wounded. He was mentioned in despatches and at the end of the war he returned to this country in the best of health and spirits. He received as his outward reward the South African and the Queen's medals and the decoration of the third class of the Order of St. Michael and St. George. But there was another and a higher reward which came to him and which, though unspoken, was accorded to him by his friends; it arose from the fact that when advanced in years, in a time of trouble, he had given up luxury and ease to undergo certain hardship and great danger More recently he was gazetted "Honorary Surgeon to the King." On his return he again settled at Weybridge where he purchased the home in which he passed his last days.

He married on July 10th, 1862, Letitia Mary, daughter of the Rev. Nicholas Walters, and by her had a family of six sons and two daughters. Three of his sons are serving His Majesty—two in the army and one in the navy. The second son, Dr. Cyril Henry Cayley, is now divisional health officer of the city of Bombay. Of his two daughters, the elder is married to Mr. Charles MacLeod, a Calcutta merchant, and the younger to Lieutenant-Colonel H. R. Whitehead, F.R C S Eng., R.A M.C, who is now in medical charge of the Herbert Hospital at Woolwich. To his widow and to his family we tender our sincere sympathy. We knew something of the man and what he was in his home. To the younger generation he was not only the father but also the companion and friend.

GEORGE RIGDEN, M.R.C.S. ENG., L.S.A.

MR. George Rigden, who died at his residence in St. George's-place, Canterbury, on March 21st, was one of the oldest inhabitants of the cathedral city and a veritable link with the past. His last illness was of only a few days' duration, although his health had been failing for a considerable time and he had been confined to the house for several months. Mr. Rigden was born at Wingham, in Kent, on Dec. 30th, 1815, so that at his death he was in his eighty ninth year. His school education was received at Sandwich and Ramsgate and his medical training was obtained at University College, London, where he obtained a silver medal. In 1837 he became qualified as L.S.A. and was admitted a Member of the Royal College of Surgeons of England in 1844. In 1837 he did temporary duty at the Canterbury Dispensary, to which he was shortly afterwards appointed surgeon and secretary, capacities in which he acted until 1900. He took much interest in questions relating to public health and was one of the pioneer contributors to the literature of the subject, his personal observations being published in his "Report on the Sanitary Condition of Canterbury" and "Vital Statistics of Canterbury." As a practitioner Mr. Rigden was perhaps best known as an accoucheur; he was at an early period of his career convinced of the utility of anæsthetics in midwifery cases; he was also a strong advocate of the forceps and even applied them on one occasion when he was over 80 years of age. In 1881 he published in the Transactions of the Obstetrical Society a "Statistical Report of 5682 consecutive Cases of Midwifery occurring in Private Practice." During 1891-92 he was president of the South-Eastern branch of the British Medical Association As a memorial of his having practised in Canterbury for 50 years he presented to the city a drinking fountain which stands at the corner of Station-road, St Dunstan's. Mr. Rigden married in 1842 and had a numerous family. His wife survives him and their "diamond wedding" was celebrated two years ago; their four sons are all in the medical profession. The funeral took place on March 24th and was attended by a large number of persons, including practically all the medical men of the city.

Medical News.

VICTORIA UNIVERSITY OF MANCHESTER.—At examinations held in the Faculty of Medicine in March the following candidates were successful:—

FINAL EXAMINATION.

Part I.—Francisco da Cunha and H. S Dixon, Owens; John Dixon, R. G. Dixon, and Harold Fearnley, Yorkshire; R. L. Ferguson, Owens; Alfred Gough and H. S. Hayling, Yorkshire; Robert Haslam, Owens; W. B. Hill, J. J. Hummel, and A. J. Landman, Yorkshire; G C. Mort, Owens; C N. Smith, Yorkshire; Harold Spurway, and Douglas Wardleworth, Owens; and Frederick Whalley and F. W. B. Young, Yorkshire

Part II.—P. W. Ashmore, Yorkshire, John Battersby and J. W. Hartley, Owens; F. W. Hayes and S. L. Heald, Yorkshire; W. G. Kinton, W. Y. Martin, Stuart Murray, and S. H. Ryan, Owens; and Bertram Suggitt, Yorkshire.

CONJOINT EXAMINATIONS IN IRELAND BY THE ROYAL COLLEGE OF PHYSICIANS AND THE ROYAL COLLEGE OF SURGEONS —The following candidates have passed the preliminary examination:—

P. N. Allman, J. J. Blake, F. Cassidy, D. F. Curran, H. P. Henay, A. Humphreys, W. S. Johnston, A. R. Mallet, J. Moynihan, J. T. O'Boyle, M C. O'Hara, F E Preston, B. Reilly, S Robinson, Israel Scher, G. C. Sneyd, R. H. F. Taaffe, M. Tobin, B. Wallace, J. F. Williamson, and R. A. Wright.

DONATIONS AND BEQUESTS.—The Prince of Wales has sent a donation of £50 to the Dorset County Hospital.

A vaccination grant has been awarded by the Local Government Board to Mr. S. H. Rentzsch, Week St. Mary, for the third time in succession.

DEATH OF A CENTENARIAN.—Mrs. M. Bishop, who died at Crediton recently, was 103 years old.

THE DEVONSHIRE HOSPITAL.—The report of the committee of management of the Devonshire Hospital and Buxton Bath Charity for the year 1903 states that 2916 in-patients have been admitted during the year, being 247 less than in the previous year. The number of out patients admitted was 209 The average number of patients daily in the hospital was 192·5. The average cost per week of each in-patient has been 15*s.* 9¾*d.* In connexion with this charity there is a Samaritan fund for the purpose of helping needy patients to return to their homes. The hospital, which commenced its beneficent work in the year 1859, has, since its inception, cured or relieved nearly 76,000 patients and the constantly widening sphere of its usefulness entails a heavy expenditure.

A MEDICAL CRICKETER.—Mr. E. M. Grace, M.R.C.S. Eng., L.R.C.P. Edin., the secretary of the Gloucestershire County Cricket Club, is in his sixty-third year. He has made 72 217 runs and taken 10,815 wickets during his cricket career and will doubtless increase these totals considerably during the coming season.

THE LATE MR. J. P. RICHARDS.—Mr. Joseph Peeke Richards, who died at his residence, 6 Freeland-road, Ealing, on March 22nd, in his sixty-fourth year, was a native of Plymouth. He received his medical education at King's College, London, and became qualified as M.R C S. Eng. and L S.A. in 1863 He entered on lunacy practice as assistant medical officer at the Devon County Lunatic Asylum and was subsequently appointed medical superintendent of the female department of the London County Asylum at Hanwell.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following candidates having passed the necessary examination have been admitted Fellows of the College: Mr. J. H. Barrs, L.S A. Lond. (Burton-on-Trent), and Mr. W. F. Law, M.B., B Ch Dub. (British Guiana).—At a meeting of the President, vice-president, and council, held on March 24th the following motion was passed unanimously:—

[illegible]

ST. BARTHOLOMEW'S HOSPITAL.—The following donations have been received by the treasurer of St. Bartholomew's Hospital towards the building fund:—The Union of London and Smiths Bank (Limited), £210; Stafford Northcote and Co. (Limited), £26 5*s.*; Dr Clement Godson, £52 10*s.*; National Provincial Bank of England (Limited), £105; London and Westminster Bank (Limited), £210; the Capital and Counties Bank (Limited), £105; Mr. R. C. Ackland, £25; and London and County Banking Company (Limited), £65. Mr. John Tann of 11, Newgate street, E C., has given a steel chest and three wrought steel collecting boxes to be placed at the entrances to the hospital.

VISITING PHYSICIANS AT POOR-LAW INSTITUTIONS.—At a recent meeting of the Bristol board of guardians a suggestion was made by several of the members that the gratuitous services of visiting physicians might be obtained. The general purposes committee, however, reported at the meeting of the guardians held on March 25th to the effect that such an arrangement could not be made without remuneration being provided and it recommended that the subject should be deferred for the present. The report was adopted, one of the guardians remarking that physicians were ready to give their services to any charitable institution but a Poor law establishment was not a charitable institution in the sense that a hospital was.

UNIVERSITY OF OXFORD.—NOTICE OF THE EXAMINATION IN PREVENTIVE MEDICINE AND PUBLIC HEALTH, MICHAELMAS TERM, 1904 (D P H. EXAMINATION).—The examination for the diploma in Public Health will commence on Tuesday, Nov 22nd, at 10 A.M, in the schools. The examination is in two parts, conducted partly in writing, partly *vivâ voce*, and in each subject partly practical. The first part comprises the application of chemistry and physics to general hygiene. The second part comprises the following subjects: general pathology, with special relation to infectious diseases; the laws relating to public health; sanitary engineering; and vital statistics. Both parts may be taken together at the same examination or they may be taken at separate examinations, but no one is deemed to have satisfied the examiners in Part 2 unless he has satisfied the examiners in the subjects of Part 1. The fee for admission to each part is £5 A diploma is issued to every candidate who has passed in both parts of the examination but no diploma or certificate is given in any other circumstances. Candidates (who are not necessarily members of the University) must have their names on the Medical Register and must have satisfied all the rules of the General Medical Council of the United

Kingdom relating to the admission of candidates for diplomas in Public Health which are in force at the time. Candidates must send in their names by letter to the secretary to the Boards of Faculties at his office in the Clarendon-buildings, Broad-street, Oxford, not later than 10.30 A.M. on Tuesday, Nov. 8th, at the same time inclosing the statutable fee and full evidence of having satisfied the above requirements.

BRISTOL ROYAL INFIRMARY.—The annual meeting of the governors of the Bristol Royal Infirmary was held on March 22nd, under the presidency of Sir Charles Cave. The medical report stated that the in-patients numbered 3293, compared with 3281 in 1902. There were 44,263 out-patients treated, as against 41,761 in the previous year. The financial statement showed that the total ordinary income of the institution was £11,041 and the total ordinary expenditure was £16,451. The total adverse balance of the infirmary is now nearly £16,000. A new casualty department and lift, costing about £4000, are urgently needed; the committee therefore proposes to ask the public for a sum of not less than £20,000 and confidently expects that the citizens of Bristol will readily respond.

ROYAL LONDON OPHTHALMIC HOSPITAL.—Owing to the death of H.R.H. the Duke of Cambridge, patron of the Royal London Ophthalmic Hospital (Moorfields) and president at the last dinner held in aid of the funds of the institution, the centenary festival dinner in aid of the funds of the hospital, arranged for Friday, April 22nd, has been postponed to Tuesday, May 10th. The dinner will take place in the Grand Hall of the Hotel Cecil and Sir Charles Wyndham has kindly consented to preside on this occasion and to enable him to do so he is generously closing his theatre on that night. The arrangements for the dinner are in the hands of the Social Bureau, 30, New Bond-street, London, W., where all information may be obtained.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—At a meeting of the College held on March 24th the following gentlemen, having passed the necessary examinations, were admitted Fellows of the College:—John Evans Hadden Bennett, M.B., C.M., County Cork; Arthur William Stark Christie, M.B., Ch.B. Edin., Edinburgh; Owen Gilmore, L.R C.S. Edin., Edinburgh; Harold Edgar Atheling Jackson, M.R.C.S. Eng., L.R C.P. Lond., Victoria, Australia; Alfred Dudley Eskell Kennard, M.R.C.S. Eng., L.R C.P. Lond., Hampton Wick, Middlesex; William Lloyd, L R.C.S. Edin., London; Maitland Bodley Scott, M.R C.S. Eng., L.R.C.P. Lond., Bournemouth; Harry Moss Traquair, M.D., C.M. Edin., Edinburgh; and Daniel John Cunningham, D.C.L., LL D., M.D., D.Sc., professor of anatomy in the University of Edinburgh, was also elected a Fellow of the College without examination. The medal and set of books forming the Bathgate memorial prize, presented to the College by Colonel William Lorimer Bathgate in memory of his late father William McPhune Bathgate, Fellow of the College, was awarded to Miss Helen Meldrum McMillan for the highest marks obtained in competitive examination in materia medica and therapeutics.

Parliamentary Intelligence.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 23RD.

Atmosphere of the Underground Railway.

Mr. WEIR asked the President of the Board of Trade whether, having regard to the fact that the atmosphere in the Metropolitan Extension Railway between 8 P.M. and midnight was specially foul through being surcharged with smoke emanating from coal of a highly bituminous character, he would represent to the company the desirability of using coal of a smokeless nature.—Mr. GERALD BALFOUR replied: I have communicated with the railway company on the subject and in reply they inform me that on the extension line from Baker-street, as well as on the Inner Circle railway, the best hard Welsh smokeless coal is always used and that inspectors are employed to see that the engine-drivers fire in a proper manner. It is added that the railway from Baker-street through the tunnel is to be worked by electricity at an early date.

The Plague at Johannesburg.

Sir WALTER FOSTER asked the Secretary of State for the Colonies whether he had any official report as to an outbreak of plague in the coolie location at Johannesburg, and if so whether he would state the number of cases and the number of deaths up to March 19th among the coolies, Kaffirs, and whites.—Mr. LYTTELTON replied: The latest telegrams from Lord Milner on this subject are as follows. March 20th. No. 1. Bubonic plague has broken out in the coolie location here. It is a virulent outbreak, 30 deaths having occurred out of 38 cases within a few days. Though the nature of the disease was only recognised yesterday steps have been already taken to remove all patients to a special camp to the north of the town. Owing to the fact that the possibility of outbreak has been foreseen for some time the site of the camp was already chosen and necessary arrangements made, while tents are ready and will be erected immediately. There will be thus no difficulty about isolation and proper treatment of all suspect cases. Outbreak confined to coolie location which forms part of insanitary area recently expropriated by municipality. Town council is thus in position to clear the location at once, to transfer the coolies to a new site outside the town, and to disinfect the whole space. It has all necessary legislative powers and administrative arrangements have as far as possible anticipated the need which has arisen. There is thus every reason to hope spread of disease may be promptly checked. Mining area so far quite unaffected. March 22nd. No. 2. Your telegrams of March 21st, No. 2 and No. 3. Present position of plague is as follows: suspected cases reported, 47 coloured, six white; deaths, 40 coloured, two white. Outbreak appears to be well in hand and I do not think it necessary to engage services of Professor Simpson, especially as I have a first-rate bacteriologist and excellent medical staff on the spot and the public here have complete confidence in them.

THURSDAY, MARCH 24TH.

Further Particulars about Plague.

The second reading of the Consolidated Fund Bill afforded a convenient opportunity for raising a discussion on the circumstances connected with the outbreak of the plague at Johannesburg.—Sir WALTER FOSTER asked for information. Had the disease been brought into the city by the imported Asiatic labourers? It appeared to have broken out in an Indian location and, of course, it was known that Indians were specially liable to the malady. A suspicious circumstance in connexion with the matter was that there had been a heavy rate of mortality among the people working in the mines and this had been said to be due to a form of pneumonia following on after influenza. As the plague itself was pneumonic he was not without his suspicions that the mortality among the mine workers might have been due to a disguised form of the plague which had been present in the locations for some time. At all events, the point was worth looking into in order to prevent any future possibility of the disease in its milder form being overlooked. What was the source from which the plague had been introduced? There were several possibilities. It might have been brought by recruited Indian labour or by foods imported from India or China. Plague was often carried by animals, fowls, pigs, dogs, and cats—which for weeks after their infection presented no suspicious symptoms. Rats, the commoner carriers of plague, were affected much sooner.—Dr. HUTCHINSON urged that each Chinese coolie should be medically examined before entering the compound and that the site of the compound should be chosen by a thoroughly qualified man.—Mr. LYTTELTON, in his reply, said that he personally and the Government were much indebted to the two high authorities on medical matters who had just addressed the House. As to the fear that the introduction of Chinese labour might be attended with danger at present he could give the assurance that a medical officer would examine each coolie in China before he was embarked and that a surgeon-superintendent would accompany each ship with the absolute duty of looking after the health of all the coolies on board. Vaccination would take place and again in South Africa another health examination would be made, so that so far as human precaution could secure it the coolies would be medically fit. The honourable Member (Sir Walter Foster) was aware that the sources of this bubonic plague were still a matter of scientific obscurity. He agreed with what had been said about its transmission by animals. That much, he understood, had been ascertained, but if they were to compare, for instance, the sources of malaria with the sources of bubonic plague they would find that whereas science had made great advances in the ascertainment of the sources of malaria it had not reached nearly so satisfactory a point with regard to the sources of bubonic plague. The suggestion that every precaution should be taken for knowing beforehand the precise spot they would choose for isolation in case of an outbreak of bubonic plague was a most eminently reasonable one and he could hardly believe that the medical advisers in the Transvaal would not readily fall in with it. In fact, he thought it would be admitted that the circumstances with regard to the present outbreak showed not merely that every foresight and vigilance were exercised but the actual measures had been taken and a site actually chosen to guard against the possibility of an outbreak.—Sir WALTER FOSTER interrupted to ask why an outbreak had been anticipated.—Mr. LYTTELTON said he could not bind himself to accuracy on that point. He had no exact information but he believed that what had happened was this. It had been for some time a complaint in Johannesburg that the drainage system was deplorably bad, that insanitary areas existed, and one of the deplorable features of the shortage of labour was that the Johannesburg municipality had actually been unable to carry out the sanitary reforms which they had promoted. There was, therefore, a condemned area in Johannesburg. It was inhabited, not necessarily by Indian coolies, but by Indian traders and other Indian inhabitants. These were not recent importations; a good many Indians were resident in Johannesburg in President Kruger's time. Evidently one of the areas which they inhabited became insanitary and was condemned, but the measures which would have been taken to clear out the area had only labour existed became impossible. No doubt Lord Milner and the authorities of the [illegible] unicipality, seeing that these areas had been [illegible] foresaw that some epidemic might occur, [illegible]y deplorable that the areas could not have been cleared it probably would have been more deplorable to have turned the Asiatics out into the streets in the cold nights. Let him say this—that with regard to the introduction of Chinese any man would be mad to introduce Chinese into a place where plague existed or at any rate where plague was not most scrupulously isolated and where he had not obtained medical advice of the highest eminence that it was safe to introduce such labour. He thought, without taking upon himself any of the functions of the medical profession, he might say that no such introduction would be contemplated for a moment by the authorities of the Transvaal unless they were advised on medical advice that such a proceeding was unattended with risk.

Vaccination Exemptions.

Mr. WEIR asked the President of the Local Government Board how many certificates of exemption from vaccination were granted during the year ended Dec. 31st, 1903.—Mr. LONG replied: The returns made to me show the number of certificates of conscientious objections received by the vaccination officers during each year, and this number may be taken as substantially agreeing with the number granted during the year. The returns for 1903 are not quite complete, but the number of certificates of the kind referred to received during the year may be stated approximately as 37,200.

Dentistry in East Africa.

Mr. CATHCART WASON asked the Under Secretary for Foreign Affairs

Majesty's Commissioners.

Politics in an Asylum.

Mr. SLOAN asked the Chief Secretary to the Lord Lieutenant of

the Government.

Vivisection.

Sir JOHN ROLLESTON asked the Secretary of State for the Home Department whether, in view of the 14,906 experiments upon living

is well known.

FRIDAY, MARCH 25TH.

Sir Charles Dilke's Shops Bill.

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put into

would fix the hours of shop assistants as the hours of labour in factories were now fixed by the Factory Acts. Without such a provision he contended there would be the grossest evasion of the law. The second reading was opposed by Sir F. POWELL and Sir F. BANBURY and the latter "talked out" the Bill.

MONDAY, MARCH 28TH.

Exemptions from Vaccination.

Mr. CORRIE GRANT asked the President of the Local Government

reported to me.

Physical Condition of Children.

On the third reading of the Consolidated Fund Bill Sir JOHN GORST and several other Members drew attention to the physical condition of children.—Sir WILLIAM ANSON, in reply, explained what had been done by the committee of
mittee was appointed with
Commission should not be
question of physical deterior
largely interested in the m
mittee. The reference implied the duty of ascertaining what steps should be taken to furnish the Government with a periodical set of facts as to the physical condition of th

The Royal College of Surgeons had s

their suggested remedy. He wished the House to understand that the inquiries being made were of a most practical character and that the committee was going into the actual causes of the physical ailments and physical shortcomings of the children at school and before they went to school.

TUESDAY, MARCH 29TH.

Royal Commission on Feeble-Minded Persons.

Mr. CHARLES HOBHOUSE asked the First Lord of the Treasury
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determined.

The Plague.

Sir WALTER FOSTER asked the Secretary of State for the Colonies to give the most recent official information that he had received respecting the outbreak of plague
were being taken to destroy rats at
especially in ships arriving from
replied: I have no more recent offici
have published, but I have asked

plague at Cape Town in the beginning of 1901 South Africa has never been entirely free from bubonic plague among rodents and the latest reports in my possession show that Port Elizabeth and East London
serious difficulty
outbreaks among
of South Africa
nticipate special
difficulties at Johannesburg and in these circumstances I can give no undertaking to prevent the entry of Chinese labourers as soon as the Transvaal Government is advised that such introduction can take place without undue risk.

Vaccination of Pauper Children.

Mr. WEIR asked the Secretary for Scotland whether the circular letter recently issued by the Local Government Board for Scotland enjoined the compulsory vaccination of all pauper children who did not exhibit satisfactory marks of primary vaccination; whether medical officers of poorhouses were required to examine the vaccination marks of all pauper inmates of poorhouses and to revaccinate when that course seemed desirable, and whether medical officers would be instructed to keep a record of the number of inmates examined and the number revaccinated.—Mr. GRAHAM MURRAY replied: I am informed that the object of the circular was to secure that all the inmates of poor-houses should be vaccinated but the circular does not enjoin the compulsory vaccination of the class of children referred to, it recom-
es should
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cted the
medical officers of poorhouses to keep a record of the number of inmates examined and the number revaccinated and they prefer in the meantime to leave this to the discretion of poorhouse committees.

BOOKS, ETC., RECEIVED.

ALLEN, G. W., AND Co., 3, Wellesley place, Calcutta.

A Manual of Medical Jurisprudence for India. By J. B. Gibbons, Lieutenant-Colonel, I.M.S., Civil Surgeon, Howrah. Price Rs.12-8 net.

ARROWSMITH, J. W., Bristol

Anæsthetics in Surgery. Based on a Series of Two Thousand Consecutive Inductions of General Anæsthesia. By C. Hamilton Whiteford, M.R.C.S., L.R.C.P., Senior Honorary Anæsthetist to the South Devon and East Cornwall Hospital. Price 1*s.* 6*d.*

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta street, Covent-garden, W.C.

The Bacteriology of Every-day Practice. By J. Odery Symes, M.D. (State Medicine) Lond., D.P.H., &c., Assistant Physician and Bacteriologist, Bristol General Hospital. Second edition. (Medical Monograph Series, edited by David Walsh, M.D., No. 2.) Price 2*s.* 6*d.* net.

CORNISH AND SONS, 37, Lord-street, Liverpool.
Trachoma (Granular Conjunctivitis). By Robert Reid Rentoul, M.D., late Member of the General Council of Medical Education for the United Kingdom. Price 2*s*. net.

DEUTICKE, FRANZ, Leipzig und Wien.
Des Kindes Ernährung, Ernährungsstörungen und Ernährungstherapie. Ein Handbuch für Aerzte. Von Prof. Ad. Czerny, Director und Dr. A. Keller, Assistent der Universitäts-Kinderklinik zu Breslau. Fünfte Abtheilung. Price M.4.50.

FISCHER, GUSTAV, Jena.
Festschrift zum Sechzigsten Geburtstage von Robert Koch. Herausgegeben von seinen Dankbaren Schülern. Price M.20.

FROWDE, HENRY, Amen Corner, E.C.
A History of the Daubeny Laboratory, Magdalen College, Oxford. By R. T. Günther, M.A., F.L.S., Fellow and Tutor of Magdalen College. With a Preface by the President of Magdalen. Price 5*s*. net.

GREEN, WILLIAM, AND SONS, Edinburgh and London.
Encyclopædia Medica. Volume XIV. Index Volume. Price not stated.

HIRSCHWALD, AUGUST, Unter den Linden, 68, Berlin.
Die Nasalen Reflexneurosen und die Normalen Nasenreflexe. Von Dr. A. Kuttner. Price M.6.

HIRZEL, S., Leipzig.
Die Bekämpfung der Tuberkulose. R[illegible] Januar, 1904, im Festsaale der Aula der [illegible]. Von Professor Dr. Paul von Baumgarten. [illegible]

HODDER AND STOUGHTON, 27, Paternoster-row, E.C.
Alcohol: its Place and Power in Legislation. By Robinson Souttar, M.A., D.C.L. Price 3*s*. 6*d*.

KARGER, S., Karlstrasse, 15, Berlin, N.W.
Fieber und Fieberbehandlung. Von Dr. Bergel, Arzt in Inowrazlaw. Price M.2.
Zur Psychopathologie des Alltagslebens. (Ueber Vergessen, Versprechen, Vergreifen, Aberglaube und Irrtum.) Von Prof. Dr. Sigm. Freud in Wien. Price M.3.

MARLBOROUGH, E., AND CO., 51, Old Bailey, E.C.
Marlborough's Series of Foreign Commercial Correspondence. French and English. By A. Dudevant. Sixth edition, revised and enlarged. Edited by Toreau De Marney and C. A. Thimm. Price, paper 1*s*., cloth 1*s*. 6*d*.

PHILLIMORE AND CO., 124, Chancery-lane, W.C.
Sewage Disposal in Berkshire. By G. Trew Cattell, M.D., D.P.H. Cantab., Member of the Incorporated Society of Medical Officers of Health, Lecturer and Examiner in Hygiene to the School Board for London. Price 1*s*., by post 1*s*. 1*d*.

REBMAN, LIMITED, 129, Shaftesbury-avenue, W.C.
Biographic Clinics. Volume II. The Origin of the Ill Health of George Eliot, George Henry Lewes, Wagner, Parkman, Jane Welch Carlyle, Spencer, Whittier, Margaret Fuller Ossoli, and Nietzsche. By George M. Gould, M.D., editor of "American Medicine," author of "An Illustrated Dictionary of Medicine, Biology, &c." Price 5*s*. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ANDERSON, T. L., M.B. Melb., has been appointed a Member of the Honorary Medical Staff of the Fremantle Public Hospital, West Australia.

ASTLES, HARVEY EUSTACE, M.D. St. And., has been appointed President of the Dental Board, West Australia.

BARTON, CHARLES M., L.R.C.P. Lond., M.R.C.S., has been appointed Anæsthetist to the Gordon Hospital, Vauxhall Bridge-road, S.W.

BLACKBURNE, G. H. S., M.B., Ch.B. Melb., has been appointed *pro tem.* Acting President of the Central Board of Health, West Australia.

COLCLOUGH, W. FRANK, M.D., B.C. Cantab., has been appointed Medical Officer to Out-patients, Yeatman Hospital, Sherborne.

COOK, A. H., M.B. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Medical Officer to the Infants' Hospital, Hampstead, N.W.

COX, ALLASTER EDWARD, M.B. Edin., J.P., has been appointed Member of the Licensing Court for the Licensing District of Forbes, Ne[illegible]

HOPE, J. [illegible] been appointed *pro tem.* Acting [illegible] at the Fremantle Lunatic Asylum, [illegible]

FULLERTON, ALEXANDER YOUNG, L.R.C.P. Lond., M.R.C.S., has been appointed Deputy Licensing Magistrate of the Licensing Court for the Licensing District of Murrurundi, New South Wales, Australia.

KELYNACK, T. N., M.D. Vict., M.R.C.P. Lond., has been appointed Honorary Physician to the Infants' Hospital, Hampstead, N.W.

LAIDLAW, J. H., M.D., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

LINTON, EDWARD, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed [illegible]ment Medical Officer and Vaccinator at Welling-[illegible] Wales, Australia.

LONGHURST, FREDERIC W., L.R.C.P. Lond., M.R.C.S., has be appointed Anæsthetist to the Gordon Hospital, Vauxhall Brid road, S.W.

MACLAURIN, CHARLES, M.B., M.S. Edin., has been appointed Member of the Police Medical Board, New South Wales, Australi

MONCKTON, WILLIAM, L.R.C.P. Edin., M.R.C.S. Eng., has been appointed Medical Officer of Health of Portishead (Somerset).

MORITZ, S., M.R.C.P. Lond., has been appointed Lecturer on Disea of the Throat and Nose at the Victoria University of Mancheste

PAGE, HERBERT MARKANT, M.D. Brux., M.R.C.S., L.S.A., D.P. Cantab., has been appointed Medical Officer of Health of Yeovil.

STUART, HACKWORTH, M.D. Lond., D.P.H. Cantab., M.R.C.S., L.R.C. Lond., has been appointed Medical Adviser to the Hanley Edu tion Committee.

Vacancies.

For further information regarding each vacancy reference should made to the advertisement (see Index).

BEDFORD COUNTY HOSPITAL.—House Surgeon. Salary £100 p annum, with apartments, board, and laundress. Also Hou Physician. Salary £60 per annum, with apartments, board, a laundress.

CHESTER COUNTY ASYLUM.—Third Assistant Medical Officer, unmarri Salary £160 per annum, with board, lodging, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOME Shadwell, E.—Assistant Physican.

EAST SUFFOLK AND IPSWICH HOSPITAL.—Second House Surge unmarried. Salary £80 per annum, with board, lodging, a washing.

GREAT YARMOUTH HOSPITAL.—House Surgeon. Salary £90 p annum, with board, lodging, and washing.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton Resident House Physicians for six months. Honorarium of £25.

HULL, VICTORIA HOSPITAL FOR SICK CHILDREN.—Lady House Su geon. Salary £50 per annum, with board and laundry. Al Lady Assistant House Surgeon. Salary £40 per annum, wi board and laundry.

LIVERPOOL STANLEY HOSPITAL.—Senior House Surgeon. Salary £1 per annum, with board, residence, and washing.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—House Surgeon, u married. Salary £120, with board and residence.

MANCHESTER ROYAL INFIRMARY CONVALESCENT HOSPITAL, Cheadle. Resident Medical Officer, unmarried. Salary £150 per annu with board and residence.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Junior Resident Medic Officer. Salary £70 per annum, with board, residence, a washing.

PRESTON ROYAL INFIRMARY.—Assistant House Surgeon. Salary £ per annum, with board, washing, &c.

READING, ROYAL BERKSHIRE HOSPITAL.—Assistant Physician.

ST. MARY'S HOSPITAL FOR SICK CHILDREN, Plaistow, E.—Assista Resident Medical Officer, unmarried, for six months. Salary at ra of £80 per annum, with board, residence, and laundry.

ST. PANCRAS AND NORTHERN DISPENSARY, 126, Euston-ro[illegible].—Honora Surgeon.

SOCIETY OF APOTHECARIES OF LONDON.—Examiner in [illegible] Surgery.

STAFFORD GENERAL INFIRMARY.—Assistant House [illegible] Surgeon for s months. Honorarium of £40, with board, reside[illegible] &c.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND [illegible] the Women, Waterlo road, S.E.—Resident Medical Officer.

WEST LONDON HOSPITAL, Hammersmith-road, [illegible] W.—House Surgeo Board, lodging, and laundry.

Births, Marriag[illegible], and Deaths.

BIR[illegible]

BEEGLING.—On March 22nd, at [illegible], the wife of D. N Beegling, B.A., M.B., C.M., of a [illegible]

BENSON.—On March 19th, at The [illegible] Claydon, Bucks, th wife of P. L. Benson, M.A., M.D. [illegible]

HUNTER WOODS.—On March 21st, at [illegible], New Milton, S. Hants the wife of H. Hunter Woods, M.R.[illegible] D.P.H., of a daughter.

LANDER.—On March 22nd, at Hather[illegible] Derbyshire, the wife o H. W. G. Lander, M.B., of a son.

ROBERTS.—On March 23rd, at South Eato[illegible], S.W., the wife o Edward A. Roberts, M.D., of a daughter.

MARRIAGES.

CRAWSHAW—RADFORD.—On March 24th, at New College Chapel, Upper Avenue-road, N.W., Ernest John Crawshaw, M.R.C.S. Eng., L.R.C.P. Lond., to Cicely Kate, third daughter of George Radford, M.A.

WOOD—BROOKER.—On March 26th, at St. George's Church, Bloomsbury, Thomas Jason Wood, M.D., to Edith Isabel, second daughter of the late J. W. Brooker.

DEATH.

RICHARDS.—On March 22nd, at Freeland-road, Ealing, W. Joseph Peeke Richards, M.R.C.S., L.S.A., aged 63 years, late Medical Superintendent at the London County Asylum, Hanwell.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A BOGUS AMERICAN UNIVERSITY.

A PERSON named Mather, styling himself "Financial Secretary and General Agent for the American College of Law and Washington University," has written to members of the English medical profession and doubtless to other professional gentlemen in the following terms:—

> AMERICAN COLLEGE OF LAW AND WASHINGTON UNIVERSITY, Washington, D.C. Chartered under Act of Congress. William M. Farr, L.L D., President. E. Mather, A.M., M.D., L L.D., Financial Secretary and General Agent. P. O. Box 223, Detroit, Mich.
>
> *Corporate Departments.*—The American College, the American Law School, American Business College, American Shorthand College, American Normal College, American College of Music, American College of Oratory, American College of Diplomacy, [illegible] *American College of Government, American Correspondence Colleges.*
>
> *Detroit, Mich., March 11th, 1904.*
>
> MY DEAR SIR,—Having your name before me, and knowing your Professional standing, I am desirous of drawing your attention to the following Colleges, and, if I can be of service, in any way, it will please me to have a communication, as our departments are in Science, Art, Law, and Medicine, etc., I am sure I can interest any such persons in various ways.
>
> We have a first-class University in all respects, as you will see and, one which the student may be justly proud of, located at the National Capitol, Washington, D.C., this should be sufficient guarantee regarding its standing among our best Institutions of Learning in this Country. Washington is a very pleasant and beautiful City, with all the surroundings for health and comfort that a student can desire, and, where over half a million people visit annually.
>
> A Journal is published by the law department and is mailed to subscribers at a *nominal cost of one dollar per year throughout the* United States and one dollar and fifty cents in Foreign Countries.
>
> I enclose a slip, which will explain for itself to men of distinction, and at the same time soliciting correspondence from students: and those desirous of the standing and an explanation of both Institutions of Learning, would do well to remit one year's subscription.
>
> An early reply from you, will be greatly appreciated. I am,
>
> Very respectfully yours,
>
> E. MATHER.

We need hardly say that Mather is practically a writer of begging letters and that the institution with the long-winded title in whose behalf he acts is the usual bogus university. The slip which Mather encloses runs as follows:—

> If you are desirous of any honorary degree, I may be of service to you, as our law department issues to men of distinction the *Degrees of L.L B., L LM., D.C.L., and L.L D.*, but these men must fill in a record of data signifying their standing and giving any works or write-ups in which they have a distinction. I will be happy to hear from you, and will send, if required, the necessary documents to be filled in as this College is up to date and legally chartered as you will see by the enclosed letter-head. If you are interested and desire to see the announcement, send one dollar for subscription for one years legal Journal. Foreign Subscriptions, one dollar and fifty cents.

We cannot think that any medical man would be so absolutely short-sighted as to put any trust in Mather's representations. He is simply *hunting for 1 dollar and* 50 cents as a foreign "subscription for one year's *Legal Journal*" with the hope of being able to extract a larger sum from persons weak enough to desire to obtain the letters of an honorary doctorate to their name. The flam is so obvious that we should not waste space upon cautioning our readers in the matter were it not that we have heard of persons *who have replied to* Mather as if he were a serious and honourable person (neither of these persons was a medical man). We do not, by the way, think much of the ingenuity of Mather's designs upon the British purse. What does it matter to a person in England if the "first-class university" is "located at the National Capitol, Washington, D C. ...... a very pleasant and beautiful *city*"? And how does the financial secretary and general agent of a first-class university in Washington come to discharge his duties from "P O. Box 223, Detroit, Mich."? Mather would seem to possess the impulses of roguery but to be scantily endowed with the astuteness that makes for success.

CHEAP CREDIT *v.* USURY: A NATIONAL SCHEME.

WE have received from Mr. Thomas Farrow of 67, Gracechurch street, E.C., who is the author of "The Money-lender Unmasked," a letter in which he informs us that in connexion with his proposed National Credit Institution for the suppression of 60 per cent. money-lending and its attendant evils he has, in conjunction with the best known men of the day, registered a people's bank under the Industrial and Provident Societies Act and has received the necessary certificate from the chief registrar of friendly societies. The bank has been empowered to open a central establishment in London and to found branches throughout the kingdom. The share capital, says Mr. Farrow, has been arranged so that even a working man can become a shareholder by the investment of £1, payable by instalments, and so as to prevent the bank from falling into the hands of large capitalists the holding of any individual shareholder cannot exceed £200 5 per cent. dividend is guaranteed on shares and 3½ per cent. on deposits. The institution will *be managed by men specially qualified for the purpose* and no ornamental person will find a place on the board. The success of the scheme largely depends upon the prompt co-operation of the public which is invited. We cannot commen particularly upon the scheme until we learn more details but we can well imagine the difficulties of such a business, as there are some people "clever" enough even to defraud keen money-lenders, and if a low rate of interest is charged it will not allow for many serious losses. We have no doubt that Mr. Farrow will take care that the individual shareholder whose holding may not exceed £200 is not the nominee of a large capitalist whom the bank desires to keep outside. There is no question whatever that institutions are wanted from which a struggling and respectable tradesman or professional man may in an emergency obtain a small loan of £20 to £50 without falling into the hands of a vampire, and if Mr. Farrow can provide such institutions upon practical lines we wish him success.

A STORY OF ELECTRICITY.

A CORRESPONDENT writing in the *Scientific American* of March 19th describes some phenomena unusual in the United Kingdom. He says:—

> *I have been called on to investigate a peculiar case which* has puzzled me and I would ask your advice on the same. The case in question is a house which seems to be a veritable frictional machine. By walking on the carpet a spark can be produced by bringing the finger near any metal substance, whether grounded or not, such as a brass tack in furniture, picture frames, &c. If this condition existed to a small extent nothing would be said, but it is to such an extent as to be very objectionable. The house is heated by a hot-air furnace and everything about the house is very dry. I have suggested keeping water pan in furnace constantly filled with water, as I believe that the moisture produced will tend to allow the charge to neutralise itself. Two persons coming in contact with each other produce a spark. Can you suggest a remedy for this?

THE PRICE OF A HOSPITAL.

To the Editors of THE LANCET.

SIRS,—Would any of your readers be kind enough to give the approximate cost per bed of a thoroughly up-to-date hospital of 50 beds, including out-patient department and offices, the site being given?

I am, Sirs, yours faithfully,

March 24th, 1904. M.B., B.C.

A CRYPTIC ASPECT OF THE CRY OF PAIN.

To the Editors of THE LANCET.

SIRS,—Would you kindly allow me to ask through the medium of *THE LANCET for references* to any reports or observations in any European language on a rather cryptic aspect of the cry of pain? Not the aspect which is made so much of in current literature, of a relief from a nervous strain, or the aspect of a communication to others—i.e., as a cry of distress, a cry for help; I mean its purely afferent aspect, the value, namely, that the cry of pain possesses in consequence of reaching the ear of the sufferer who utters it. Thanking you in anticipation,

I am, Sirs, yours faithfully,

March 24th, 1904. PSYCHOLOGUS.

THE BRITISH WEATHER CHART FOR 1904.

WE have received *from the publishers, Messrs. R. Morgan and Co.*, 65, Westow-street, Norwood, S E., a copy of the British Weather Chart for 1904, which has been compiled by Mr. B. P. Jenkins, F.R.A.S. The chart sets out the thermometrical and barometrical forecasts for the whole year and under the heading of each month prognosticates the general condition of the weather, the prevailing winds and temperature, and the average rain, while dates are given round which it is suggested particular falls in the temperature or falls of rain may be expected to appear. Of course, no prophet can expect to be praised till after his prophecies have been found true, so that we only commend Mr. Jenkins's work to our readers in a modified manner, but we may say, firstly, that his *tracings are perfectly* easy to comprehend, secondly that his prophecies have been accurate more or less for the first quarter of the year, and thirdly that there is nothing Delphic about his utterances—he does not "hedge" or [illegible] terms. He definitely states for example that the [illegible] l that the [illegible] average, [illegible] and 20th. If the next few weeks prove Mr. Jenkins to have been right in his vaticinations we shall regard the chart with considerable reverence for the rest of the year. The price of the chart is 6½d.

THE MEDICAL OFFICER OF NO. 2 DISTRICT OF BARNSLEY UNION.

SOME difficulty has apparently arisen in connexion with the appointment of a medical officer for the No. 2 district of the Barnsley union. The circumstances are these. In March, 1903, Dr. Andrew Thomson and Dr. Arthur E. White were candidates for the post and the latter was appointed for one year only. This limitation in time of the appointment, which is contrary to precedent but which was acquiesced in by the Local Government Board, was apparently made in order that Mr. O. F. Rowley, the former holder of the post, might continue to hold the office of public vaccinator for another year and so obtain the vaccination grant. At the beginning of March, 1904, the appointment was advertised and Dr. Thomson was appointed. The Local Government Board, however, has not yet ratified the appointment. It seems to us that the guardians have acted somewhat hardly in ignoring Dr. White's claim for reappointment. He has done the work of the post for a year and no complaints seem to have been made as to the manner in which he carried out his work. The guardians are, of course, within their legal right in appointing Dr. Thomson, but we think that Dr. White had certainly a moral claim to the post. From a copy of Dr. Thomson's application and testimonials which lies before us we see that he submitted four testimonials from non-medical men.

WANTED—A HOME.

To the Editors of THE LANCET.

SIRS,—In reply to an inquiry in THE LANCET of March 26th, p. 906, as to a home for a semi-imbecile boy aged seven years, allow me to say that the Royal Albert Asylum, Lancaster, now described as a "training school for the feeble-minded of the northern counties," receives cases of the poorer class at 25 guineas per annum without election. Applications should be made to the principal and secretary, Mr. J. Diggens. I am, Sirs, yours faithfully,

March 26th, 1904. G. E. S.

"N" RAYS AND THE NERNST LAMP.

THE Nernst electric lamp has been twice mentioned in THE LANCET recently, in an annotation which appeared in our columns on March 26th, p. 889, dealing with the "n" rays and the more newly discovered "n_1" rays and in a letter from Mr. A. A. Campbell Swinton published in THE LANCET of March 5th, p. 685. These rays have been discovered by M. Blondlot to be emitted by the Nernst electric lamp and a short description of this lamp may therefore be of interest to our readers. The principle of the lamp was invented by Professor Walther Nernst of the University of Gottingen in 1898, but since that time many experiments have been necessary in order to perfect the invention and to make it a really practical lamp for public use. A paper was read on the lamp at a meeting of the Society of Arts held on Feb. 8th, 1899, by Mr. James Swinburne, M.I.C.E., vice-president of the Institution of Electrical Engineers, London, and a full report of the paper, which also included some interesting remarks on the Auer or Welsbach mantle, was published in the journal of the Society of Arts dated Feb. 10th, 1899. These remarks are interesting as M. Blondlot has also found the "n" rays to be given off by these incandescent gas mantles. To make the illuminating filament or rod of the Nernst lamp Professor Nernst took some highly refractory oxides or so called "rare earths" as his material, chiefly zirconia, we believe, and the material was worked up into little white rods of about the size of an ordinary pin. Each rod was mounted on two platinum wires and a little paste made of refractory oxides was applied to the joints. The little rod or filament with its two wires was then mounted in a holder which fitted ordinary electric-light fittings. Highly refractory oxides are notoriously good insulators at normal temperature but such insulators are electrolytes when hot. Therefore in order to make the rods conduct well they have first to be heated to from 600° to 800° C. when they incandesce and yield a beautiful white light of great economy. This heating of the rod is done by means of a "heater" spiral which is either made of kaolin wound with platinum wire or of a particular resistance material made of graphite and clay or some other substances. This open spiral travels around the whole length of the rod but does not touch it. In the "Luna" Nernst lamp (the newest type) the rod is outside the "heater" and thus shadows are obviated. When the switch is turned on the heater spiral becomes red hot and heats the straight rod in the centre up to the temperature at which it conducts well whereupon it emits a brilliant light and the heater spiral is simultaneously cut out of circuit. The lamp is also supplied with a steadying resistance consisting of an iron wire in an exhausted glass tube but this is inclosed with the automatic cut-out apparatus in the upper part of the lamp and is not usually visible. The resistance and burner, which latter has a life of about 600 hours, can be replaced and renewed from time to time without damage to the remaining parts of the lamp. This electric lamp practically will not work in a vacuum and a peculiar feature is that it may be lighted with a match or a spirit lamp—that is, the small illuminating rod may be heated up by such means to overcome its normal resistance and to make it conduct electrically. The watt consumption per candle-power of the Nernst lamp varies from 0·88 to 1·70, while that of the ordinary incandescent vacuum lamp with its carbonised vegetable filament so familiar to all varies from 2·50 to 4 watts per candle-power according to the efficiency at which it works, so that incidentally the saving of current in favour of the Nernst lamp is considerable. The clock tower Houses of Parliament is illuminated by these lamps an Canadian arch was brilliant with them at the time of the Coro festivities, while they have recently been installed in many sho and offices in the United Kingdom, on the continent, and in t United States of America and may conveniently be seen in many the Aerated Bread Company's shops in London where they ha recently been installed. The lamp can be bought in London fr the Electrical Company, Limited, 122, Charing Cross-road, W.C.

THE PIED PIPER OF HAMELIN: A SUGGESTED ORIGI OF THE LEGEND.

To the Editors of THE LANCET.

SIRS,—No adequate explanation of the famous legend of the P Piper has hitherto been offered, so far as I am aware, though attempt has been made to connect it with the child-crusades whi were inaugurated when the word went forth that the Holy Sepulch was recoverable to Christianity by the pure and innocent in hea But this interpretation cannot be maintained, for the child-crusa took place in the twelfth and not in the thirteenth century, to wh latter period the episode of the Pied Piper is very definitely ascrib Yet that it records, under the guise of a fairy tale, some histori event, is certain, for the actual date, June 26th, 1284. is inscribed the wall of an ancient house in the town and the municipal archi are dated from the calamity. Grimm has collected a list of authorit who speak of the event as an historical fact. (Baring Gould: Curio Myths of the Middle Ages. The date given in Browning's poem diffe for some reason.)

The story, of course, is an adaptation of the ancient world-myt current among diverse races, of the magic music compelling all w heard to follow. In its present application it tells of a mediæval m European town infested with rats. A magician appears who entic the rats into the river and then, out of revenge for the parsimony of t citizens, beguiles the children into a chasm which gapes without t gates.

The explanation I would suggest is that this legend records visitation of plague to Hamelin. *Acting on this supposition* we fi the antecedent mortality among the rats which, thanks to the u hygienic habits of the citizens, had hitherto swarmed in the town. may even be that some travelling magician had acquired the art inoculating the rats with a disease which he had not learnt to conne with pestis major. The dead rats are cast into the river Wes and then follows an outbreak of the Black Death, the mortality fro some local cause being greatest among the children and their corps being borne along the Bungen-strasse—

> "Where anyone playing on pipe or tabor
> Was sure for the future to lose his labour,
> Nor suffered they hostelry or tavern
> To shock with mirth a street so solemn"—

to the plague-pit dug in the mountain-side without the city. Th date fixed for the disappearance of the children would perhaps be t occasion of finally filling in the pit after the staying of the pestilenc The thirteenth century was the century of the "Black Death"—wa after wave ravaged Europe. 1284 was not one of the great plague yea but in the intermediate periods there were frequent more or le localised outbreaks. I am, Sirs, yours faithfully,

J. B. MACKINTOSH, M.R.C.S. Eng., L.R.C.P. Lond.

Hampstead, March 22nd, 1904.

LEGAL *v.* MEDICAL ETIQUETTE.

To the Editors of THE LANCET.

SIRS,—A few days ago a respectably dressed man applied to a Lond magistrate for advice with respect to his property. The magistrate once rebuked him and told him to apply to a respectable solicitor w if necessary would instruct a barrister. How low is the standard of t medical profession towards its poorer practitioners. Here you have t leaders of the profession giving their advice gratuitously to thousan well able to pay the poor practitioner. In some of the London ho pitals they have to my mind reached the lowest level—they charge 3 a bottle to last a week, and yet these men propose a Bill to preve their poorer brethren from prescribing and selling a bottle of medici for 6*d.*

It is too disgusting and should make physicians and surgeo of good class withdraw their services from such institutions. To t indigent poor the relief is honourable but to the respectable low middle class at 3*d.* a bottle is a disgrace to any honourable ma unless he is starving, connected with any profession.

I believe there is a step lower in the east-end where a medi carries on a pseudo-charitable religious institution and gives advi and medicine for a penny a week.

I scarcely believe the bulk of medical men in England have a knowledge of these facts nor the free-giving benefactors to the institutions.

I trust you will allow it to be brought to their notice.

I am, Sirs, yours faithfully,

March 28th, 1904. M.R.C.S., L.R.C.P.

◆

Nemo.—(1) The value varies according to the amount of opposition, t length of introduction, the possibility of a transference of appoin ments, &c.; (2) special arrangements to meet the contingency of t *sickness, total incapacity, or death of one of the partners* shoul always be made in the agreement.

T. G. R.—We consider that the circular note in question may be sent.

Medical Diary for the ensuing Week.

OPERATIONS

METROPOLITAN HOSPITALS.

MONDAY (4th)—London (2 P.M.), St. Bartholomew's (1.30 P.M., St. Thomas's (3 30 P.M.), St. George's (2 P.M.), St. Mary's (2 30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9 30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (5th)—London (2 P.M.), St Bartholomew's (1.30 P.M.), St. Thomas's (3 30 P.M [illegible]
minster (2 P.M.), [illegible]
(2 P.M.), St. Geor [illegible]
(2.30 P.M.), Cancer [illegible]
(9 30 A.M.), Royal [illegible]
Throat, Golden-sq [illegible]
(2 P.M.).

[illegible]

FRIDAY (8th)—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. [illegible]
(2 P.M.).

SATURDAY (9th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.). Throat, Golden-square (9 30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY (6th).—OBSTETRICAL SOCIETY OF LONDON [illegible]
Morbid Conditions of the Fallopian Tube.

THURSDAY (7th).—RÖNTGEN SOCIETY (20, Hanover-square, W.).—8.30 P.M. Exhibition Evening. Exhibition of Novel Apparatus by Different Makers.

FRIDAY (8th).—THE INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH (9, Adelphi terrace, Strand, W.C.).—8 P.M. Council Meeting. Paper:—Dr. J. Howard-Jones: The Control of Measles Epidemics.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—8 P.M. Clinical Evening. Cases will be shown by Dr. S. Taylor, Dr. Ball, Dr. Saunders, Mr. Lunn, Mr. Paton, Mr. Pardoe and others.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases, Specimens, &c., will be shown by Dr. StClair Thomson, Mr. P. de Santi, Dr. L. Lack, Mr. H. Tod, Dr. H. Tilley, and others.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

Will Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

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The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8 30 a.m. by Steward's Instruments.)

THE LANCET Office, March 30th, 1904.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall	Solar Radia in Vacuo	Maximum Temp Shade.	Min Temp	Wet Bulb	Dry Bulb	Remarks at 8 30 A.M.
Mar. 24	30 33	E	...	78	48	39	41	43	Cloudy
" 25	29 98	E	0 02	48	42	37	38	39	Raining
" 26	30 05	E	0 04	61	45	38	39	40	Overcast
" 27	30·28	N.E.	...	62	47	39	39	40	Overcast
" 28	30 21	S W.	..	85	51	38	39	40	Overcast
" 29	29 56	S.W.	0 19	90	54	40	44	46	Cloudy
" 30	29 32	W.	0·33	71	45	35	36	39	Cloudy

During the week marked copies of the following newspapers have been received: *Aberdeen Free Press, Daily Mail Darlington and Stockton Times, Daily News, Daily Chronicle, Hull and Lincolnshire Times, Westminster Gazette, Leeds and Yorkshire Mercury, South Bucks Free Press, Guernsey Star, Hertfordshire Mercury, Standard, South Wales Daily News, Surrey Advertiser, Coventry Herald, Birmingham Daily Mail, Reading Mercury, Mining Journal, Local Government Chronicle, Liverpool Courier, Westminster Gazette, Pall Mall Gazette, Irish Times (Weekly), &c.*

back of the head coming into violent contact with some resisting object, or else from blows applied directly to the various parts of the skull. In these cases there can be no question of compression. The elastic properties of the skull also are much exaggerated and the peculiar formation of the base, with its greatly varying areas of resistance, is not sufficiently taken into account. The skull, also, can in no sense be regarded as a sphere, since the vault forms less than two-thirds of a complete sphere, the base passing inwards from the lower limits of this segment in a more or less horizontal direction. Bilateral compression never results in a fracture which runs at right angles to the axis of compression, for the fracture passes always directly between the two compressed areas, modified only by the varying resistance offered to it in its transbasic course. In bilateral compression, also, a "bursting" fracture of the vault, the vault being the only "*convexity*," is never seen. If a vault fracture be present it is seen merely as a fissured fracture extending up from the region of the applied force and gradually tailing off towards the summit of the vertex. Further, I shall show that the lines of fracture proceed across the base always in the direction of the applied force, modified again only by the resistance offered by the stronger and weaker basic regions. These facts, and my own experience, render, in my opinion, the above theories quite untenable.

3. "*Contrecoup*" *theory*.—Fractures of the base alone are occasionally seen with direct evidence that the blow was received on the vault. Such cases have given rise to this theory which states that from the point struck a wave is transmitted through the semifluid brain, producing a fracture at some more distant point. Helferich, for instance, maintains that isolated fractures of the orbital roof, and more rarely of other parts of the base are produced by the influence of hydrostatic pressure. This theory is opposed to all experience in the mechanism of basic fractures and the peculiar fractures brought forward as examples are capable of a simpler explanation. The base being undoubtedly the weakest part of the skull fractures in this situation, when extending from the vault, frequently show greater comminution in the basic region than in the vault. A blow on the vault, therefore, may not suffice to produce a local fracture and yet the forces, when transmitted to any specially weak basic area, may there be strong enough to produce a fracture. Such specially weak basic areas are supplied by the orbital plates of the frontal bones and by the thin cerebellar fossa walls. In proof of this it is merely necessary to state that it is a common occurrence to find that as the result of a blow on the vertical frontal plate the orbital plates are comminuted, the vertical plate remaining uninjured, or at most the seat of a small fissured fracture. I show on the screen two cases, one a fracture of the cribriform plate of the ethmoid without any fracture of the vertical plate of the frontal bone, and the other a fracture of the posterior fossa which passed across the foramen magnum and tailed off on the dorsum ephippii, the resistance offered being too great. The forces, however, when conducted to the thin right orbital plate, still retained sufficient energy to produce a comminuted fracture in that region. It will here be in place to draw attention to the extreme friability of the orbital plates of the frontal bone, whilst the upward convexity of the orbital roof probably accounts for the fact that when that area is comminuted the fragments are practically always displaced upwards, the peri-orbital fat projecting through the gaps into the cranial cavity.

To arrive at any definite conclusions with regard to the mechanism of basic fractures it is necessary always (1) to take a careful history of the accident so as to determine in what manner the injury was received and also what part of the skull was struck; and (2) to compare the result obtained with all visible external signs of injury. A careful examination of a large number of cases of fractures of both vault and of base showed that in from 30 to 40 per cent. of cases the evidence was clear that the basic fracture resulted from, and extended from, a severe vault fracture. These cases are therefore examples of Aran's "irradiation" theory. This theory, however, further states that the fracture follows the shortest anatomical route to the base, whilst such is not the case, as (1) the line corresponds to the direction of the initial force, and (2) the line of fracture is markedly influenced by the resistance offered to it in its basic course, picking out, usually, all the weaker spots and avoiding the stronger, and it is only in the most severe cases that a fracture surmounts all obstacles and proceeds to the base directly in the line of the applied force. In over 60 per cent. of cases the injury was received (1) in front, over the lower frontal region, supra-orbital ridges, and external angular frontal process; (2) at the sides, over the auricular and mastoid region; and (3) at the back, over the region of the superior curved line of the occipital bone and the occipital protuberance. In all these cases, therefore, the injury was inflicted at or near the level of the base of the skull. The resultant fracture in all these cases was therefore a basic fracture by direct violence, the fracture passing inwards across the base and splitting the base in the same way as a chisel splits a board of wood, the grain of which may be regarded as representing the weaker lines and any intervening knot as representing the resistance offered by any strong bony buttress, momentarily turning aside the force which again later passes onwards, parallel to the original direction, but not necessarily in the same straight line. A blow in this region will tend primarily to involve the weaker area, the base, and secondarily to extend upwards on to the vault, many of the fractures in which situation result as extensions from blows delivered around the basic circumference. The statement, therefore, that all basic fractures result as extensions from the vault (Aran) is analogous to putting the cart before the horse, since many of these vault fractures result as extensions from the basic region.

There is still, however, another very important anatomical fact to consider and one which must necessarily exercise great influence on all basic fractures which result from falls or blows on the lateral aspect of the head and in most fractures produced by bilateral compression. The skull may be regarded as consisting of two parts, one part lying anterior to the condyles and the other posterior to, and including, the condyles, this latter part, owing to the vertebral attachment, being firm and fixed. As the result of a blow on the antero-lateral region of the head this anterior segment tends to be split off from the more fixed posterior part. If, again, in a fall from a height the post-mastoid region should strike the ground there is in that region a rebound force which acts in the opposite direction, whilst the anterior segment momentarily travels in the original direction; the two segments are consequently influenced for a brief period by forces acting in opposite directions with the inevitable result that they tend to be split one from the other. It is now necessary to point out that between the two segments there exist an exceedingly weak line, this line passing from one external auditory meatus to the other, involving in its course both middle ears, both petro-sphenoidal sutures, with the sphenoidal sinus as a connecting link in the middle line (Fig. 1). Such a fracture, as is indicated in the illustration, exemplifies a common and typical basic fracture and one which is most frequently seen when the accident is the result of a fall from a height. It is usual to find that the fracture extends up, on one or on both sides, on to the vault and occasionally this vault extension is so marked that the whole skull is practically divided into two parts, merely united by soft structures. More than once I have been able to elicit crepitus on the cadaver by rubbing the anterior and posterior segments together.

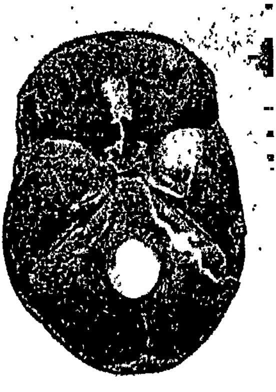
Collecting now the facts, so far as I have gone, I am of opinion: (1) that the bursting and compressing theory and the contrecoup theory are both untenable; (2) that Aran's irradiation theory, with certain modifications, accounts satisfactorily for those basic fractures which result from blows on the vertex; and (3) that most basic fractures result from forces applied directly around the basic level and that these fractures are the result of a splitting force, the line of fracture tending to travel across the base, parallel to the original direction, but not necessarily in the same straight line. It now remains to consider other factors which may exercise great influence on the actual direction of the fracture.

1. *The influence of sutures.*—Complete maceration of the skull is always necessary in estimating how far the various sutures of vault and base are affected in severe head injuries, for the dura mater, dipping down in these situations, usually completely obscures the lesion unless the degree of separation is marked. This injury is generally regarded as of rare occurrence and it is said by Morgagni to be most prevalent in the young. An examination of a large number of macerated skulls shows, however, (1) that separation along certain sutural lines is very common; (2) that this separation is most common in middle life; (3) that not only does

a suture tend to deaden a force, but if a suture lies in the path of a fracture, the forces tend preferably to follow that suture, even though the original direction may be slightly altered in so doing; (4) that in the more simple sutures the separation follows exactly the irregular sutural line, whilst in the more intricate sutures the line of separation passes along the suture, regardless of the finer dentations; and (5) that sutural separation, without any further basic lesion, is possible but of rare occurrence. The masto-occipital, petro-occipital, and lambdoid sutures are most commonly implicated.

2. *The influence of the air sinuses.*—(*a*) The sphenoidal sinus, formed by the hollowing out of the body of the sphenoid, varies greatly in size. In the great majority of cases it extends backwards nearly as far as the occipito-sphenoidal junction, whilst laterally it is separated by a thin plate of bone from the cavernous sinus. The roof and floor are usually paper-like in density, whilst the latter also assists in the formation of the naso-pharyngeal roof. The sinus, therefore, is bounded on all sides by a mere shell of bone and consequently there exists in the very centre of the base an exceedingly weak area, an area, therefore, which would naturally be involved in a very large proportion of all basic fractures. From my own experience this sinus was involved in 70 per cent. of cases, the comminution of roof and floor being in some cases so excessive that a large probe could be passed from the naso-pharynx into the cranial cavity so affording free means of ingress to micro-organisms (Fig. 2). Severe hæmorrhage may result from concomitant injury to the cavernous sinus and to the internal carotid artery, with furious bleeding into the naso-pharynx and nose. The illustration shows the great liability of the sinus region to injury, as (1) all fractures from one middle fossa to the other pass across the sinus (Fig. 1); (2) all fractures from one middle to the opposite anterior fossa also involve this region; and (3) most fractures of the anterior fossa or of the middle fossa tend to terminate in the sphenoidal body.

FIG. 2.



Showing an extensive fracture of the sphenoidal sinus.

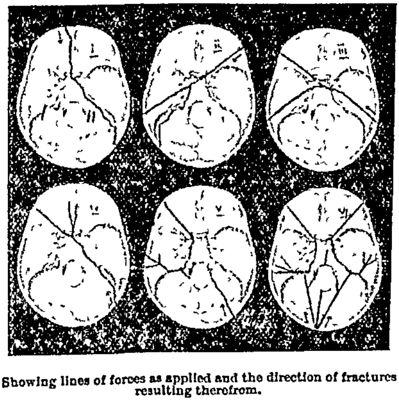
(*b*) Up to the age of puberty the frontal sinus is either absent or represented merely by a small air-cell, but after puberty it develops rapidly in size and extent. This fact is of importance in estimating the gravity of a fracture in the supra-orbital region at the different ages. The two sinuses are also generally asymmetrical and not infrequently the sinus extends far backwards into the orbital roof. The inner boundaries are often exceedingly thin and friable, whilst the outer wall consists of fairly dense bone, and consequently a fracture of the outer wall is almost invariably accompanied by a more severe and frequently comminuted fracture of the inner wall, or, in other words, by a fracture of the anterior fossa. The more prominent immediate resulting symptoms are: (1) hæmorrhage into the orbit and eyelids; (2) hæmorrhage into the nose; and (3) traumatic emphysema from the escape of air into the surrounding tissues, secondary to injudicious blowing of the nose, &c. The air in the cellular tissues may spread widely over the vault and face and into the retro- and peri-orbital tissues, with great swelling of the eyelids and proptosis of the eye. When localised the condition is known as "traumatic pneumatocele."

With regard to later complications it must be borne in mind that the more extensive fracture of the inner wall affords a mode of ingress for septic organisms with resultant extradural abscess or meningitis. It is therefore advisable when suppuration in the external wound occurs to chisel away or to trephine a portion of the outer limiting wall in the most dependent part in order to establish free and thorough drainage, the normal channel of exit into the middle meatus of the nose being usually blocked by swollen and lacerated mucous membrane or by blood clot. Unless some such treatment is adopted empyema of the sinus will probably result and death ensue from direct meningeal infection.

The auditory region.—I shall discuss later the great liability of this region to injury and will merely state here that this weakened area is involved in the great majority of middle fossa fractures. The exact lines of the fracture, the resultant hæmorrhage, the involvement of the seventh and eighth nerves, and other features will all be alluded to under their separate headings.

The basic foramina.—Battle, the only authority on skull fractures who enters into detail with regard to the influence of the foramina on the direction of a fracture, states that "the line of fracture is usually arrested if it meets with one of the foramina in its course, especially if the foramen be a large one." A careful examination of macerated skulls shows, however, that this view is erroneous; Fig. 1 illustrates three separate cases, chosen from numerous others, in which the fracture after reaching the margin of the foramen magnum was again continued on the other side of the foramen. The fracture, after traversing the thin cerebellar fossa, usually strikes the foramen magnum just posterior to the condyle [illegible] the opposite [illegible] the original [illegible] More rarely [illegible] continued on [illegible] is condition [illegible] ith two such cases, both of which are shown in the illustration. Turning from this foramen to others it is exceedingly common to find fractures traversing the foramen lacerum anterium, the foramen lacerum medium, or any other foramen that may lie in the chosen paths of basic fractures. Having now drawn attention to some of the more important anatomical features which exercise greater or lesser influence on the direction of a basic fracture, I will point out that by a careful comparison of the direction of the applied force and the point of application it is possible in the greater number of cases to arrive at conclusions guiding one in estimating the probable line of fracture in any given case (Fig. 3).

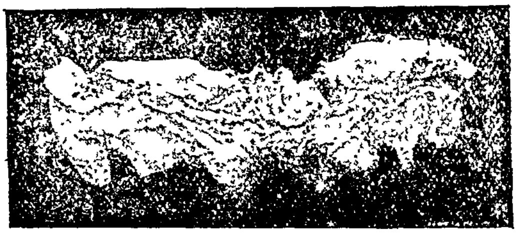
FIG. 3.



Showing lines of forces as applied and the direction of fractures resulting therefrom.

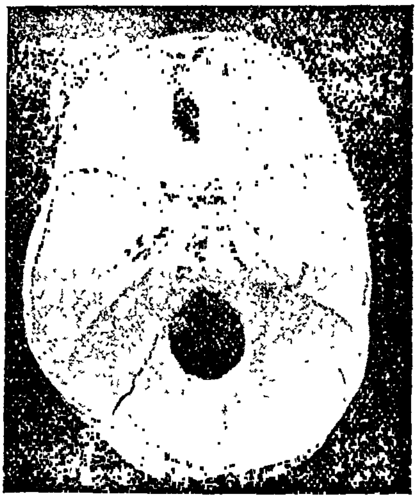
Direction, &c., of the Applied Force.	*Resultant Fracture.*
i. Force applied to median frontal region.	The fracture passes backwards from the perpendicular plate of the frontal bone to the cribriform plate of the ethmoid, thence between the optic foramina to the body of the sphenoid, the thin sinus roof being usually comminuted. From there the fracture diverges to the opposite side, and tearing off the posterior clinoid process passes along the petro-occipital suture to the jugular foramen, being again continued on the other side of that foramen along the masto-occipital suture, and so again to the vault.
ii. Force applied to the lateral frontal region, in the situation of the external angular frontal process.	The fracture passes across the anterior fossa towards the sphenoidal fissure, tearing away the anterior clinoid process, and again comminutes the roof of the sphenoidal sinus. Progressing onwards the posterior clinoid process is torn away and the fracture then passes either along the anterior part of the petrous bone at its junction with the greater wing of the sphenoid towards the opposite middle and external ears, or along the petro-occipital suture to the jugular foramen and continued along the masto-occipital suture, as in the previous case.
iii. Force applied to the region of the external ear.	The fracture passes across the roof of the bony auditory meatus towards the junction of the anterior and inner walls of the middle ear, the membrane and ossicles undergoing a varying amount of destruction and displacement. The fracture is then continued across the tegmen, which is in most cases more or less comminuted, and after following the region of the petro-sphenoidal suture it reaches the foramen lacerum medium, being continued again on the opposite side of that foramen to the sphenoidal body. Thence it pursues one of two courses. Most commonly the fracture passes obliquely backwards to the opposite middle and external ears, following a course similar to that already indicated. (Fig. 4.) In such cases the basic fracture may extend on each side up on to the vault in such a manner that the two segments are merely united by soft parts and an examination of the anterior aspect of the posterior fragment reveals further that the fracture passes just anterior to the geniculate ganglion of the facial nerve, which ganglion usually lies exposed. Its petrosal branches are, however, generally torn. The fracture also passes anterior to the Eustachian tube and anterior to the horizontal part of the internal carotid artery. In passing from without inwards, therefore, the following structures are to be noticed on the anterior aspect of the posterior fragment; the posterior half of the external auditory meatus, the mastoid antrum, the lacerated membrane and ossicles, the posterior two-thirds of the middle ear, the geniculate ganglion of the facial nerve, the Eustachian tube, the horizontal part of the internal carotid artery, the Gasserian ganglion, and the posterior part of the sphenoidal sinus in the middle line. After reaching the sphenoidal body, the alternative course for the fracture to pursue is to pass towards the opposite sphenoidal fissure, and tearing off the corresponding anterior clinoid process, to pass onwards across the anterior fossa, parallel to the original direction but not in the same straight line.
v. Force applied to the mastoid region.	The fracture follows the occipito-mastoid suture to the jugular foramen, and is again continued on the opposite side of this foramen, following the petro-occipital suture towards the apex of the petrous bone. Tearing off the posterior clinoid process, the fracture now passes across the sphenoidal body to the sphenoidal fissure of the opposite side, and so across the anterior fossa, parallel to the original direction. It is especially common in this particular variety of fracture to find fissures diverging from the region of the sphenoidal body forwards towards the cribriform plate the fissures passing mainly between the optic foramina and not usually directly involving those foramina. This fracture is also peculiar in so much that when the degree of separation along the occipito-mastoid suture is excessive there is a special liability to a tearing of the dura mater with injury to the sinus wall just as the sinus begins to dip downwards and inwards. (Fig. 2.)
v. Force applied to the lateral occipital region.	The fracture passes across the thin cerebellar wall, usually leading to some degree of comminution, and strikes the foramen magnum just posterior to the condyle, starting again at a similar position on the other side of the foramen and passing to the outer margin of the jugular foramen (Fig. 5). Two courses, again, are now available, for the fracture may either cut across the body of the petrous bone, external to the internal auditory meatus, finally comminuting the roof of the middle ear, or else the fracture may be continued from the inner part of the jugular foramen along the petro-occipital suture towards the apex of the petrous bone and the foramen lacerum medium. It usually then involves the corresponding sphenoidal fissure and passes across the anterior fossa, parallel to the original direction.
vi. Force applied to the posterior occipital region.	The resultant fracture varies according to the direction of the applied force. A force when applied to the posterior occipital region at right angles to the transverse axis of the skull results in a fracture which, on reaching the posterior margin of the foramen magnum, is continued on again on the opposite side of the foramen along the dorsum ephippii. When the force is more oblique in direction the fracture traverses the thin cerebellar fossæ to the outer margin of the jugular foramen and then follows one of the two courses indicated in the previous case. More commonly the fracture cuts across the petrous bone. An offshoot is frequently seen which passes to the foramen magnum just posterior to the condyles. The cerebellar wall is frequently comminuted and the lateral sinus may be torn in the line of the fracture.

FIG. 4.



Showing portion of the base of the skull with a fracture involving both auditory regions.

FIG. 5.



Showing fracture passing through cerebellar fossa.

Basic fractures, therefore, follow certain definite paths, the transbasic course varying according to the direction of the applied force and the point of application. These plans were worked out in the post-mortem room and were subsequently put to a practical use with the result that a correct diagnosis as to the path of the fracture was made in almost every case. It must be, however, clearly understood that the extent of the fracture, whether it completely traverses the base from side to side or not, depends on the amount of force used and the resistance offered, for bases, as well as vaults, vary greatly in density. To every rule also there must be exceptions and occasionally one may find some peculiar basic fracture which seems to follow no rule, whilst in other cases the force may be so excessive that the fracture crosses the base regardless of all obstacles. I venture to assert, however, that the lines of fracture indicated will in the great majority of cases be found to be correct. Finally, with regard to fractures produced by bilateral compression the line of fracture always tends to run between the two compressed areas, modified only by the relative strength of the intervening areas.

Fractures of the vault.—Fractures of the vault may be limited to that region or they may coexist with a basic fracture. Evidence has been brought forward under "fractures of the base" to show that in the latter class of cases the vault fracture frequently results as an extension upwards from the basic circumference. Whether, as the result of a blow on the vault, the fracture remains limited to that region or extends downwards also to the base depends mainly on the degree of force used and the direction in which that force is applied. The greater the force the greater is the tendency to vault limitation, whilst, on the other hand, a force applied obliquely downwards on to the skull surface usually results in an extension towards the basic area, not, however, following the shortest anatomical route to the base, as Aran indicated, but guided to the base by the direction of the applied force and by the resistance offered to it in its course. The fracture passes preferably between the various bony buttresses which pass up from base to vault, except in those cases where, owing to greater violence, it passes to its termination regardless of the obstructions which may lie in the path. Lastly, fractures of the vault, produced by falls from a height on to the summit or on to the side of the head, are usually complicated by a concomitant basic fracture, the weight of the falling body being transmitted through the condyles, greatly influencing the extent and direction of the forces acting. The varieties of vault fracture are of such text-book prominence that I propose to confine myself to three points only.

1. *Fractures of the external table.*—The possibility of a fracture of the external table without any injury to the internal table was up to recent years a matter for dispute. The late war in South Africa has, however, conclusively proved the existence of such a fracture. This "gutter-shaped" fracture usually results from a glancing or spent bullet. Such fractures are, nevertheless, of such rare occurrence and of such difficult diagnosis that they form no exception to the rule that exploration and trephining should be carried out when there is any suspicion that a more extensive injury to the internal table may also be present.

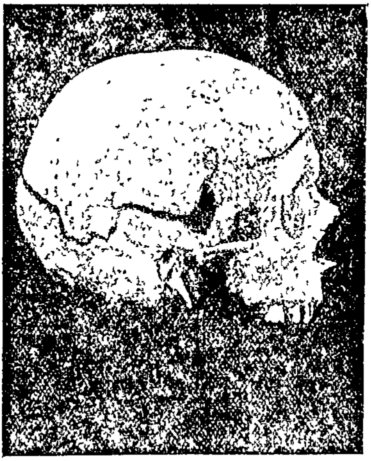
2. *Fractures of the internal table.*—"When a foreign body passes completely through any part of the skull—it matters not what the direction may be—the aperture of exit is always larger than the aperture of entry." Such was the law enunciated by Teevan in 1864 and explained by him as follows: "The aperture of entry is caused by the penetrating body only, whilst the aperture of exit is larger, inasmuch as it is made by the penetrating body plus the fragments of bone driven out of the proximal table and diploe." Previously to this theory the explanation offered was that the internal table was the more brittle Teevan proved that this was not the case as by firing a bullet from inside the skull the wound of exit was again greater than the wound of entry. It was also proved that whether the inside or the outside of a skull be struck fracture of the distal table only, without any injury to the proximal table, can be produced in either case. This is, as Teevan pointed out, in obedience to the law that "when pressure is applied to a body, when it breaks the fracture commences on the line of extension, not that of compression." Fractures of the internal table are most common and most extensive in those regions where the diploic tissue is most abundant—e.g., the mid-parietal and anterior frontal regions. Too much stress, therefore, cannot be laid on the fact that (1) fractures of the internal table only may exist without any visible or palpable injury to the external table; and (2) that when the external table is fractured there is in nearly every case a more extensive fracture of the internal table. The depressed internal table may give rise to many complications, of which the following are the more important.

(1) *Immediate.*	(2) *Remote.*
A. Injury to the membranes, venous sinuses, and meningeal arteries.	*A.* Meningeal thickening, chronic cerebritis, and arachnoid cysts, with consequent localised cephalalgia, Jacksonian epilepsy, and insanity.
B. Injury to the brain substance	*B.* Meningitis, cerebral abscess, &c. (when compound).

Some of the complications and the question of treatment will be alluded to later.

3. *Explosive fractures.*—The passage of a bullet through the brain leads occasionally to such intracranial disturbance of the fluid and more solid contents that the resultant explosive force, combined with the forces acting on the skull from the impact of the bullet, produces a peculiar fracture which I may call an "explosive fracture." More commonly the sutures give way, especially along the line of the sagittal suture, but in more rare cases the vault may be more or less completely lifted off from the base. This unique specimen which I show you is an example of this latter variety. The bullet, fired from a pistol held close to the right temporal region, passed through the brain and impinged against the opposite parietal region, producing an "elevated" *fracture, the external table being more extensively damaged than the internal.* In spite of an abnormally massive skull an irregular fracture extended completely round the skull, except for about two and a half inches in the right occipital region, lifting the vault from the base like a trap-door. There was no basic fracture. (Fig. 6.)

FIG. 6.



Explosive fracture caused by a pistol shot in the right temporal region.

Fractures in children.—In comparing a child's skull with that of the adult it can at once be seen that there are certain peculiarities in the former which must influence the direction and the extent of a fracture. 1. The bones of the vault are elastic and pliable and consequently a blow may lead to a bending-in, temporary or permanent, without any actual fracture. Dense fibrous tissue also intervenes between the bones, tending to limit the fracture to the bone struck, extensions to the basic regions being comparatively rare. 2. The diploic tissue is practically absent and consequently fractures of the internal or external tables only are almost unknown. 3 The air sinuses are non-existent or small. It is especially important to bear this in mind in estimating the gravity of severe fractures in the anterior frontal region. The greater adherence of the dura mater in the child is said to prevent the formation of any extensive extradural clot. There can be no question that middle meningeal hæmorrhage in children is rare, but I put this down, not to the supposed greater adherence of the dura mater, but to the fact that, owing to the elasticity of the skull and the absence of bony spicules from the internal table, the artery usually escapes laceration, being more commonly pushed aside or compressed. Bruising and superficial laceration of the brain are, however, relatively more common in children than in adults, owing to the greater delicacy in structure of the arachnoid, pia mater, and cortex. A comparatively slight blow leads consequently to subpial and subarachnoid hæmorrhages, resulting in violent convulsions when situated over the Rolandic area.

of the base, though obviously of less frequent occurrence, in their direction and extent follow the rules already put forward under "fractures in adults." The presence of the petro squamous suture makes more grave the prognosis of a fracture, involving the middle ear and being followed by suppuration.

Relative frequency of fractures of the anterior, middle, and posterior fossæ.—A basic fracture may be limited to one fossa only or all three may be involved at one and the same time, whilst in rare cases the anterior and posterior fossæ may be fractured, the intervening middle fossa remaining uninjured. Fractures implicating the anterior and middle fossæ are almost invariably accompanied by definite symptoms, rendering the diagnosis fairly certain, whilst fractures of the posterior fossa are frequently overlooked owing to the absence of definite clinical symptoms, and it is of common occurrence to find at the post-mortem examination a fracture in this situation the existence of which had not previously been suspected It is probable that fractures of the middle fossa are the most common and fractures of the posterior fossa the most rare.

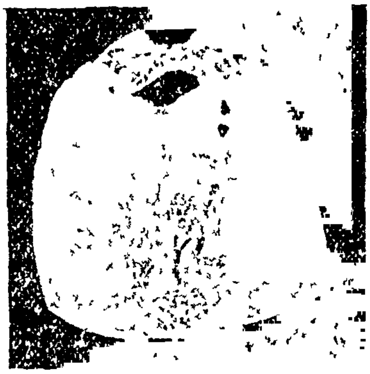
Mortality according to the fossa implicated —In endeavouring to estimate the mortality according to the fossa implicated the same difficulties arise owing to the uncertainty of the diagnosis of posterior fossa fractures. There are, first of all, dangers peculiar to each fossa. 1. Anterior. Septic infection from the nose, ethmoid cells, &c. 2 Middle. Septic infection from the naso-pharynx and ear, injury to the middle meningeal and internal carotid arteries. 3. Posterior. Injury to the venous sinuses Fractures of the middle fossa, therefore, are the most dangerous from local complications There is, however, a grave complication which is common to all fossæ, injury to the brain itself, and since the vital centres are grouped posteriorly in the region of the fourth ventricle the prognosis of fractures of the posterior fossa is correspondingly rendered more grave. Probably the mortality increases from before backwards, fractures of the anterior fossa being certainly the least dangerous, with but little to choose between a fracture involving the middle fossa and one implicating the posterior fossa. The general mortality as given by different authorities does not vary very much. Battle from 168 cases puts the general mortality at 32 per cent. This is, according to my experience, too low, for in 215 cases 89 died and 116 recovered. The mortality equalled 44 *p*er cent. Fractures of the base occur at all ages of life, the death-rate being highest at the two extremes of life, from 50 to 60 per cent under the age of five years, and from 60 to 70 per cent after the age of 70 years.

Mortality of vault fractures, with and without depression.—The general mortality of vault fractures, with or without depression, is from 20 to 25 per cent., the death-rate now being lowest in children and highest in old age.

There are still some surgeons who refuse to believe that a patient can recover from a severe basic fracture. Clinical experience, however, shows again and again that even after the most extensive injuries patients may completely recover, and this is especially the case in young adults. As an example I will briefly narrate one case. A boy, aged 15 years, was hanging by his feet from a wharf when a barge, swinging inwards, crushed his head against one of the piles. When admitted he was collapsed and pulseless and bleeding profusely from both ears, from the nose, and from the mouth Both tympanic membranes were lacerated at the upper and anterior part and subsequently marked facial paralysis was seen on one side. One pupil was widely dilated and the other was contracted to a pin-point, and added to this there was marked internal strabismus of one eye with proptosis. In spite of all these troubles the boy made a rapid recovery, all symptoms disappearing except the squint. A more typical picture one could not desire and the symptoms all indicated one of the most severe basic fractures—that fracture which I call "the typical basic fracture"—as it undoubtedly passed from one auditory meatus to the other (Fig 4), involving both middle ears and the sphenoidal sinus in the middle line. The line of fracture passed just in front of the genu of one facial nerve and from the sphenoidal region there was an extension forwards to the sphenoidal fissure, thus accounting for the orbital symptoms. The sixth nerve was probably injured, as it laterally grooves the dorsum ephippii and, as I shall point out under "nerve implication," injuries of the sixth nerve in that situation frequently lead to a permanent paralysis.

Though there are but few who refuse to believe in the possibility of recovery in such cases, yet there are many who regard a posterior fossa fracture as necessarily fatal. Such a view is hard to refute by a mere recitation of cases, since these fractures are conspicuous by their lack of clinical symptoms. The illustration, however, is that of a united fracture of the posterior fossa and it exemplifies well certain peculiarities common to all united basic fractures (Fig. 7). The new bone formation is poor in quality and in quantity, being rough and porous, and almost limited to the inner aspect of the skull. On the outside the fissure remains quite definite, the edges being slightly rounded off with scattered bridges of new bone formation. The dura mater is generally firmly adherent to the rough new bone and also thickened and discoloured.

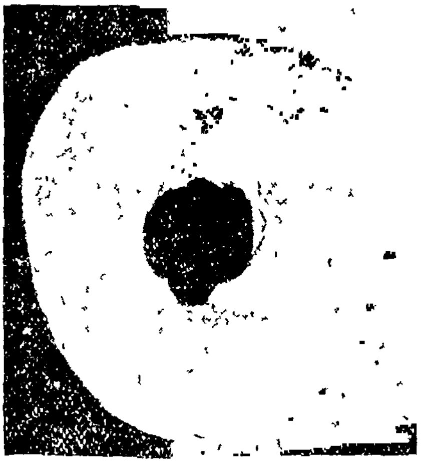
FIG. 7.



A united fracture of the base of the skull.

The medico-legal aspect of skull fractures.—The next illustration is of great interest on account of its medico-legal importance. The man from whom the specimen was obtained was seen by several witnesses to commit suicide in a state of suicidal frenzy by striking himself repeatedly on the vertex of the skull with a dumb bell. The evidence of repeated blows is borne out by the appearance of the vault. A central hole, nearly circular in shape, is surrounded by numerous semicircular dents and fissures, showing that several blows were inflicted (Fig. 8) Those fragments which were not driven into the brain were torn out by the patient before he became unconscious. The greater destruction of the internal table is also of interest. The position of the fracture, the evidence of repeated blows, and the nature of the implement used would in the absence of reliable witnesses have been sufficient to lead to a verdict of "wilful murder."

FIG 8



A fracture of the vertex of the skull from repeated blows.

Two other cases of equal medico-legal interest are reported by Mr. R. Withers of Plymouth. The first case was that of a man who was admitted into the Tuapeka Goldfields Hospital, New Zealand, 25 years ago, suffering from a comminuted fracture of the frontal bone, exposing the dura mater. He was found unconscious in a hut with a blood-stained tomahawk lying by his side. His mate was arrested, but fortunately for him the injured man recovered consciousness after [illegible] Having collected [illegible] mate to get stores [illegible] nt the money in a prolonged debauch and on his way home an angel appeared to him and pointed out to him the iniquity of his conduct in thus defrauding his mate. In consequence of this and in order to expiate his offence, on his arrival at the hut he knelt down on the floor and proceeded to smash in his forehead with the butt end of the tomahawk, continuing his efforts till he lost consciousness.

The second case was that of a Kanaka on a sugar estate in Australia. This man was found lying in the hut of another Kanaka with his forehead crushed in and a hatchet beside his body. He remained insensible for several days but eventually recovered and stated then that his injuries were self-inflicted and that he went to the other man's hut so that suspicion of murder should rest upon him.

ON THE USE OF DR. MARMOREK'S ANTITUBERCULOUS SERUM.

BY ARTHUR LATHAM, M.A., M.D. OXON.,

ASSISTANT PHYSICIAN AND LECTURER ON PRACTICAL MEDICINE AT ST. GEORGE'S HOSPITAL; ASSISTANT PHYSICIAN AT THE BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.

EARLY in December last I was so much impressed by Dr. Marmorek's arguments against tuberculin being the real toxin in tuberculosis and by the value of his evidence that the new toxin, by means of which his antitoxic serum is prepared, is the true toxin, that I asked him for a supply of this serum in order that I might investigate its value upon selected cases at St. George's Hospital and at the Brompton Hospital for Consumption. Dr. Marmorek not only gave me a free supply of the serum but came over from Paris on three occasions in order that I might have the benefit of his advice.

At the commencement of this investigation Dr. Marmorek expressly stipulated that the serum should only be given to severe or to urgent examples of the disease. "If," he said, "you find in these cases, as I have found, that the serum does no harm, and still more if you find you are able to ameliorate the symptoms and diminish the extent of the disease, then you will be justified in extending your investigation to cases in which the disease is less severe and in which the prognosis is more hopeful." This unusual attitude was no doubt the most scientific one to adopt but it necessarily somewhat increased the difficulties with which one has to contend in an investigation of this kind. My experience is limited to some 30 severe cases and extends over a period of three months; consequently it is premature for me to give a decided opinion as to the value of the serum. I have, however, gladly consented, in deference to Dr. Marmorek's express wish, to give the general impressions I have formed of this new treatment up to the present time. And although I cannot bring forward any indisputable evidence that the serum is capable of producing what is termed a cure of tuberculosis my experience of the necessary technique, of the dosage and action of the serum, and of the complications which sometimes occur, may be of value to the profession at the present moment, for there can be little doubt that, in virtue of the paper recently read by Dr. Marmorek at St. George's Hospital,[1] an extended trial of the value of the serum will now be made in this country.

The difficulties of forming a trustworthy judgment in the investigation of a new remedy in a disease which presents such a changing picture as tuberculosis must be borne in mind. In the first place, we have not much experience of the effects of horse serum when it is used during a period of several months. Consequently, we are, to a certain extent, ignorant of the effects which should be properly attributed to the serum and not to the antitoxin. There is in addition the difficulty which is always present in the treatment of tuberculosis, the difficulty experienced in differentiating between *post* and *propter*, when we try to estimate the value of our remedy. For example, two patients to whom I refused the serum developed pneumothorax within a week and rapidly succumbed. In another case, in which I postponed my decision, there was an acute exacerbation of the disease a few days later with a fatal result. In another instance Dr. Marmorek put off the first injection from a Saturday to the following Monday; the patient, however, succumbed to profuse hæmoptysis on the intervening Sunday. In all these cases if the serum had been used an adverse judgment of its value might have been formed. Again, no one who has not had an experience of this kind can realise the difficulty there is in obtaining suitable cases when one wishes for them. Naturally, all my patients had the treatment explained to them and were asked for their full consent. A proportion of patients refused their consent; others who consented would not persist with the treatment for a reasonable time. Others again could not support the serum. Finally, there was the difficulty of determining the general technique and the most suitable dose of the serum.

THE TECHNIQUE.

The serum is injected under the skin. As a rule I have injected it into the abdominal wall; some patients, however, prefer to have the injections made under the skin of the back, of the axilla, or, in the case of men, of the arm. In surgical cases it is possible that the serum may be more beneficial when injected somewhere in the neighbourhood of the lesion. For the first injection the skin is prepared as if for a surgical operation and the puncture made by the needle is closed with collodion. If an extensive preparation of this kind is made for each injection the skin soon becomes sensitive. Consequently, after the first injection we have covered the selected area with cyanide gauze and then for each subsequent injection contented ourselves with swabbing the skin with some antiseptic before using the needle. That this procedure is sufficient is shown by the fact that no sepsis of any kind has followed the injections given in the cases which have been under my care. These injections amount to over 450 in number. Successive injections should not be made in the immediate neighbourhood of previous ones. Too much collodion should not be used in closing the puncture made by the needle as this substance may set up some irritation of the skin. The syringe and needle are naturally sterilised before use, preferably in an autoclave. I employ a separate needle for each case and have each needle thoroughly sharpened every day before sterilisation. This is an important point for the comfort of the patients in a long series of injections.

The serum is supplied in bottles of varying size and it frequently happens that some serum is left in the bottle after the required amount has been withdrawn. In order to prevent the contamination of this the following procedure is adopted. The cork and the neck of the bottle are sterilised by being passed through a spirit flame; the cork is then withdrawn by pressing it to one side and not by a revolving or corkscrew action. The required amount of serum is drawn into the syringe; the cork and the neck of the bottle are again sterilised and the cork is reinserted. The serum should be kept in a cool place but not on ice. If the serum becomes cloudy or if it is definitely blood-stained it should not be used. Dr. Marmorek prefers to give the serum in the morning between 9 and 11 o'clock.

With regard to the dose, in chronic cases we at first gave ten cubic centimetres every day for seven, eight, or nine days. This series of injections was followed by a period of intermission lasting a week or ten days. At the end of this period the serum was given in five cubic centimetre doses for two days and in six cubic centimetre doses for a further two days. After one day of intermission seven cubic centimetre doses were now given on two days. Eight cubic centimetres were given on the next day, and nine cubic centimetres on the final day of this series. A further week or ten days were allowed to elapse and a third series similar to the second was then given, and so on. These doses, however, were too large and too frequently led to serum effects. We now use five cubic centimetre doses for four consecutive days, followed by a period of three days' rest. A second and third series are then given of the same dose and with the same period of intermission. When the third series has been given the next period of intermission should in most cases last at least two weeks. My later experience tends to show that patients sometimes begin to improve during these periods of intermission, whilst they may show no improvement if the serum is pressed too hard. No definite rule can be laid down, however, in this matter as individuals show such a varying capacity for supporting the serum. Some patients have received a large amount of serum in a comparatively short period of time and have shown no serum reaction whatever—such as rashes, tenderness, enlargement of glands—whilst others are unable to support three consecutive doses of five cubic centimetres Some cases can only support the treatment when the injections are given every other or every third day. The main thing to watch in fixing the dosage for a particular case is the capacity of the individual to support the serum. In all cases it is important to have periods during which the use of the serum is discontinued. These periods of intermission, again, must vary in individual patients. For example, if a patient shows definite serum effects such as a rash, &c., after four days' injection the period of intermission should be longer than in a case in which a patient shows no such reaction.

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[1] THE LANCET, March 26th, 1904, p. 854.

In acute cases and, as far as my experience goes, possibly in surgical cases larger doses may be given. In acute disease, such as meningitis, as much as 30 cubic centimetres in divided doses may be given every day for four or five days, the dose being then gradually diminished. I have given a child five years of age 30 cubic centimetre doses for four days without harm. In adult surgical cases from eight cubic centimetre to ten cubic centimetre doses appear to be frequently well borne.

Serum Effects.

By these I mean certain results which may be attributed to the horse serum and not to the antitoxin. A certain proportion of individuals are unable to support this serum just as others, even healthy men, are unable to support antistreptococcic or plague serum. In such cases there may be a rise of temperature, a feeling of malaise, some tenderness about the seat of injection, enlargement and tenderness of the neighbouring glands, neuralgic pains, development of various rashes, and, in rare instances, affections of the joints. In every case if the dose of serum is pushed too far these phenomena, or some of them, may present themselves. In many instances 10 cubic-centimetre doses cause a rise of temperature in chronic cases. The temperature usually falls again when the injections are omitted. In certain instances this rise of temperature does not occur until after the injections have been discontinued, showing a certain cumulative effect of the serum. In two cases this rise of temperature has persisted for some weeks. It may be said that in both these instances the serum did harm. One of these cases was converted from the apyrexial type to the pyrexial type. In this case blood-stained serum was given and this I have now learnt should never be employed. In the other case, which was one of great severity, the patient supported the serum badly and we used what we now know to have been too large doses. Now that we use smaller doses we meet with this rise of temperature exceptionally and not to the same extent. If such a rise of temperature (to from 101° to 103° F.) occurs, then, in view of my experience, the use of the serum must be stopped and only tentatively renewed some days after the temperature has declined. By carefully watching the temperature it is sometimes possible to anticipate the cumulative action of the serum. When this occurs the injections should be temporarily suspended.

The rashes which make their appearance are the ordinary serum rashes—i.e., urticaria, erythema, and scarlatiniform eruptions. These may occur after three or four injections and are most common after eight or nine consecutive injections. They may occur within a few hours of an injection or they may occur some days after the injections have ceased. The commonest is an erythema about the seat of injection which as a rule may be neglected, save as a signal that the series of injections may soon have to be interrupted. When there is a general erythema or urticaria with coryza and a rise of temperature the injection must be omitted for a varying period, usually for a week. In some instances of this kind there is but little feeling of malaise and in yet others, although the temperature is appreciably raised, there is little alteration in the number of pulse beats or of respirations. In some cases, simultaneously with the rash, the patient suffers from a feeling of "pins and needles" in the limbs; this sensation may be followed by definite neuralgic pains. In one case there were swelling and tenderness of one of the finger-joints; this, however, lasted only three days. In a certain proportion of cases, more especially when the injections have been numerous, there is considerable œdema at the seat of injection. The œdema may be quite hard, is sometimes painful, and may last for a considerable time; in many instances, especially if there is no pain, this condition need not cause the injections to be interrupted.

Again, in three instances in which I gave doses of ten cubic centimetres for some time at the commencement of this investigation the patients became drowsy and listless. These symptoms pass off as soon as the serum is discontinued. In two or three instances there has been a certain amount of vaso-motor disturbance a few minutes after the injection and one patient fainted and became collapsed after the nineteenth injection of five cubic centimetres of the serum.

The Antitoxic Effects of the Serum.

As I have already said, my experience is not yet sufficient to justify me in giving any definite opinion on this point. It is, however, already clear that the serum has its limitations. We cannot expect to obtain any permanent relief by its use in a large number of cases in which there is extensive disease of some years' standing or in cases in which there are marked excavation and secondary infection. In some instances of this class of case which I have treated the disease has made steady progress during the time the injections have been given. In the majority of instances, however, my patients have expressed a definite opinion that they feel more comfortable for the injections. In three cases out of the six treated of surgical tuberculosis the pain and tenderness disappeared completely after a few injections had been given. In the majority of cases of pulmonary tuberculosis the first few injections lead to an increase in the weight of the expectoration and to an increase in the number of moist sounds. In a certain number this increase has been followed by a diminution in the weight of the sputum which has been progressive, together with a diminution in the number of adventitious sounds. These results are sometimes more marked during the periods in which the injections are omitted than they are when the serum is being used. It is too early, however, for me to give a useful summary of the effects of the serum on the various symptoms, especially as a considerable proportion of the comparatively small number of cases I have had an opportunity of treating for an adequate period are still under treatment. I will content myself with giving a few examples of the cases under my care which appear to show that the serum does produce a definite antitoxic effect.

Case 1.—The patient was a male, aged 19 years. Five weeks before admission he had consulted Dr. E. C. Greenwood who sent him to me. For two weeks previously to his visit to Dr. Greenwood he had been feeling "out of sorts" in consequence of a strain at football. Up to this time he had always felt well. For the last three weeks before admission he had suffered from cough, night sweats, and fever. During the last month he had lost six pounds. On admission he was anæmic and complained of dyspnœa on exertion and of being easily fatigued. The pulse was 108, regular, soft, and of poor volume. The evening temperature was 100° F. On examination it was found that there was tuberculous infiltration throughout the right lung with signs of commencing softening in the upper third. The left lung was healthy. During the first week in the hospital, when no injections were given, the average daily weight of the sputum, which was nummular and muco-purulent in character, was one ounce. The sputum contained on an average 38 tubercle bacilli in the film. The body-weight was 9 stones 6 pounds. This patient received 145 cubic centimetres of the serum in 23 injections. After six weeks' treatment he left St. George's Hospital for the Royal Ventnor Hospital. During his treatment he became stronger and felt much more comfortable. The night sweats ceased and the cough became less troublesome. The amount of expectoration became less and instead of averaging, as on admission, one ounce by weight a day averaged 2½ drachms. The number of tubercle bacilli showed *no diminution*. The patient, who was of a better class than the usual hospital patient, gained ten pounds in six weeks. When he left St. George's Hospital he was able to walk three miles without fatigue. The temperature became practically normal. The dyspnœa disappeared. With regard to the physical signs it is interesting to record that there was no extension of the disease to the left lung. The actual extent of the disease in the right lung [illegible] the six weeks of treatment. [illegible] ·en signs of softening there [illegible] ith comparatively few moist sounds. In the rest of the right lung the adventitious sounds became markedly less.

CASE 2.—The patient was a man, aged 36 years, who was treated at the Brompton Hospital. In July, 1903, he had an attack of hæmoptysis. Since then he had suffered from cough and expectoration. On admission he was described as a fairly healthy man with a malar flush. His voice was hoarse, the epiglottis was thickened and rigid, and no view of the larynx could be obtained. The evening temperature was 101° F. The daily weight of the sputum varied from three to six ounces and contained tubercle bacilli. The body weight was 9 stones 6 pounds. The whole of the left lung was found to be infiltrated and there were large crepitant râles to be heard in the region of the axilla and over the lower half of the lung. This patient has had up to the present time 260 cubic centimetres of the serum in 42 injections. At first he felt more comfortable and the night sweats disappeared. After three injections the evening temperature fell from 101° to normal, although a week's treatment under ordinary conditions had produced no change in his symptoms. After 42 days' treatment the physical signs in the left lung had somewhat diminished, the large crepitant râles being less numerous, but there were now signs of early infiltration at the apex of the right lung. Consequently the serum treatment was omitted on Jan. 22nd. The evening temperature, which hitherto had been normal except at the commencement of the treatment, again rose to 100° on Feb 6th and remained at this point till the 18th. The man began to lose ground. At his own request the injections were renewed on the 16th and the temperature again became normal on the 18th. At the present time the physical signs in his left lung, more especially at the base, are much less marked as far as adventitious sounds are concerned and the recent infiltration at the right apex shows signs of diminution. The voice is distinctly less hoarse, the general condition is improved, and there has been a gain in weight of 11 pounds in three and a half months. The weight of sputum and the number of bacilli so far show no sign of decrease.

CASE 3.—The patient was a male, aged 17 years. He had a chill 12 months before admission to the hospital with subsequent cough. He had been losing ground for the last three months. On admission he was suffering from night sweats and dyspnœa. P[illegible] l infiltration of the upper third [illegible] excavation on the left side. 1[illegible] um were given in 26 injections. The patient has left the hospital with his general condition somewhat improved in that he has lost his night sweats and suffers less from dyspnœa. His weight has remained stationary and the physical signs in the lungs show no alteration beyond some diminution in the number of moist sounds. The interest of this case lies in the sputum. This, though never profuse, showed a diminution in weight. Again, during the first week of treatment 40 tubercle bacilli were found in the average field together with a few elastic fibres. During the last eight weeks of the patient's stay in the hospital a weekly examination of the sputum failed to reveal any elastic fibres or tubercle bacilli except a clump of four bacilli on one occasion. The sputum contained a number of cocci and towards the end of the treatment was possibly largely pharyngeal

CASE 4.—This case was one of extremely acute tuberculosis. A woman under the care of Mr. Owen Lankester, who had previously enjoyed good health, complained of feeling unwell. On an examination of the chest crepitations were discovered at the apex of the right lung. Tubercle bacilli were present in the sputum. The disease rapidly spread throughout both lungs and a fatal issue resulted in six weeks from the onset of the first symptoms. When I saw this patient five weeks after the commencement of the illness there appeared to be no hope whatever of a favourable issue. Large crepitant râles were heard over the entire surface of both lungs. Dyspnœa was marked, the pulse was feeble, and the temperature was 105° F. In view of my limited experience of the serum at that time I was not anxious to try it in this case, but somewhat against my will consented to do so. The effect of the serum, which was given in doses of five cubic centimetres, was well shown in the temperature chart. Not only was the temperature reduced but the character of the daily curve was altered. The clinical records extended over 11 days—namely, from Feb. 4th to the 14th—the temperatures being taken every four hours. On nine occasions the maximum daily temperature was at 2 A.M. or 6 A.M., while on two occasions it was at 10 A.M. or 2 P.M. Injections of five cubic centimetres of serum were given on Feb. 7th, 8th, 9th, 10th, 12th, 13th, and 14th. On and after Feb. 9th the character of the temperature curve was changed, the daily maximum being lowered and the fluctuations greatly reduced in their range. On Feb. 9th the maximum recorded was 103° and the minimum 101°. On Feb. 10th the maximum was 101·6° and the minimum 99·6°. On Feb. 11th, when no injection was given, the maximum was 103° and the minimum 98·4°. On Feb. 12th the maximum was 101° and the minimum 97 6°. On Feb. 13th the maximum was 100 4° and the minimum 97 8°. On Feb. 14th, when death took place in the evening, the maximum was 100°. The highest recorded pulse-rate was 108 and the lowest was 80. The condition of the lungs showed no amelioration. I gave the small doses of five cubic centimetres partly because I did not wish to set up unpleasant serum effects and so to add to the discomfort of the patient, but chiefly because I thought that the serum, which, as I have said, often increases the amount of expectoration and the number of adventitious sounds for the first few days, might act detrimentally if given in large doses in this case on account of the severity of the catarrh already present. It is an open question whether large doses should not be given in a similar case. Certainly, if a case of this kind is seen at an earlier period, doses of at least ten cubic centimetres daily should be given.

CASE 5.—The patient, a boy, aged 14 years, was sent into St. George's Hospital by Mr. T. Crisp English for early tuberculosis of the lower end of the fibula on the left side. There was a history of aching pain in the left ankle for 14 days. No cause of the disease was known and there was no history of an injury. A swelling had appeared after a few days. On admission there was definite thickening of the lower end of the left fibula. The skin over the outer malleolus was livid and glossy. The movements of the ankle-joint were fairly free but there was pain on pressure and on extreme extension. The tibia was unaffected. The boy was kept in bed but received no treatment beyond the injections of serum. 55 cubic centimetres of serum in six injections were given. After three injections the pain completely disappeared and 14 days after the commencement of the treatment the condition of the boy was such that he was allowed to get up and to walk about the ward. The disease apparently has been completely arrested. This case is the only example of early tuberculosis which I have treated so far with the serum. It is, of course, in no way conclusive, for such cases show improvement sometimes of a similar kind when treated with rest alone. The rapid disappearance of the pain and subsidence of all symptoms are, however, suggestive.

As a result of my experience of this new treatment up to the present time I think I may say that the serum when given in carefully graduated doses, with proper precautions and in suitable cases, does no harm. Further, my experience tends to show that the serum does produce a specific antitoxic effect. In any case, there can be no doubt that an extended trial of this remedy should be made, more especially in less severe cases than those to which I have hitherto intentionally confined my attention. It must not, however, be forgotten that great care must be exercised in the administration of this remedy and that the treatment may have to be extended over a considerable time before permanent results are obtained.

In conclusion, I would express my gratitude to Dr. Marmorek for his advice and constant consideration, to a number of my colleagues for their kindly coöperation, to Dr. W. B. Swete Evans of St. George's Hospital, and to the house officers of the Brompton Hospital for their unwearying assistance.

Brook street, W.

HOSPITAL SUNDAY FUND IN BRISTOL.—Up to March 10th 359 collections in aid of the Lord Mayor of Bristol's Hospital Sunday Fund, yielding £1700, had been received. The number made in 1903 was 327, producing £1565, and this year's collections have exceeded that total by £135.

THE MENTAL CONDITION IN EPILEPSY IN RELATION TO PROGNOSIS.[1]

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IN a previous communication to this society[2] I dealt in general terms with the prognosis and curability of epilepsy, with reference more particularly to the convulsive element. In the present paper a special study has been made of the influence of the mental condition in epilepsy upon the prognosis of the disease.

That the mental condition in epilepsy has been the subject of much investigation is apparent from a review of most of the treatises upon the disease. Morel speaks of the "epileptic character" and other writers refer to the characteristic loss of memory and irritability of temper shown by many epileptics. Reference is also not uncommonly made to epileptic insanity, but authorities differ as to the frequency and causation of a disordered mental state. Whether, indeed, it is an essential feature of the disease, whether epileptics tend invariably towards dementia as a natural consequence of the malady, or whether it is dependent upon the frequency, the character, or the severity of the seizures, is the subject which will now be brought under discussion.

A brief reference may first be made to the proportion of epileptics who become mentally afflicted according to the statements of different writers. Esquirol,[3] for instance, stated that of 385 epileptic women observed in the Salpêtrière, 73 per cent. were mentally afflicted. Russell Reynolds[4] referred to the fact that of the 62 cases studied by himself, 38 per cent. were free from any mental failure, 46 per cent. showed some degree of mental impairment, and 14 per cent. were demented. Wildermuth[5] mentioned that the percentage varied according to whether the cases were observed inside or outside an institution. From the observation of his institutional cases he found 78 per cent., and of those outside the institution 47 per cent. mentally afflicted. Habermaas,[6] who has studied the mental condition in detail amongst the patients attending the Epileptic Institute at Stettin, gives the following figures: 17·3 per cent. were intellectually normal, 21 per cent were able to earn wages, 30 per cent. could do some work, and 49 per cent. were so demented that they were unable to work at all. Of those patients who were inmates of the institution only 13 per cent. were intellectually normal and 22 per cent. were demented, while the remainder showed intermediate degrees of mental failure. Some further facts mentioned by Habermaas may be added. He refers to Tigges, who found 23 per cent. out of 124 epileptic children mentally defective, and to Pelman, who found 50 8 per cent. of epileptics mentally healthy. The above-mentioned facts show that in the opinion of many writers upon epilepsy mental failure is more common than mental health and that this is true whether the patients are observed inside or outside an institution for epileptics.

THE MENTAL CONDITION IN EPILEPSY.

The mental state in epilepsy is usually described under two heads: first, that which may be regarded as incidental to the seizures; and, secondly, the interparoxysmal condition. The former heading includes all those delusional, maniacal, and melancholic states which precede or succeed more especially the major convulsions and which may be considered as constituting epileptic insanity, while the latter embraces the mental attitude and characteristics of the patient between the seizures, and may with confidence be looked upon as the typical epileptic mental condition. It is therefore the latter element of the disease which will receive detailed consideration in the following remarks.

Following upon the lines laid down by Reynolds, Habermaas, and others, sane epileptics have been divided, according to their interparoxysmal condition, roughly into four classes, showing slight, profound, or intermediate degrees of mental deficiency, and the general features of those classes may be briefly described as follows.

Class A.—In this division are included all those epileptic individuals in whom no mental impairment can be detected. They may be regarded as differing in no way from normal persons in the same social sphere and with similar educational advantages; the memory is good, they are bright, active, and intelligent, and they are capable of earning their own living; only in rare instances do they show the epileptic face. Their physical condition is good. For all practical purposes they may be regarded as normal.

Class B.—This class, to which the majority of epileptics belong, includes those who exhibit the first degree of mental enfeeblement, which is characterised mainly by some defect of memory, more especially a forgetfulness of recent events. In other respects their mental condition is good, they have fair intelligence and capacity for work, they are able to earn their living and to attend to their several duties. Their physical condition varies. A considerable proportion show the epileptic face.

In *Class C* are found those cases which present the second degree of mental impairment. In addition to an impaired memory there are defective power of initiation and capacity for work which, however, may be well done under direction and supervision. They are slow in comprehension and are often lazy. Many of them are irritable and passionate. About 50 per cent. show the epileptic face.

Class D contains those who show the third or most pronounced degree of dementia. They present the typical features of epileptic dementia—viz., a very defective memory, confusion of ideas, poor capacity for work even under direction, absence of initiative, and a slow and dull comprehension. Although not legally insane, they require supervision. Their physical condition is as a rule good, they eat heartily, and sleep well. The majority have the epileptic face.

Under these heads the mental condition in epilepsy will receive consideration, but a passing reference may be made to certain elements in the mental state which will not be specially considered later. I refer to the *epileptic temperament.*

Epileptics are usually of a sociable disposition. The majority are possessed by a religious fervour which, forming a marked feature of their disease, contrasts strongly with their actions, these being mostly perverted, passionate, or even immoral. On the whole they are self-opinionated and possess a conceit and an assurance which are out of all relation to their achievements. Their mental perspective is in consequence entirely blurred and disproportioned, giving to their views and methods an importance which cannot be legitimately claimed for them. While admitting of striking exceptions their want of initiative is characteristic. On this account, although some are good workers, most require supervision and direction. Points also to be observed in the epileptic character, no doubt the direct consequences of the malady, are lethargy and laziness, combined with an extreme pugnacity and hastiness which make them contentious and difficult to live with.

Of the more purely mental characteristics I would refer in the first place to the temporary dulling of the memory and of the finer mental faculties which is to be observed during a temporary increase in the frequency of the fits, more especially observable at the commencement of the disease. This mental clouding should not be mistaken for the beginning of epileptic dementia; it is a common mental phase of many of the patients at the time of their admission to the epileptic colony and in the majority of cases it clears up under the judicious administration of bromides or when the patient is removed from unsatisfactory domestic or other environment. Of these characteristics, I would mention, secondly, the fleeting irritability, lethargy, impairment of memory, and even delusional state which not infrequently precede for a day or two the onset of a fit or fits. This is a condition well worthy of careful recognition, as those who live with epileptics are often able to predict a seizure. This state is, however, prodromal to the attacks and is not considered as evidence of interparoxysmal mental failure.

THE STATISTICS.

The cases forming the material for this paper are those which have been under care and treatment at the Colony for Epileptics, Chalfont St. Peter. Such cases lend themselves the more readily for observations upon the mental characteristics of epilepsy, as previously to admission they have probably experienced some form of treatment and have become in the majority of instances confirmed epileptics. For various reasons particular care is taken in the selection of the cases admitted to the colony. Mere frequency or severity of the fits does not disqualify patients for admission, but the following are, if at all possible, refused: (*a*) Those who from physical causes are not sufficiently strong to undertake some kind of active work; (*b*) those who from habitual irritability of temper and awkwardness of disposition would not live in harmony with their fellows or be amenable to rules and regulations; and (*c*) those who are imbecile, demented, delusional, or liable to dangerous impulses. In this way an attempt is made to separate the sane from the insane epileptic. The cases therefore which form the subjects of the present observations are so far as possible illustrative of the mental condition characteristic of epilepsy as met with outside asylums for the insane. There are several obvious advantages in studying epileptics in such an institution as an epileptic colony. There is, first, the fact that the patients are under constant supervision and treatment; secondly, the mode of life, the diet, and the general care and hygiene are uniform; and, thirdly, the work is apportioned according to individual capabilities and tastes.

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[1] A paper read before the Royal Medical and Chirurgical Society on March 22nd, 1904.

[2] Transactions of the Royal Medical and Chirurgical Society, vol. lxxxvi., p 259.

[3] Esquirol: Des Maladies Mentales, &c., Paris, 1838.

[4] Russell Reynolds: Epilepsy, London, 1861, p. 43.

[5] Wildermuth: Quoted by Habermaas.

[6] Habermaas: Allgemeine Zeitschrift für Psychiatrie, vol. lviii., p. 243.

The observations have been conducted over periods varying from six months to ten years. The number of fits is recorded on specially designed charts, whilst the mental condition and the working capabilities of the patients are noted from time to time. Treatment by bromides is reduced to a minimum, only a few patients receiving more than the 30 grains of bromide of potassium prescribed at bedtime. The total number of cases upon whom observations have been made is 161; of these 102 are males and 59 are females. They include all ages from 14 to 50 years Only one patient was admitted over 50 years of age—viz, 58 In the study of the cases the statistical method has been adopted and the results are recorded in percentages. Although, as elsewhere pointed out, objections may be raised against this method it is deemed to be the best available and the results show a marked uniformity when considered from various points of view.

STATISTICAL FACTS BEARING UPON THE INTERPAROXYSMAL MENTAL CONDITION.

The several varieties and degrees of the interparoxysmal mental state in epilepsy, the relation to the various stages and types of the disease, and the bearing upon prognosis will be discussed in detail under the following headings: (1) sex; (2) hereditary predisposition to epilepsy and insanity; (3) duration of the disease from the commencement of the convulsions; (4) the age of the patient at the onset of the disease; (5) the character, type, and combination of the seizures; (6) the frequency of the seizures; and (7) the facies epileptica.

1. *Sex.*—In this and the following tables epileptics have been classified according to the degree of mental impairment already described into four subdivisions:—

TABLE I.—*Giving the Total Number of Males and Females, with their Percentage Frequency in the Four Subdivisions of Mental Failure.*

Mental class.	Males.	Females.	Total.	Total percentage.
A	9 (8·8 per cent.)	13 (22 0 per cent.)	22	13 6
B	35 (34·3 ,,)	16 (27 2 ,,)	51	31·6
C	29 (28 4 ,,)	12 (20·3 ,,)	41	25 4
D	29 (28 4 ,,)	18 (30 5 ,,)	47	29 1
Totals	102	59	161	99·7

From this it appears that the greatest number of epileptics (31·6 per cent.) were found to belong to Class B and to show only the slightest or first degree of mental impairment. But if, on the other hand, the table be so subdivided that Classes A and B, C and D be bracketed together, it will be found that 45 per cent. belong to the former and show no, or only slight, mental deficiency, while 54·5 per cent. belong to the latter and show mental deterioration in its most pronounced forms. It is therefore obvious that the cases herein tabulated give a larger proportion which exhibit mental deterioration of a marked type.

It should, however, be pointed out that the above percentages do not faithfully depict the mental state of epileptics in general, as it is obvious that those cases which seek treatment at a colony do so on account of some mental disability which prevents them earning a living under ordinary conditions. Secondly, if the table be read in vertical instead of horizontal columns, it will be seen that a larger percentage of women (22 per cent.) escape the deteriorating influence of epilepsy than men (8 8 per cent.); but that when dementia supervenes and reaches its most pronounced form a larger percentage of women (30·5 per cent.) are affected than men (28·4 per cent.). The most frequent mental condition in males is seen to be a slight impairment of the memory and a blunting of the higher mental faculties (Class B).

If these figures are compared with those given by Habermaas a close correspondence will be found to exist between them and the cases observed at the Stettin Institute, as will be apparent from Table II.:—

TABLE II.

	Stettin Institute.	Chalfont Colony.
Intellectually normal	13 per cent.	13 6 per cent.
With poor memory	20 ,,	31 6 ,,
Feeble-minded	41 ,,	25·4 ,,
Demented	22 ,,	29 1 ,,
Total cases	226	161

2. *Hereditary disposition.*—The hereditary tendencies referred to under this heading are epilepsy and insanity. On account of the difficulty in obtaining satisfactory information on these points a large number of cases have had to be eliminated owing to the absence of any note either establishing or disproving such a family disposition. Of the total of 161 cases there was no note of a heredity to either epilepsy or insanity in 73 Table III. shows the result of the investigation among the remaining 88 cases:—

TABLE III.—*Showing the Presence or Absence of a Hereditary Disposition in 88 Cases.*

		A.	B.	C.	D.	Total.
No known heredity		11	18	9	11	49
Epilepsy	Paternal	0	8	2	3	29
	Maternal	4	5	5	2	
Insanity		1	2	2	5	10
		16	33	18	21	88

The distribution and percentages are therefore the following in the several mental classes:—

In A	there are	5	cases out of	16	with hereditary	tendencies,	or	31%
,, B	,,	15	,,	33	,,	,,		45%
,, C	,,	9	,,	18	,,	,,		50%
,, D	,,	10	,,	21	,,	,,		47%

The facts, therefore, which may be deduced from Table III. are that those epileptics who show no mental impairment (Class A), or only some impairment of memory (Class B), present a lower percentage with hereditary neurotic tendencies than those cases which exhibit dementia in its more pronounced forms (Classes C and D). This fact, taken by itself, points to the deteriorating influence which a family disposition to epilepsy or insanity has upon the mental condition of those who subsequently develop epileptic seizures.

The table may profitably be compared with one which was given in a previous paper[7] to illustrate the effects of a hereditary history upon the general results of treatment in epilepsy. From this it was seen that of those cases which had a hereditary disposition to epilepsy 36 per cent. became confirmed epileptics, while of those without such history only 19·2 per cent. became confirmed.

The general deduction, therefore, which may be drawn from the above facts is that a family tendency to either epilepsy or insanity, although offering no obstacle to the arrest of the seizures in favourable cases, materially increases the probability of the disease becoming confirmed and the supervention of dementia.

3. *Duration of the disease.*—The influence of the duration of the disease upon the degree of mental decrepitude has been regarded by many writers as of much significance. In opposition to the commonly expressed opinion upon this matter Russell Reynolds held to the belief that the duration of epilepsy from the commencement of the seizures was without influence upon the mental condition of the epileptic. A table has therefore been constructed with a view to

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[7] Transactions of the Royal Medical and Chirurgical Society, loc. supra cit.

throw further light upon this part of the subject. A total of 160 cases has been used in the construction of Table IV., which gives the duration of the disease in quinquennial periods, with the number and percentage frequency of the cases in the four classes of mental disability. It should be specially borne in mind that the term "duration" here signifies the length of the disease as indicated by the epileptic seizures and not of the mental impairment alone.

TABLE IV.—*Showing the Duration of the Disease and the Number and Percentage Frequency of the Cases in the four Mental Classes.*

Duration (years).	A.	B.	C.	D.	Total.
Under 5	6 (27·2%)	10 (45·0%)	3 (13·6%)	3 (13·6%)	22
6 to 10	13 (30·9%)	10 (23·8%)	7 (16 6%)	12 (28·5%)	42
11 ,, 15	1 (3·1%)	10 (31·2%)	10 (31·2%)	11 (34·3%)	32
16 ,, 20	1 (3·5%)	4 (14 2%)	10 (35·7%)	13 (46·4%)	28
21 ,, 30	1 (4·7%)	8 (38 0%)	4 (19·0%)	8 (38 0%)	21
Over 30	1 (6·6%)	6 (40·0%)	7 (46·6%)	1 (6·6%)	15
Mean duration... ...	3·8 years.	8 years.	6·8 years.	8 years.	160

From a consideration of Table IV. the following general deductions may be made: 1. That under five years' duration there is a considerably greater percentage of cases with no mental impairment, or merely some interference with the memory (Classes A and B, 72 per cent.), than of those with well-marked mental deficiency (Classes C and D, 27 per cent.). 2. That of those cases in which the disease has existed from six to ten years there is a slightly greater percentage in Classes A and B (54·5 per cent.) than in Classes C and D (45 per cent.). 3. But that if the convulsions have lasted for periods over 10 or 11 years only a trifling percentage of cases are to be found in Class A, the majority showing the mental characteristics of Classes C and D. 4. It should, however, be especially pointed out that in a very few cases the disease may have lasted for periods of 30 or more years without any obvious mental impairment.

It has been stated by Russell Reynolds that if the mean duration of the disease in the several classes be taken it will be found that its influence upon the mental condition is trivial. Further reference to Table IV. will show that the mean duration of the disease in Class A is 3 8 years, while that of Classes B, C, and D varies from 6·8 to 8 years. There is not, therefore, that progressive increase in mean duration in the several mental classes that might be expected, for the difference between the mean duration of Class A, which contains those cases without any obvious mental impairment, and Class D, comprising those with the greatest degree of dementia, is about four and a half years, being practically the same as that between A and B, in which latter class we find those with merely some impairment of memory. It may therefore be concluded that although the duration of epilepsy from the commencement of the seizures is a potent factor in determining the subsequent mental condition it is not the only influence in the production of dementia.

4. *Age at onset.*—There is a total of 157 cases in which the age at onset of the disease was known. In order to gauge the influence, if any, which this factor has in determining the subsequent mental condition of the patient a table has been constructed giving the number and percentage frequency of epileptics in the four mental classes, the age at onset being subdivided into quinquennial periods from birth to 35 years.

TABLE V.—*Showing the Age in Quinquennial Periods at Onset of the Fits, with the Number and Percentage Frequency in the Four Mental Classes.*

Age (years).	A.	B.	C.	D.	Total.
0 to 5	1 (3·3%)	9 (30·0%)	9 (30·0%)	11 (36·6%)	30
6 ,, 10	3 (11·5%)	8 (30·7%)	7 (26·9%)	8 (30 7%)	26
11 ,, 15	10 (18·1%)	15 (27·2%)	17 (30 9%)	13 (24·5%)	55
16 ,, 20	7 (24·1%)	8 (27 6%)	5 (17·2%)	9 (31·0%)	29
21 ,, 25	0	4 (57·1%)	1 (14 2%)	2 (28·5%)	7*
26 ,, 30	1 (16·6%)	1 (16·6%)	1 (16·6%)	3 (60·0%)	6*
31 ,, 35	0	2 (50·0%)	0	2 (50·0%)	4*
					157

* The small number of cases shown here is due to the fact that at the epileptic colony epileptics are preferably admitted under 20 or 21 years of age.

From Table V. we may deduce the following general conclusions: 1. That a low percentage of the cases forming Class A is to be found amongst those epileptics in whom the disease commences in early childhood; amongst them also is to be found a high percentage of those showing profound mental impairment and if we exclude those in whom the disease commenced after 21 years of age owing to the smallness of the numbers the lowest percentage of cases with mental integrity and the highest with mental infirmity are to be found amongst those epileptics in whom the disease commences in infancy and early childhood. 2. From the first quinquennial period onwards to that of 16 to 20 years of age the percentage of cases showing no obvious mental deficiency progressively increases until in the fourth quinquennium (from 16 to 20 years) a greater percentage of cases is to be found in the combined Classes A and B (51·7 per cent) than in the combined Classes C and D (48·2 per cent.). 3. No general deductions may be safely drawn from the cases in the succeeding quinquennial periods owing to the fewness of the cases observed, but it may be said in general terms that in epilepsy commencing over 21 years about an equal percentage show only impairment of memory (Class B) and the higher degrees of mental deficiency (Classes C and D).

These results are at variance with what was noticed by Russell Reynolds working along similar lines. This observer noted that whether the disease commenced early or late in life more cases were to be found in Classes A and B than in C and D—in other words, "that the mind is not specially affected in those whose epilepsy begins early, neither is it in those whose disease is late in its development" (p. 166, op. cit.). On the other hand, the results obtained in this present research support the contention of most of the older writers on epilepsy and confirm what has been pointed out in a previous article upon general prognosis (loc. cit., p. 268)—viz., that epilepsy commencing in infancy and childhood is least favourable for arrest of the fits and most favourable for the production of confirmed cases. It is also found that the common type of epilepsy—that commencing during the period of puberty—is most suitable for arrest of the seizures and least likely to be associated with mental infirmity.

5 *Character of the fits.*—The character of the epileptic seizures has for long been regarded as an important factor in determining the mental condition. It is generally accepted that the petit mal variety exerts a greater deteriorating influence upon the mind than the convulsive or grand mal type. This is no doubt the common experience of those through whose hands numbers of epileptics pass. A table has therefore been constructed to show the effect of the two common types of seizure upon the mental state. A total of 159 cases has been used in whom the character of the fits was definitely known.

TABLE VI.—*Showing the Percentage Frequency of the Four Mental Classes in the Common Types of Epilepsy.*

Type.	A. Per cent.	B. Per cent.	C. Per cent.	D. Per cent.	Total.
Grand mal only	24·3 ...	27·0 ...	27·0 ...	21·6 ...	74
Petit mal only	7·1 ...	42 8 ...	21·4 ...	28·5 ...	14
Combined grand and petit mal	4·2 ...	32·8 ...	25·3 ...	38·9 ...	71
					159

The grand mal type, therefore, when occurring alone is not found to be characteristically accompanied by profound mental impairment, for the table shows an almost equal percentage of cases in the several mental classes. On the other hand, the greatest frequency and highest degree of dementia are to be found in those cases which are characterised by a combination of the grand and petit mal attacks, only 4 per cent. of such cases being found without any obvious mental impairment.

The general deductions therefore are:—(1) Mental deterioration is found in association with both types of seizure, but its presence is less frequent in those cases in which the grand mal is the main expression of the disease; (2) freedom from mental impairment is also found in both types but to a minimal extent in those cases characterised by petit mal whether alone or in conjunction with grand mal; (3) the mind is more frequently affected to a slight extent (Class B) in those cases in which the petit mal seizures occur alone; (4) the mind attains its most universal and profound impairment when the disease is manifested by a combination of grand and petit mal attacks. In amplification of these statements it may be mentioned that figures have been brought forward to show (loc. cit., p. 274) that the grand mal seizures are the most readily influenced by treatment, while distinctly less favourable are the cases of combined grand and petit mal.

6. *Frequency of the seizures.*—In order to facilitate the consideration of the influence of the frequency of the epileptic attacks upon the mental condition the fits have been divided into those which may be conveniently counted by the day, the week, the month, the quarter, and the year. There have been added in a separate column those whose incidence is especially in series, while a special group has been formed of those cases in which the fits have been arrested.

In an institution such as the Colony for Epileptics it is a comparatively easy matter to register the number of the seizures and at the Chalfont Colony this is done on specially constructed charts so that at a glance there can be seen the daily, weekly, monthly, &c., incidence of the seizures, whether grand mal or petit mal in character, and whether they occur by day or during sleep. By fits occurring in series I refer to those specially interesting cases where, in place of one or two fits occurring at a time, series of fits, sometimes amounting to several score, occur over a short period, to be followed by a variable interval of freedom before the succeeding batch ensues.

TABLE VII.—*Showing the Percentage Frequency of the Attacks in the Four Mental Classes.*

Frequency.	A. Per cent.	B. Per cent.	C. Per cent.	D. Per cent.	Total.
Daily (one or more)	0·0	17·4	27·9	55·5	18
Weekly (one or two)	1·3	26·3	33·3	39·0	72
Monthly (one or two)	25·7	48·5	17·1	8·5	35
Quarterly (one or two)	57·1	14·2	28·5	0·0	7
Yearly (one or two)	50·0	50·0	0·0	0·0	8
In series	7·6	23·0	23·0	46·1	13
Arrested cases	50·0	16·6	16·6	16·6	6
					159

At the first glance there will be noticed a definite relation between the frequency of the seizures and the mental state to such an extent that when the fits are of very frequent recurrence (daily), none of the patients were without obvious mental impairment, over 50 per cent. of them being in Class D, and therefore exhibiting the highest degree of dementia. On the other hand, if the seizures are so infrequent as to be counted by the quarter or year, over 50 per cent. were found in Class A while none at all were grouped in Class D. Between these extremes there are various gradations, so that the general statement may be made that there is a direct relationship between the frequency of the seizures and the degree of mental impairment—the more frequent the attacks the more common and profound the associated dementia.

If attention is now directed to those seizures the recurrence of which is characterised by batches, it will be observed that in this type we are dealing with cases unfavourable to the maintenance of mental integrity, considerably more than double the number of such patients being found with the severer grades of mental deficiency (69·1 per cent.). In this type of epilepsy, therefore, we are confronted with a variety of the disease prone to the development of dementia

The mental state of those cases in which the seizures have been arrested, either with or without treatment, presents features of great interest, for the table shows that even when the fits are arrested there is not necessarily an unimpaired mental state remaining—that is to say, that arrest of the seizures does not *ipso facto* imply arrest of the disease. The significance of this will be considered with other points in a later paragraph.

Nothing illustrates more forcibly the severity of the disease than the frequency of the seizures, for in addition to the close association between frequency of seizures and mental deterioration there is a remarkable relation between the frequency and the arrest of the fits. Attacks which recur every three or four months or once or twice a year show the highest percentage of arrested and the lowest percentage of confirmed cases; and the converse also holds good, in that attacks recurring so often as several times a day show no cases of arrest (op. cit., p. 273) just as in Table VII. they show no cases of mental integrity.

7. *The facies epileptica.*—The close relation which exists between mental disability and facial expression is nowhere more readily seen and studied than in cases of confirmed epilepsy. So characteristic indeed is the facial appearance of many epileptics that the term "facies epileptica" has been applied to it. Although difficult to define it is readily discerned by those who are in the habit of treating large numbers of epileptics. It may, in general terms, be described as an expression of dulness and heaviness, with an absence of emotional mobility of the features. It differs from that of the ordinary dement by a particular expression which stamps the individual as an epileptic. That the epileptic appearance is largely dependent upon the mental attitude may be seen from Table VIII., which has been constructed to show the percentage frequency of the facies epileptica in the four mental classes.

TABLE VIII.—*Showing the Frequency of the Facies Epileptica in the Mental Classes.*

	A	B.	C.	D.	Total.
Total cases	22	51	41	47	161
Facies epileptica seen in	2 or 9·0%	16 or 31·3%	21 or 51·2%	34 or 72·3%	73 or 45·3%

Of a total, therefore, of 161 cases 73, or 45·3 per cent., showed the expression of countenance known as the facies epileptica. Its presence was noted in those with mental integrity as well as in those showing the several degrees of dementia but its percentage frequency showed a progressive accession as the degrees of dementia increased, until in Class D as many as 72·3 per cent. of the epileptics showed the characteristic expression. It is more frequently seen in male than in female epileptics, for of the 73 cases only 19 were women.

IS THE INTERPAROXYSMAL MENTAL CONDITION IN EPILEPSY AN INTEGRAL PART OF THE DISEASE?

It is generally known, and the observation has been amply corroborated by the foregoing statistics, that both mental integrity and mental impairment may be found amongst epileptics, but the question arises whether the mental condition which characterises the interparoxysmal period in many epileptics forms an integral feature of the disease, or is induced by the character, the duration, and the frequency of the seizures, or by any other peculiarity of the malady. As reference has already been made to the views of the earlier physicians upon this subject and the divergence of opinion which is held upon it, it is only necessary in this place to consider how far the present statistics throw any further light upon the solution of the question.

In the first place, it may be stated that mental failure is not essential to the idea of epilepsy. On the one hand, it is seen that a certain number of epileptics present no obvious mental deficiency, notwithstanding an inherited predisposition to the disease, a duration of the malady for from 20 to 30 years, its onset in early life, the combination of both the major and the minor seizures, and a recurrence of the seizures so frequent that they may be counted by the week. On the other hand, it has been shown that pronounced dementia may exist when there is no known heredity, when the disease is of short duration (under five years), when the age at onset is as late as the fourth decennium, whether the attacks are of the grand or petit mal type, and even when the seizures have been completely arrested.

Secondly, an attempt will be made to show on the basis of the collected cases that the mental condition is not a direct consequence of the seizures, but is an expression of the same nervous constitution which gives rise to the convulsions, but influenced by various coexistent factors, such as hereditary disposition, duration of the disease, age of the person at the onset of the convulsions, and the character and frequency of the paroxysms.

(*a*) A hereditary disposition to epilepsy and insanity—in other words, a family degenerative neurosis—favours the production of the severer types of dementia and the establishment of the disease as a confirmed malady, as shown in Table III.

(*b*) The duration of the disease is a potent factor in determining the mental condition, but its influence is incidental to, rather than causative of, the mental decrepitude, for, as is shown in Table IV., a fair percentage of cases of extreme dementia are met when the disease has lasted less than five years, as well as a percentage of cases with mental integrity after the fits have persisted for over 50 years.

(*c*) Upon the character or type of the seizures depends to a large extent the degree of mental impairment. But dementia and mental integrity are inversely associated with the severity of the attacks, the major convulsions being as commonly accompanied by mental health as by profound dementia. On the other hand, the minor seizures are more frequently found with mental failure than with mental health (Table VI.). The nature and combination of the attacks therefore provide an indication of the severity of the disease. The petit mal attacks when occurring alone are more frequent than the grand mal under similar conditions, but the combination of the two kinds occasions a frequency and intensity of the seizures, which furnish an indication of the degree and intensity of the malady. But the character of the seizures, though influential, is not solely responsible for the mental condition, for it is found that both types, separately or in combination, are associated with mental integrity as well as with mental deficiency.

(*d*) The facies epileptica is found in those who show the slighter as well as the more profound degrees of dementia, but there is also a very small percentage of epileptics with normal mental attitude in whom this feature is present. Although its presence is not directly referable either to the degree of mental. infirmity or even to any mental deficiency at all, the proportion of cases in which it is observed is in direct relation to the intensity and severity of the mental decrepitude. Hence the facies epileptica is another feature of the degenerative neurosis producing the disease, of which convulsions and mental impairment are further symptoms. The severity of the disease, therefore, is gauged by the combination of the grand and petit mal attacks, by the degree of dementia, and by the occurrence of the facies epileptica.

(*e*) There is a direct association between the frequency of the seizures and the mental state, for the more frequent the attacks the greater the degree of mental impairment and *vice versâ*. If the severity of the disease in any given case is gauged partly by the frequency and partly by the character-combination of the paroxysms then it is found that the severer the disease the greater the tendency towards dementia. For it is a well-recognised clinical fact that attacks which recur daily or weekly are rarely either of the major or minor types alone, but a combination of the two, with the minor variety the more obtrusive. And in this relation attention may be also directed to that class of epileptic in whom the fits are especially in series. These cases indicate a modification of the disease, with periodic exacerbations of extraordinary intensity and in them we find a high percentage of dements. We have also seen that there exist certain cases of epilepsy where the fits have been arrested either spontaneously or by treatment. In these all classes of mental impairment may be met, so that arrest of the seizures does not necessarily imply arrest of the disease.

(*f*) The age at which the disease commences, which is determined by the onset of the seizures, influences to some extent the subsequent mental condition; in other words, the earlier the onset of the fits the less the probability of an unimpaired mental condition and the greater the chance of the establishment of confirmed epilepsy. The type of cases found in institutions for epileptics shows this more obviously than those which remain outside, no doubt on account of the greater severity of the disease in the former, indicated by the greater frequency of the seizures and by the combination of the major and minor types.

The evidence adduced in this paper tends to support the view that the earlier the onset of the disease, especially under ten years of age, the greater the probability of mental failure, but that the small percentage of cases admitted to the colony over 25 years of age does not permit of any definite statement being made as to what occurs when the disease is late in onset.

SUMMARY AND CONCLUSIONS.

1. A total of 161 cases, which have been under my observation at the Colony for Epileptics, Chalfont St. Peter, has been used for the investigation.

2. The mental features of the interparoxysmal state have been divided for descriptive purposes into four classes, the first containing those epileptics without any obvious mental impairment and the fourth those with the highest grade of dementia.

3. The interparoxysmal mental condition is discussed in its several varieties and degrees, with special reference to the influence of sex, hereditary disposition, age at onset, and character, duration, and frequency of fits.

4. Sex has little influence upon the mental condition, but it may be stated in general terms that males are numerically more afflicted than females (91 per cent. of the former to 78 per cent. of the latter) but that the highest degree of dementia is somewhat more common in women than in men.

5. A family predisposition to epilepsy and insanity, although not necessarily militating against the retention of normal mental faculties, favours the supervention of some degree of mental impairment. A higher percentage with a hereditary history is found amongst those epileptics who show the profounder degrees of dementia, than amongst those who show merely impairment of memory or a normal mental condition.

6. The duration of the disease influences to some extent the mental condition. Mental impairment is less frequent when the fits have lasted for under five years, just as mental integrity is less commonly seen when attacks have persisted for ten or more years. But mental health and mental deficiency are observed in cases in which the disease has lasted respectively for over 20 years and for less than five years.

7. The age at the onset of the convulsions influences to some extent the subsequent mental condition, for the earlier the onset, especially during infancy and childhood, the less the probability of an unimpaired mental state.

8. The character and combination of the fits have an important relation to the mental condition, the profoundest degrees of dementia being most commonly seen when the major and minor attacks coexist. The petit mal seizures occurring alone are found with the lower grades of mental impairment. When the grand mal occurs alone mental health is as common as mental deficiency.

9. There is a direct association between the frequency of the fits and the mental state—the more frequent the seizures the greater the degree of mental impairment and *vice versâ* Fits recurring in series are accompanied by a high grade of dementia.

10. The term "facies epileptica" is applied to the physiognomy characteristic of the disease in many epileptics. It is found more commonly with the higher grades of dementia but its existence is not limited to such cases, for it is observed in those with only impairment of memory as well as without any mental failure.

11. The view is upheld that the interparoxymal mental condition seen in most cases of epilepsy is one expression of the neurosis of which the fits constitute another; that the former is therefore not directly dependent upon the seizures and that the frequency and character-combination of the paroxysms in association with the degree of mental failure indicate the severity and intensity of the disease.

12. The following figures show the percentage frequency of the four classes of mental deficiency amongst the 161 cases used for the purposes of this paper: Class A, intellectually normal, 13 6 per cent.; Class B, with impaired memory, 31·6 per cent.; Class C, feeble-minded, 25·4 per cent.; and Class D, demented, 29 ·1 per cent.

Harley-street, W.

THE CARDIAC DULNESS IN CASES OF CANCER.[1]

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I WOULD venture in as few words as possible to draw attention to a physical sign which has, I think, hitherto escaped notice, yet one which, if my observations prove correct, should be found valuable in a considerable number of cases.

Some years ago in the routine examination of several patients with gastric cancer I observed that although no evidence existed of ordinary emphysema the area of cardiac dulness, mapped out in the recumbent position, was either much reduced or actually obliterated. In some of them where the dulness was obliterated the resonant note over the heart was, it is true, slightly higher pitched than over the lung but it was definitely resonant, not dull. The reduction or obliteration of the cardiac dulness was sometimes associated with a rather surprisingly small and soft pulse.

Since my first observations I have often noticed this curious physical sign and some time ago I became so sure that it suggested cancer that I risked the diagnosis of cancer on the strength of it where otherwise the evidence was inconclusive and in five consecutive cases the diagnosis proved correct.

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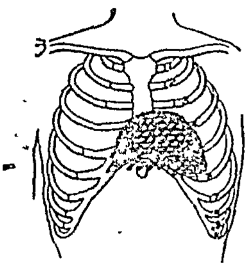
[1] A paper read before the Royal Medical and Chirurgical Society on March 8th, 1904.

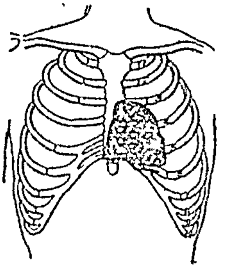
The reduction or obliteration of the dulness was observed, as I have said, in the recumbent position. It is necessary to insist on this point because our text-books do not clearly recognise the differences in the physical signs of the heart which exist in the recumbent and upright positions. As the result of many observations on healthy and diseased hearts I have found that the heart dulness alters considerably with change of position. Figs. 1 and 2 illustrate the change in the cardiac dulness which usually occurs when a healthy adult changes his position from the upright to the recumbent. Fig. 3 illustrates the reduction in the recumbent dulness in a case of cancer [illegible] ated. The following ca [illegible] this physical sign, be [illegible] ancer was arrived at pc [illegible]

FIG. 1.



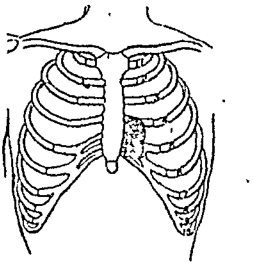
Normal cardiac dulness in the upright position.

FIG 2.



Normal cardiac dulness in the recumbent position.

FIG. 3.



Cardiac dulness in a case of cancer where it has not been yet obliterated.

CASE 1. *Pain; vomiting; moderate loss of weight; no tumour; loss of cardiac dulness; operation; gastric cancer.*—A man, aged 42 years, a labourer, complained of epigastric pain relieved by food. This had come on six months previously but disappeared under treatment. It reappeared two and a half months before his admission to hospital, accompanied by flatulence and headache. Three weeks before his admission he began to be sick, but more after fatigue than after food. Once only he noticed a very little blood after much retching. He was not at all wasted in appearance but said that he had lost flesh. There was almost no cardiac dulness, although there was no indication of ordinary emphysema. His chest was of normal shape and expanded well on inspiration. There had been no winter cough and there had been no breathlessness. Examination of the stomach contents after a test meal showed absence of free hydrochloric acid and presence of lactic acid. No tumour could be felt. I advised laparotomy, hoping that early operation might reveal a cancer which could be removed. My colleague Mr. J. D. Harris found a cancer of the anterior wall of the stomach but considered that its extent and attachments rendered extirpation impossible.

CASE 2. *Profuse hæmatemesis; loss of cardiac dulness; rapid wasting and development of a tumour.*—An elderly woman, after some weeks of indefinite gastric symptoms, was seized with a profuse hæmatemesis. She was stout and her appearance gave no suggestion of malignant disease. There was no evidence of emphysema, but her cardiac dulness was absent. The bleeding having been arrested feeding by the [illegible] ossible, but she wasted [illegible] llock, with whom I had [illegible] a well-marked tumour could easily be made out in the region of the stomach. A necropsy could not be obtained.

CASE 3. *Wasting; tumour; loss of cardiac dulness; death; necropsy; gastric cancer.*—A woman, aged about 45 years, was seen by me with Mr. J. Miller. She had been losing flesh and a tumour had developed to the left of the umbilicus and a little below it. She had obviously no emphysema but her cardiac dulness had disappeared. I decided that the tumour was a pyloric cancer and this diagnosis was found correct by Mr. Miller who performed a necropsy.

CASE 4. *Dysphagia; absence of cardiac dulness; subsequent paralysis of the right vocal cord; death; necropsy; cancer of the œsophagus.*—A man, aged about 45 years, was seen by me with Mr. B. Dyball. He was then complaining of difficulty of swallowing which had been coming on gradually. He was a well-nourished but highly nervous man. As aneurysm seemed exceedingly improbable in his case I passed a No. 21 bulbous œsophageal bougie. This was gripped once or twice but the grip relaxing before gentle steady pressure the bougie passed fairly easily into the stomach. It appeared uncertain whether the case was one of cancer or spasm. He had no emphysema, the chest expanding well, but the heart dulness had entirely disappeared. The pulse, too, for a man of his appearance, was surprisingly small and soft. I suspected cancer but deferred a definite opinion until I had seen him again. A couple of weeks later Mr. Miller, who was looking after him in Mr. Dyball's absence, asked me to see him. His voice had become hoarse. I found paralysis of the right vocal cord. The diagnosis of cancer was then definitely made. On the patient's death Mr. Miller made a careful post-mortem examination and found two broad cancerous areas in the œsophagus. The heart was of normal size but the lungs completely overlapped it.

CASE 5. *Dysphagia; loss of cardiac dulness; death; necropsy; cancer of the œsophagus.*—A man, aged 35 years, came to hospital complaining of difficulty of swallowing. There was no emphysema but the cardiac area of dulness [illegible] breadth at the level of the fourth [illegible] e was extremely small and soft. [illegible] opening into the trachea was discovered post mortem.

CASE 6. *Intestinal obstruction; loss of cardiac dulness; operation; cancer of the descending colon.*—An elderly woman was seen by me for the first time on the operating table. She had intestinal obstruction and there was a question as to whether this was caused by a cancer of the descending colon. Owing to the abdominal distension it was impossible to arrive at any conclusion by palpation. There was absolute loss of cardiac dulness and I ventured to predict that a cancer would be found. In the course of the colotomy an extensive cancer was discovered in the colon above the sigmoid flexure.

These six cases illustrate sufficiently the usefulness of this physical sign as an aid to diagnosis in certain cancerous cases. My experience with regard to it lies chiefly amongst cases in which some part of the alimentary canal is involved. Whether it is equally frequent in cases of cancer of other parts, such as the breast, I am unable to say. I have seen it in breast cases but I have also found it wanting in these when I should have expected it to be present. Its diagnostic value in cases where it occurs depends, of course, on its absence in other conditions. I have looked for it carefully in a very large number of non-cancerous cases, with or without wasting, and with or without a resemblance to cancer as regards symptoms. So far as my experience goes it is very uncommon to find the heart dulness lost or markedly reduced in area in non-cancerous cases where emphysema can be excluded, but heart dulness is not invariably present in non cancerous cases any more than it is invariably absent in cancerous cases. All one can claim for the sign is that when present in a doubtful case it is highly suggestive of the presence of cancer and when absent at a late point in the case its absence is somewhat suggestive of the absence of cancer.

With regard to the period of the loss of cardiac dulness in a cancerous case one may say that it may precede cachexia, pronounced wasting, or the loss of skin elasticity which is often obvious, especially in the abdominal skin, in abdominal cancer cases. Unhappily, it does not seem to be usually so early a symptom as to make a practical difference in the date of attempts at extirpation of the disease. Although it has, perhaps, enabled me more than once to suggest an exploratory operation earlier than I should otherwise have done I have as yet only met with one case in which *absence of cardiac dulness* has helped on a successful removal of the growth.

In assessing the value of absence of heart dulness in any given case one would, of course, take into account not merely emphysema but any cause capable of withdrawing the heart from contact with the chest wall, such as the retraction of adhesions in the back of the pleural cavity. Conversely, in assessing the value of a normal heart dulness where cancer is suspected, one would naturally consider causes which might prevent the dulness being decreased, such as enlargement of the heart from any cause, pericardial effusion, retraction of diseased lungs, adhesions to the front of the chest, or pressure from behind pushing the heart forwards. The following three cases illustrate the presence of a normal heart dulness in non-cancerous cases where cancer has been suspected.

CASE 7. *Chronic jaundice; wasting; pain; cardiac dulness normal; operation; no cancer; recovery.*—A woman, aged 49 years, had had pronounced jaundice for nine months, occasional severe pain in the right hypochondrium, especially after food, occasional vomiting, and considerable loss of weight. In 12 months she had come down from 11 stones 8 pounds to 9 stones 12 pounds. The liver was uniformly enlarged. There was no ascites. The motions were persistently clay-coloured. The appetite varied. Under medicinal treatment the pain and sickness lessened, the jaundice slightly decreased, and she gained weight slowly. Three months later I was sent for to see her by her medical attendant, Mr. H. E. Goulden. She had had a very severe attack of pain and vomiting. She had become thin again. The heart dulness was rather larger than normal, although cardiac and renal disease were absent. I advised operation with a view to the removal of a possible gall-stone in the common bile-duct. The possibility of cancer was discussed and I decided against it. Mr. Russell Coombe operated and found no cancer. No gall-stone was discovered, but as a result of the manipulation of the bile-duct some obstruction was evidently removed as the patient has made a complete recovery, her jaundice having disappeared.

CASE 8. *Jaundice; wasting; normal heart dulness; recovery.*—An elderly woman, very thin and sallow, almost cachectic-looking, with pronounced jaundice and a history of loss of weight, was seen by me with Mr. Miller. Her history was most difficult to elicit and the duration of the jaundice was doubtful. The liver was enlarged and tender. The cardiac dulness was of ordinary size, and no cardiac or renal disease existed. The case strongly suggested cancer, so strongly that I did not feel justified in deciding definitely against it, but on the strength of the broad heart dulness I gave more hope of recovery than I could otherwise have done. Under treatment the jaundice disappeared, the patient gained flesh, and recovery now appears to be complete.

CASE 9. *Abdominal tumour; cardiac dulness normal; operation; "caseous kidney."*—This patient, a man in middle life, was seen by me after the exploratory operation. The broad cardiac dulness would have, I think, decided me against carcinoma.

It would, no doubt, be rather rash to lay great stress on the absence of reduction of the cardiac dulness but, as a matter of experience, its absence seems to me to have, as in these three cases, a certain value of its own. The following case, however, shows that a normal cardiac dulness may persist even to the end of a case of gastric cancer, though its persistence in such a case is, I think, very uncommon. Usually, when the heart dulness is normal in the early stages it becomes greatly reduced or obliterated towards the end. The absence of reduction of the cardiac dulness in this case is particularly interesting, as the growth was exceptionally circumscribed and chronic in character.

CASE 10. *Pyloric obstruction; great wasting; normal cardiac dulness; death; necropsy; small hard cancer.*—A man, aged 46 years, had been vomiting profusely on and off for about nine months. Six months before I saw him a diagnosis of non-malignant pyloric obstruction had been made in America and he had been taught to wash out his stomach daily. In view of an old history of severe pain near the pylorus it was possible that the obstruction might be due to the cicatrisation of an ulcer. He was extremely thin but I could discover no tumour. The cardiac dulness was normal. I advised such treatment as seemed necessary to stop the sickness and to promote gain in weight and directed that as soon as his condition was somewhat improved operation should be undertaken, either gastro-enterostomy or, if a cancer existed and seemed removable, pylorectomy. His sickness ceased and in five weeks he put on nearly a stone in weight. Unfortunately the latter half of my advice was not carried out and he came under my care again when his old symptoms had returned and when his condition made operation impossible. At the necropsy the pylorus was found stenosed and indurated but not enlarged in its outside dimensions. A slowly growing, very circumscribed cancer spread from it a short way into the gastric wall. Only one or two neighbouring glands seemed affected. The growth evidently was one of slight general and local malignancy, the patient having died chiefly from its mechanical effects.

The following case was one in which the cardiac dulness, normal when first examined, slowly decreased in size under observation.

CASE 11. *Pain; wasting; cancer of the stomach at the œsophageal orifice; gastrostomy; cardiac dulness slowly decreased.*—The patient came under my care in hospital. My colleague, Mr. A. C. Roper, performed gastrostomy and found a large cancer growing into the stomach at the œsophageal orifice. The heart dulness was then normal. During the patient's quiet life in hospital after the operation I noticed that the area became slowly but steadily smaller.

In non-cancerous cases I have seen the cardiac dulness markedly reduced in three instances only. I do not think I have ever seen it lost. One case was a woman with a large uterine fibroma. She was seen two years ago and is now well. The second was a case of chronic diarrhœa which I had only a short time under observation and believe to have been tuberculous. The third was a man with chronic gastritis who is much better at present, 18 months having elapsed since I saw him.

The cause of this curious physical sign has, of course, been a matter of interest to me. At first I fancied that the reduced area of dulness might be accounted for by the reduced size of the heart, because the heart is supposed to waste disproportionately quickly in cancerous patients. But a few post-mortem examinations made this theory untenable. The heart was not strikingly small—one heart was rather over the average in size, I should say—but in each case the lungs met, or nearly met, over it. The encroachment of resonance on the heart dulness was thus easily explained. But it is less easy to explain this forward movement of the lung edges. Perhaps that may be best accounted for by supposing that, just as in many cases of cancer, of abdominal organs especially, the skin of the abdomen becomes strikingly inelastic, so a similar loss of elasticity may occur in the lung structure, whereby even ordinary breathing can cause a sort of false emphysema in consequence of which the edges of the lungs gradually close over the front of the heart. If this be the true explanation it will account for the fact that in the earliest stages of cancer the sign is not present and for the further fact that in sarcoma, which does not affect skin elasticity as cancer does, I have so far failed to find it.

In conclusion, I would sum up thus the result of my observations. Putting aside cases where special causes exist, either for the obliteration of the heart dulness or for the prevention of such obliteration, the following seem to be true: 1. Great reduction or obliteration of the normal cardiac dulness is common in cases of cancer, particularly in cancers of the alimentary canal and in their late stages. 2 This loss of cardiac dulness does not seem to be found in the earliest stages of a cancerous case but may precede cachexia, marked wasting, and loss of skin elasticity. 3. It is rarely observed in non-cancerous cases. 4. It is rarely absent in the later stages of cases of cancer of the alimentary canal. 5. It does not seem to occur in cases of sarcoma. 6 In doubtful cases its presence is highly suggestive of cancer; its absence is slightly suggestive of the absence of cancer, if the symptoms under consideration have lasted for several months. I should like to express my indebtedness to my friend Mr. Muller for the great help he has given me in watching cases to their conclusion and for the careful necropsies he has made to confirm our diagnoses.

Exeter.

A CASE OF REMOVAL OF A POLYPOID GROWTH FROM THE BASE OF THE SKULL AFTER A PRELIMINARY EXCISION OF THE UPPER JAW.

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THE removal of a polypoid growth when springing from the base of the skull and involving the pharynx more than the nasal fossæ is often a matter of considerable difficulty, as is proved by the fact that various methods of operation, some of which are associated with the names of Nélaton, Rouge, and Langenbeck, have been devised for this purpose. When the growth is of dense consistence and sessile, with an extensive attachment to the bone, a preliminary excision of the upper jaw affords the best access to it and also the most effectual means of controlling hæmorrhage, which is often very free during the process of [illegible] are well illustrated by the following case.

The patient, a young man, aged 22 years, came under my care in June, 1903, suffering from a naso-pharyngeal poly- [illegible] he care of Dr. [illegible] d upon him in [illegible] on each occa- [illegible] the mouth a [illegible] it had twice [illegible] patient in con- [illegible] to my care, as he was of opinion that a more radical operation was now necessary in order to insure its complete removal. When the patient came under my observation there was complete obstruction to nasal respiration. The growth could not be seen from the anterior nares, but it was apparent from the mouth, depressing the soft palate and projecting below it in the form of a globular tumour with a smooth surface. On palpation it was found to be lobulated and of very firm consistence, connected with the base of the skull by a broad attachment and completely filling the upper part of the pharynx as well as involving both nasal fossæ. In addition to the discomfort from the nasal obstruction, the patient was beginning to suffer from severe headache and great mental depression; it had been noticed of late that both eyeballs were becoming somewhat prominent, otherwise there was no external disfigurement.

On June 23rd the growth was removed in the following way, Mr. A. H. Burgess and Dr. W. H. Richardson of Preston, the patient's medical attendant, assisting me, the anæsthetic being administered by Mr. A. Wilson. The soft palate was first divided in the middle line in the hope that this procedure would allow of the application of an écraseur round the base of the tumour. This being found impracticable owing to its broad attachment, it was resolved partially to resect the left superior maxilla, to turn it outwards with the overlying soft tissues, and then having removed the growth, if this was practicable, to replace the jaw. The usual skin incision was made, commencing above at the inner angle of the eye and carried round the nose and through the centre of the lip. The left half of the soft [illegible] bony connexions [illegible] ised and turned [illegible] was insufficient room to gain free access to the base of the tumour the entire jaw was excised with the exception of the orbital plate. By this means the attachments of the tumour were freely exposed and its removal was then effected by means of a gouge, the growth being forcibly stripped off the base of the skull. In doing so the sphenoidal sinuses were opened. The detachment of the tumour was attended by very free hæmorrhage which was arrested by sponge pressure and by plugging firmly with strips of gauze. The two halves of the soft palate were then sutured together and the skin incision was closed. As regards the after-progress of the case, both wounds readily healed and the patient rapidly recovered from the operation, being able to leave the home where it had been performed on the seventeenth day.

At the present time, nine months after its performance, the patient enjoys excellent health and is free from any evidence of a recurrence of the growth. The scar on the face is hardly perceptible and the cavity left by the removal of the jaw has greatly contracted and filled in with a deposit of fibrous tissue. The opening on the roof of the mouth is closed by a plate, to which a set of artificial teeth are attached, so that articulation and mastication are in no way interfered with.

A microscopic examination of the growth showed a fibrous structure but extremely cellular in places, the appearance suggesting that it might soon become sarcomatous.

Manchester.

A CASE OF CARCINOMA PROBABLY ORIGINATING IN RETAINED TESTIS.

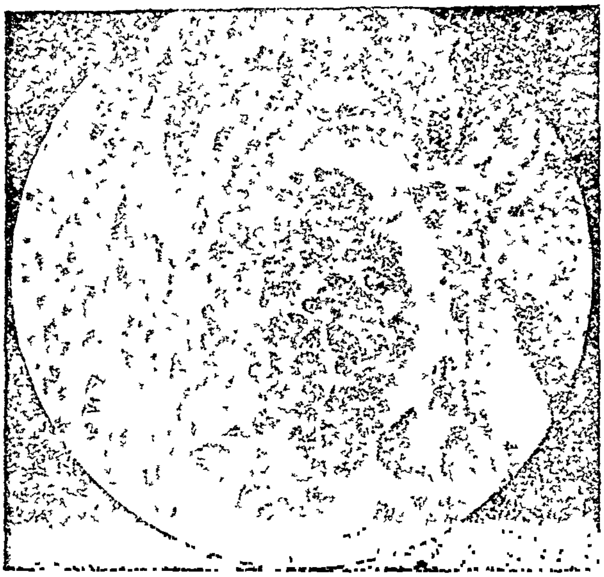
BY W. SYDNEY DARBY, M.A., M.B., B.C. CANTAB., L R C.P. LOND., M.R.C.S. ENG.

THE patient at the time of his death early this year was 24 years of age. He had a congenital left inguinal hernia and the testis was undescended on that side and could not be palpated. The penis was hypospadic. He had a rupture of one of the adductors in the right thigh, due to an accident some years previously. His body was of a slight but athletic build and his mental capacity was fully up to the normal standard. His general health previously to the onset of his disease had been excellent. He first became ill about the middle of 1902, complaining of a general weakness, pain in the back of the thighs, and œdema of the right leg (this œdema subsequently disappeared), and he went to the seaside in July of that year for the benefit of his health. There it was discovered that he had a tumour in the abdomen When I first saw him in the autumn of that year the tumour was of about the size of a large cocoanut. It was hard and smooth, firmly fixed to the lumbar spine, and slightly larger on the right side. The pelvis was free. There was marked enlargement of the superficial abdominal veins. From that time onwards the tumour gradually increased in size, more rapidly in the earlier months than in the later. From being smooth it became largely irregular and was always extremely hard and firmly fixed. As it grew it involved the lumbar plexus on the right side, causing intense pain in the right lower limb and subsequently loss of knee-jerk. About a month before death the left knee-jerk was beginning to be exaggerated. Never at any time was there any sign of the kidneys being involved or of pressure on the ureters. The diaphragm was pushed up only very slightly and did not interfere with respiration. No secondary growths could be discovered during life. Several distinguished surgeons in London saw the patient and the diagnosis to the end was retroperitoneal sarcoma, probably of the retained testis.

A full post-mortem examination was unfortunately out of the question, but I was allowed to open the abdomen and to cut a piece off the tumour. This was done at the patient's house without any facilities for the work, so that a more extensive examination could not be made. The tumour was of a pearly-white colour, occupying the greater part of the abdominal cavity and adherent by a broad base to the lumbar spine. There were no secondary growths in the liver.

I sent the specimen to the Clinical Research Association in London where some excellent sections were prepared. Mr. J. H. Targett in explaining the sections said: "The [illegible] structure is that of [illegible] of polyhedral cells [illegible] calcareous particles [illegible] This type of growth most commonly arises in the hilum of the ovary and may burrow beneath the peritoneum." Later, with fuller details of the case, he said: "It seems not improbable that the disease originated there [i.e., in the undescended testis] and that the abdominal tumour was chiefly due to secondary growths in the lumbar glands. On examining the sections again I am still disposed to call it a soft carcinoma in spite of the youth of the patient and I think the sections are from a secondary growth in the lumbar lymphatic glands. There is certainly lymphoid tissue in the stroma of the growth and it cannot therefore be a primary growth in glands. Carcinoma of the testis does occur in young subjects but I have never met with these calcareous granules in any tumour of the testis previously examined."

Sir George Brown, C.B., was good enough to take some photographs of the sections for me. The different degrees of enlargement show very clearly the structure of the growth and the character of the cells. He also made some lantern slides from the negatives which showed everything even more clearly. The calcareous particles mentioned by Mr. Targett, which I do not see in the photograph, were very clear in the greater enlargement with the lantern A large number of them had a circle of light round them as if they were encapsuled in some substance.



Harrow.

DILATATION OF THE HEART.[1]

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AMONG the many and varied problems presented to us by cardio-vascular disease there is none that compares in general interest and practical importance with the elucidation of the precise conditions which determine the occurrence of dilatation of the heart. No doubt the vital and mechanical principles which underlie the production of cardiac dilatation are in a general way more or less well understood, but the exact mode of operation of the determinant forces is still a matter of speculation. In its purely mechanical aspect the question presents little or no difficulty. The complexity of the problem arises mainly from the fact that with our present knowledge we are unable to gauge with anything like accuracy the influence both in kind and amount that is exerted by the neuro muscular factor concerned in the production of dilatation of the heart.

In this paper an attempt will be made to show that all forms of cardiac dilatation have fundamentally a common mode of origin, inasmuch as it will be contended that they all depend primarily on an absolute or relative diminution or loss of the muscular tone of the organ. Furthermore, whatever may be the merits of this hypothesis I have little doubt that I shall be able to demonstrate that its application in the pathogenesis of many forms of dilatation of the heart adds materially to the simplification of the problem of causation.

The exposition of the thesis advanced in this paper does not call for a detailed consideration of the conditions under which dilatation of the heart is observed. These conditions are well known and the factors concerned in their production will be referred to as occasion demands in the course of the development of the argument.

Dilatation of the heart is usually considered to be of two kinds according as it arises in connexion with certain forms of valvular disease or is observed in association with absolute or relative functional inefficiency of the cardiac muscle, and it will be convenient for the purposes of the present discussion to adopt this division of the subject. The intelligible presentation of the hypothesis with which we are concerned in its application to these two forms of dilatation will be greatly facilitated by a few preliminary observations on cardiac physics.

It has been shown experimentally that under normal conditions the output of blood from the left ventricle into the aorta at each systole is remarkably constant in quantity, and since this result is obtained in the face of varying aortic pressures it follows that the heart is capable of increasing or decreasing the amount of work it performs in accordance with the requirements of the circulation. Manometric measurements have demonstrated that when operating against a high aortic pressure both the maximal and average intra-ventricular pressures are higher than when the ventricle is contracting against a low aortic pressure; in other words, the heart copes with heightened blood pressure by an increased display of energy. The work of the heart is largely determined by the degree of diastolic distension of the ventricle which, speaking generally, varies with the amount of blood that remains in the ventricular cavity after the completion of the systole Roy and Adami have shown that the ventricle does not empty itself completely at each systole, so that at the end of its contraction the chamber contains a measure of blood which varies considerably in amount under different conditions. Provided the ventricular output remains unaltered the operation of diastolic distension is to increase the quantity of residual blood in the ventricle at the end of systole for the following reasons, which I quote from Sherrington's account of the subject in Allbutt's "System of Medicine." "The pressure on a unit of surface remaining the same the total intra-ventricular pressure will vary approximately as the square of the radius of the cavity if the cavity be taken as approximately spherical. Thus Roy and Adami have pointed out that distension of the ventricle means not only increase of the tension of the muscular fibres but also increase of the lateral pressure on their surface in proportion as the square of their increase in length. But as they further pointed out the content of the cavity increases as the cube, and the muscle fibres, in order to expel the same constant quantity of blood from the dilated as from the undilated ventricle, need to shorten to a relatively less extent than was required of them before. The effect of diastolic distension is, therefore, if the output from the ventricle at each systole remain the same to leave a larger residuum of blood in the ventricle at the end of systole."

Now distension of the ventricle means the stretching of its muscular walls which in accordance with the general physiological law that governs all contractile tissues is within certain limits a stimulus to increased functional activity. The display of increased functional activity is shown by the performance of a greater amount of work (lift × load) and does not necessarily imply any additional shortening of the muscle. In point of fact the amount of shortening is usually less when a muscle is considerably stretched than when it is only slightly extended. At the same time it must be borne in mind that so far as the reduction in size of the chamber by a given volume is concerned the largely distended ventricle is at an advantage as compared with the slightly distended ventricle inasmuch as, for the reasons already given, a smaller amount of shortening suffices to produce this effect in the former than in the latter case. Other things being equal the amount of blood expelled at each systole by the largely distended ventricle should be increased as compared with the normal output and experimental investigation has shown that this result is actually obtained. It does not, however, necessarily follow, as Sherrington points out, and this is the crux of the whole problem, that the wall of a largely distended ventricle is during diastole more highly loaded—that is, under greater tension—than the wall of the ventricle that is but normally distended. The tensile properties of the ventricular wall are determined and limited by the degree of its elastic reaction. Tension under the conditions with which we are concerned means the stretching of the wall of the heart against elastic resistance. The elastic resistance in the case of the ventricular wall is provided by the tonus of the cardiac muscle, which, therefore, regulates the tension of the muscle fibres and hence to a large extent the force of their contraction. It will thus appear, as Clifford Allbutt has remarked, that tension and tone bear something like an inverse relation to one another in that they are mutually provocative and antagonistic.

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[1] A paper read before the Watford Medical Society on March 11th, 1904.

The paramount importance of the influence that is exerted by the cardiac tonus in the maintenance of diastolic distension within physiological limits and the prevention of dilatation of the heart is now readily appreciated. Thus so long as the tonus of the heart is unimpaired not only is undue diastolic distension restrained and the amount of residual blood at the end of systole restricted, but the ventricular wall is stimulated to a more vigorous contraction by the increased tension of its muscle fibres. Moreover, in these circumstances the ventricle is at a mechanical advantage, inasmuch as the smaller the cavity of the chamber the greater is the power of its contracting walls to propel their charge into the aorta, for, as Dr. Robert H. Woods has pointed out, the blood pressure inside a contracting cardiac chamber varies inversely as the radius of the chamber. On the other hand, with diminution or loss of the cardiac tonus not only is diastolic distension inadequately checked and the amount of residual blood increased but the ventricle partially or wholly lacks the stimulus to more vigorous contraction that is derived from tension of its wall (since the tension of the ventricular wall is diminished or lost), and, moreover, the chamber acts for the reason just given at a mechanical disadvantage. The wall of the ventricle consequently becomes stretched and its cavity dilated and these conditions tend to increase and to become perpetuated. Apart from the restoration and reinforcement of the cardiac tonus by hypertrophy the ventricle, even under the disadvantageous conditions just sketched, is able until its reserve power of contractile energy becomes exhausted to maintain the circulation more or less imperfectly for long periods of time. Inasmuch as tone is a later acquired and more highly specialised attribute of muscular tissue than contractility it follows from the operation of a well-recognised physiological law that the former property is more readily and profoundly affected by any interference with function than the latter. It follows, therefore, that the ventricle under the stress of long-continued overwork or under the manifold conditions which lead to interference with its nervous mechanism or nutritional integrity would lose its more highly specialised property of tone long before its primitive and inherent attribute of contractility. Herein, as I have attempted to explain, lies the initial and fundamental disability of the ventricle when from any cause it becomes unable either relatively or absolutely to carry on the work of the circulation. In this connexion I would more particularly insist on the importance of the nervous factor that is concerned in the production of cardiac dilatation by reason of the paramount influence exerted by the nervous system in the maintenance and regulation of muscular tonus. The beneficial operation of a cheerful disposition, the harmful effect of depression, the influence of joy, grief, anger, and the like, and the almost inexplicable variations that occur in the condition of the heart from day to day in cases of cardiac dilatation, are in the light of altered cardiac tonus readily explained. In order to avoid unnecessary repetition the argument has thus far been developed in relation to the question of the method of production of dilatation of the left ventricle only, but it must be clearly understood that the reasoning employed applies, *mutatis mutandis*, with equal force to the other chambers of the heart. It would therefore be beside the point to elaborate our contention with respect to these portions of the organ.

We are now in a position to examine the part played by the cardiac tonus in the production of dilatation of the heart and by so doing to test the validity of the hypothesis which forms the subject of this paper.

In the case of that form of dilatation of the heart which is observed in connexion with aortic regurgitation the explanation of the mode of operation of the cardiac tonus presents little or no difficulty. Under the conditions which obtain in aortic incompetence the left ventricle has to withstand during its diastole the distending effects of the regurgitation blood-stream under the pressure of the arterial recoil. The total intra-ventricular pressure during diastole on a unit of surface is the resultant of the respective pressures which prevail at the aortic and mitral orifices and is, of course, enormously in excess of the normal. The magnitude of the pressure that is exerted by the arterial recoil is, perhaps, more readily appreciated under experimental conditions, for it has been shown in animals that if the aortic valve be suddenly rendered incompetent the aortic pressure is sufficient to produce aneurysm or even rupture of the wall of the unprepared heart. Rupture of an aortic cusp is occasionally observed in man as the result of strain or violence and is always followed by rapid dilatation of the left ventricle.

The strain imposed on the wall of the ventricle in the conditions ordinarily connected with the incidence of aortic incompetence comes into operation gradually and its magnitude is ultimately determined by the extent of the lesion and the state of the arterial blood pressure, but in any event it constitutes the chief source of overwork which has to be performed by the heart. In any circumstances, however, it is clear that the resistance to progressive and unlimited diastolic distension of the left ventricle in aortic regurgitation must be, and is, provided by an increase of the tension of the muscle fibres of the ventricular wall, and this, as I have already insisted, is initiated and regulated by the cardiac tonus. Dilatation would quickly get the upper hand of hypertrophy at the outset were it not that the ventricle falls back on its reserve power which temporarily staves off the distending effects of the lesion. This increased display of functional activity leads under favourable nutritional conditions to hypertrophy which restores and maintains the tonus of the ventricular wall up to the level of the requirements that are demanded by the increase of intra ventricular pressure. There is, no doubt, a further cause for hypertrophy in that the ventricle has to propel a greater quantity of blood at each systole, but this factor must be comparatively unimportant compared with the task of maintaining the tonus of the cardiac wall.

The reasoning employed with respect to aortic regurgitation applies, *mutatis mutandis*, with equal force in the explanation of the mode of production of the ventricular dilatation that is observed in connexion with mitral incompetence and also with pulmonic insufficiency. The conclusion therefore with respect to that form of dilatation of the heart which arises in association with valvular disease is that it depends fundamentally on relative insufficiency of the tonus of the cardiac muscle. In other words, the ventricle dilates because the normal tonus of its muscle fibres is unable to provide sufficient elastic resistance to cope with the distensile stress of the excessive intra-ventricular pressure during diastole.

The mode of development of dilatation of a cardiac chamber from functional inefficiency of its muscular wall affords a problem the solution of which is frequently a matter of very considerable difficulty. The production of this form of dilatation of the heart depends most commonly on the coöperation in varying degrees of two main factors either of which may, however, occasionally act alone. They are: (1) an increase in the work required of the heart consequent on heightened arterio-capillary resistance, valvular disease, overstrain, &c., and (2) impairment of the muscular power of the organ the result of structural disease of the cardiac walls or of nutritive neuro muscular and other disturbances.

In normal conditions the heart may be regarded as an after-loaded muscle, that is to say, its load comes into play only during its contraction. The contractile energy displayed by the left ventricle or, for that matter, by any cardiac chamber at each systole is determined for the most part by the degree of tension of its muscular wall during diastole, and this, again, is regulated by the cardiac tonus. In other words, it is only through the operation of its muscle tonus that the ventricle is kept informed of the work that is required of it. The muscle tonus, though automatic in action, can be increased or decreased through the instrumentality of the central nervous system. Theoretically, an increase in the force of the ventricular contraction can be obtained by diastolic distension of its cavity or by augmentation of its tonus through nervous influences, and no doubt either or both of these means can be brought into operation in practice. These provisions for the regulation and display of contractile energy in conjunction with the reserve power inherent in the cardiac muscle no doubt afford the ventricle a wide range of action within physiological limits. Temporary dilatation of the heart is, however, observed in apparently healthy subjects under the stress of violent or protracted exertion. The additional work imposed on the heart in these circumstances consists, speaking generally, in a transient rise of blood pressure with a largely increased diastolic distension of the ventricles. It seems hardly possible that the contractile energy of the ventricular walls reinforced by their reserve power can become seriously exhausted, more especially as the rise of blood pressure is largely, if not entirely, due to increased output from the ventricles. On the other hand, the tonus of the ventricular muscle must be severely taxed by the excessive diastolic distension, and if in addition the amount of residual blood is increased the conditions for the stretching of the cardiac parietes are no doubt temporarily fulfilled. The action of the fatigue products of muscular activity and also of nervous excitement and exhaustion on the cardiac tonus has also to be taken into consideration. The partial exhaustion of the cardiac tonus would be sufficient to lower the functional efficiency of the heart and to bring about the conditions for the incomplete emptying of the ventricles and for the production of the stretching of their walls and dilatation of their cavities. It must also be borne in mind that in these conditions the ventricles are at an advantage as regards their output with respect to the reduction in size of their cavities by a given volume and this circumstance must afford an additional barrier to the complete breakdown of the contractile energy of the heart. Provided the process does not proceed to the extreme limit of exhaustion of the cardiac tonus the removal of the cause is followed by recovery and restoration of the tonus and of the normal size of the heart.

In those cases, as, for instance, contracted granular kidney, in which increased peripheral resistance is the main factor concerned in the production of dilatation of the heart, the additional work imposed on the organ comes into operation gradually. It is conceivable in these circumstances that the tonus of the cardiac muscle increases, possibly through vaso-motor influences, *pari passu* with that of the blood-vessels, so that the heart gradually grows up to its additional work. Here hypertrophy would not only maintain the heightened tonus but would also provide for the display of increased contractile activity. The subsequent failure of the cardiac tonus, which for the reasons already given would precede the failure of contractile energy, would lead step by step to the yielding of the ventricular wall and to the degradation, by successive stages, of the functional efficiency of the heart up to the fatal event. Otherwise the additional work imposed on the heart would lead by increment of residual blood to increase of the tension of the ventricular wall through augmentation of the cardiac tonus and hence to hypertrophy which would maintain the tonus and amplify the force of the ventricular contraction. The final stages of the process would follow the course sketched under the preceding supposition. This interpretation of the course of events is, moreover, borne out by clinical observation, for the yielding of the ventricle is found to take place step by step and not continuously, which presumably would be the case if the heart gave way in the face of uninterrupted resistance. Acute renal disease is sometimes a cause of rapid dilatation of the heart. Here the sudden imposition of increased work on a weakened ventricle temporarily at least overcomes the cardiac tonus and the heart falls back on its second line of defence which, though it involves some degree of dilatation, gives the organ the time and, if conditions become favourable, the opportunity to recuperate.

The explanation of the mode of development of dilatation of the heart from impairment of its muscular power does not present much difficulty. Here the tonic function of the muscle fibres commences to fail before their contractile energy is seriously impaired, so that the functional efficiency of the heart is degraded step by step through the yielding of its walls. The process is, of course, assisted and consummated by the gradual failure of the contractile energy of the heart. This conception, moreover, is in accord with clinical observation inasmuch as it permits of oscillations in the degree of dilatation and hence of the functional efficiency of the heart—that is to say, the degree of dilatation is decreased or increased with a corresponding rise or fall in functional efficiency according as the influences operating on the cardiac tonus are favourable or the reverse. If dilatation of the heart depended solely on failure of its contractile energy it seems almost inevitable that the cumulative effect of arrears of work in conjunction with the operation of the initial cause of the cardiac failure must lead to a gradual and progressive yielding of the ventricular walls, but in point of fact this is not the case.

An interesting illustration of the working of the hypothesis which I have submitted is afforded by that form of dilatation of the heart which is associated with grief, anxiety, mental depression, and the like. There is abundant evidence of the influence exerted by the nervous system on muscle tonus and the conditions with which we are concerned lead to a reduction of this tonus throughout the body. The heart no doubt shares in the general fall of tonus and the effect on the cardiac wall must be a reduction of the tension of its muscle fibres with a consequent decrease in the display of its contractile energy. Residual blood increases and in the absence of a restoration of the tonus stretching of the ventricular wall and dilatation of its cavity supervene. This process unless checked by a re-establishment of the cardiac tonus may proceed to an irretrievable degree of dilatation and death. Thus, as Sir William Broadbent has remarked, it is almost literally true that people die from a broken heart. If, therefore, the argument advanced in this paper be valid it follows that dilatation of the heart from so-called incomplete emptying depends fundamentally on the same causes as dilatation of the heart from over-filling—that is to say, that both have their origin in absolute or relative loss of the cardiac tonus. It seems *a priori* improbable, having regard to the wealth of the cardiac reserve power, that dilatation of the heart can depend primarily on failure of its contractile energy. Moreover, if this were the case the dilatation, as I have already insisted, should be gradual and continuous, which, so far as clinical observation shows, is not in accord with the usual course of events. On the other hand, tonus is a less stable and more capricious attribute of cardiac muscle than contractility and is therefore more likely to be affected by functional disturbances and morbific influences of all kinds. Furthermore, the operation of a postulated fall or loss of cardiac tonus provides for the production of dilatation, while variations in the display of the function permit of oscillations in the degree of dilatation that is produced. Thus an increase of tonus augments the force and effectiveness of the ventricular contraction and diminishes diastolic distension, whereas a decrease of tonus lessens the force and effectiveness of the ventricular contraction and aids diastolic distension. It is through the agency of these influences, in conjunction, no doubt, with a greater or less degree of modification in the contractile power of the heart, that the amount of cardiac dilatation may vary from day to day and that the organ is enabled to pass through such a wide range of variation as regards the level of its functional activity. The conclusion therefore is that all forms of dilatation of the heart have a common mode of origin, which is found in an absolute or relative diminution or loss of the cardiac tonus.

A few contingent considerations remain which are of sufficient importance and interest to call for a brief notice. The mode of action of the so-called cardiac tonics in the light of the hypothesis advanced in this paper affords scope for speculation and inquiry. The influence exerted on the cardio-vascular system by these drugs, of which digitalis is the prototype, gives rise not only to an increase in the force and effectiveness of the cardiac systole but also to tonic contraction of the arterioles and capillaries in which, of course, the heart shares. It is no doubt to their influence on the cardiac tonus that the beneficial action of these drugs in the treatment of dilatation of the heart must be largely ascribed. For the reasons already given the increase of the cardiac tonus augments the force and effectiveness of the ventricular contraction and the hypertrophy evoked by this additional display of function—which, be it observed, takes place in two directions—maintains the tonus and amplifies the contractile energy of the heart. Cardiac depressants, on the other hand, such as aconite, &c , operate probably in the reverse way—that is, they lower the cardiac tonus and by this means give rise to dilatation of the heart.

In conclusion, it may be pointed out that the hypothesis under consideration has presumably a very wide range of applicability, for if it is competent to explain the mode of production of dilatation of the heart it is also competent to explain the mode of production of dilatation of other hollow muscular viscera—as, for instance, the stomach, intestines, bladder, bronchi, and so forth. In the case of the stomach the question of [illegible] during the first 12 months of [illegible] the gastric tonus have very [illegible] timate size of the organ an[illegible] scular wall. [illegible] ation with hysterical [illegible] ninence the influence [illegible] the intestinal tonus. It is, however, impossible in a paper of this kind to do justice to the interesting and varied problems connected with the mode of production of dilatation of these viscera and I mention them with the object of stimulating inquiry and investigation along the lines suggested by the hypothesis which we have had under consideration.

Upper Berkeley street, W.

INTRALARYNGEAL GROWTHS TREATED BY MEANS OF THE GALVANO-CAUTERY.

BY J. DUNDAS GRANT, M.A., M.D. EDIN., F.R.C.S. ENG. & EDIN.,

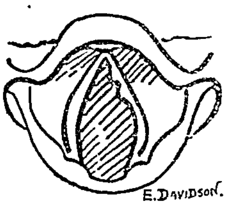
SURGEON TO THE CENTRAL LONDON THROAT AND EAR HOSPITAL, ETC.

THE final removal of the stump of an intralaryngeal growth is often as difficult as (to the expert) that of the main mass of it is easy. Oliver Wendell Holmes's happy analogy between the elaboration of the last few lines of a poem and the extraction of the last drops of oil out of a bottle is fairly applicable to the case in point. Such, at least, has been the experience of the writer. Many valuable forms of intralaryngeal forceps are at the disposal of the operator and I believe that the form devised by myself for cutting growths off the edge of the vocal cord, the description of which appeared in THE LANCET of June 3rd, 1893, p. 1323, has been in very general use for the intended purpose within the limits which the slightest consideration would impose [illegible] urface of the cord it is, of cours[illegible] the form devised by the late [illegible] st efficacious for those who have been accustomed to Mackenzie's instruments. These are available, also, for many growths in the anterior commissure, though here the snare (so strongly advocated by the late Lennox Browne) has its seat of election. Forceps with the tips bent forwards, according to the designs of Lambert Lack and Fitzgerald Powell, will often clear the anterior commissure when other instruments fail. The extirpation of the residual stump from which re-growth is very apt to take place often baffles instrumental interference as, for instance, when the growth is on the edge of the vocal cord, but so near the anterior commissure that there is no room in front of it for the anterior blade of clean cutting forceps. Such was the case in two instances lately under my care and in them I found in the galvano cautery the means of effecting the final clearance.

CASE 1.—The patient was a comparatively young vocalist and actress whom I brought before the British Laryngological Association in July, 1894, having removed a small fibroma from the right vocal cord at the junction of the anterior and middle thirds. The removal by means of my own forceps was so complete that the patient was enabled to return to her avocation and continued to act and occasionally to sing up to November, 1902, when she came again to me on account of a return of her hoarseness. I found a fibroma on the same spot but more sessile than the previous one and I was able to effect only a partial removal by means of my forceps. I then lightly touched the spot with a fine galvano-cautery point on three occasions with the result that complete disappearance of the growth and perfect restoration of voice ensued. This has continued to the present day.

CASE 2.—The patient was a woman, aged 51 years, who had been practically voiceless for three years. I found a sessile fibroma occupying nearly the whole of the anterior third of the vibratory portion of the left vocal cord and protruding to a considerable extent into the glottic slit. After removal of the main mass by means of my forceps I reduced the growth to dimensions somewhat less than indicated in the figure.

The following is Dr. V. H. Wyatt Wingrave's report as to the microscopical structure:—"The growth consisted of a medullary part composed of fibrous tissue containing small fusiform nuclei with a few large oval nucleated cells (epithelioid) and also some large granular leucocytes. The matrix was homogeneous. The vessels (arteries) showed considerable thickening and were numerous. The surface epithelium was very irregular in arrangement, being corrugated and in parts dipping into the subjacent tissues, but was not fimbriated. It was typical stratified squamous on the surface, the deepest layer being columnar. There was no suggestion of active mitotic nuclear change and no nest or pearl formation. In parts there was some vacuolation. Its nature may be considered as a fibro-papilloma."



The small remaining stump was sufficient to prevent the emission of conversational voice and the application of various astringents seemed to irritate the larynx without producing any diminution in the nodules. In spite of the difficulties in this particular case, to which I shall further allude, I succeeded in touching the stump with the galvano-cautery and after five applications effected its complete removal, the voice becoming clear and strong as it has remained till now (three months later) when the vocal cord is perfectly normal. I showed the case to the Laryngological Society of London in January of the present year.

The difficulties in this latter case were manifold. The patient was a somewhat rotund personage with an extremely protuberant "bust" and a short neck, so that there was little room for the hand of the assistant holding out the tongue and of the one holding the Mount-Bleyer or Escat tongue depressor, which the pendulousness of the epiglottis rendered necessary. In addition, the tongue was large in proportion to the size of the buccal cavity even when the artificial teeth were removed. It was difficult even to introduce the laryngeal mirror. Finally, the epiglottis was pronouncedly "pendulous" and only very fleeting views of the seat of the disease were obtainable. It must be stated to the patient's credit that her good-will and patience were most exemplary. The introduction of my forceps required the exercise of some force and the manipulation inside the larynx was necessarily carried out *à l'aveugle* in a way which would have been scarcely possible with a less guarded instrument. The use of the galvano cautery had to be practised on totally different lines. For this the most complete illumination was necessary, so that the application should be made under the guidance of the eye. For this purpose I made use in the first instance of Mount-Bleyer's epiglottis lifter, the tip being placed in the vallecula in front of the epiglottis, the pressure therein causing this to rise up so that the anterior part of the glottis could be plainly seen. I found, however, that Escat's instrument caused less discomfort and in this particular case permitted of as good a view of the larynx being obtained. I was thus enabled, after cocainisation, to overcome the difficulties I have mentioned and to effect the application of the galvano-cautery.

The cautery itself must answer certain requirements. It must be of [illegible] the particular spot in the [illegible] e it should be introduced [illegible] nd length (of vertical portion) until it can be made to touch the exact spot with as little difficulty as possible. Again, it should be instantly responsive to the make and break of the current. I use Schech's handle and frequently renew the points which Schall carefully files down for me at the extremity till the incandescence and extinction are practically instantaneous. The extent to which the cautery has to be bent down is sometimes more considerable than would be anticipated. In Case 1 the bent-down portion was fully four inches in length, and I have at present under my care a patient on whose left vocal cord was a large sessile papilloma which I was unable to reach by means of my longest laryngeal forceps, but which I have succeeded in reducing almost to a vanishing point by the use of the galvano-cautery bent down to as great a length. For such a small stump as I have described the lightest touch is all that is desirable and ought indeed to be much less than at the time appears sufficient. In addition to the destruction of a portion by the actual burning away of substance the subjacent part of the growth undergoes a certain amount of shrinkage. Complete burning away of the growth would therefore be attended by a risk of undesirable cicatrisation of the normal underlying structures.

I do not wish it to be inferred that in these manipulations I have never touched the normal neighbouring parts of the larynx. In Case 1 I certainly did avoid doing so; in Case 2 I more than once cauterised the superjacent portion of the ventricular band and also the opposite vocal cord. In the third case to which I have made reference the patient was exceptionally restless besides being absolutely intolerant of the "epiglottis-lifter" and I slightly cauterised the laryngeal surface of the epiglottis. As a rule I was able to confine the momentary cauterisation to the desired spot and in no instance did the involvement of the adjacent parts mentioned occasion anything approaching obstructive œdema or indeed any symptom beyond a slight increase of hoarseness, which rapidly subsided.

With the precautions I have mentioned I believe that we have in the galvano-cautery an instrument which might be more frequently employed for the purpose under consideration than appears to be usual.

Cavendish-square, W.

A NON-TOXIC PREPARATION OF IODINE.

By V. H. WYATT WINGRAVE, M.D. Durh.,
M.R.C.S. Eng.,
PHYSICIAN TO THE CENTRAL LONDON THROAT AND EAR HOSPITAL.

BEING especially interested in the supplemental treatment of enlarged glands and adenoids with iodine, about seven years ago I made several experiments with preparations of that drug with the object of finding one which could be given internally in large doses for considerable periods without causing symptoms of iodism while exercising its specific effects on lymphatic enlargements. The late Mr. Martindale and the manager of Messrs. Morson and Sons were good enough to try several formulæ for me in their laboratories and finally succeeded in producing an easily-made compound in which iodine was loosely combined with an organic substance, rendering it fit for ready absorption without causing any irritation of the digestive canal and affording a high physiological activity without any evidence of intolerance. This preparation I have used ever since both in hospital and private practice, and having watched the effects have come to the conclusion that it has fully confirmed my first estimate of its value.

The formula which I now employ has been perfected for me by Mr. W. H. Martindale, is easily prepared, and is very palatable. The iodine is in loose chemical combination with tannic acid, since none can be demonstrated as free, yet it is sufficiently free to be given up readily to the tissues after absorption and consequently there is no chance of any local intestinal or gastric irritation, so often associated with the administration of *free* iodine. Such combination is one of a nature similar to that of oxyhæmoglobin. Formula:—iodine, 2½ grammes; tannic acid, 4 grammes; alcohol (90 per cent.), 38 cubic centimetres; syrup, q s. to 75 cubic centimetres. The iodine is dissolved in the alcohol, the tannic acid and 30 cubic centimetres of the syrup are added, the solution is heated to just below boiling point until it affords no evidence of free iodine with the starch reaction (about 20 minutes), is then cooled, and the remainder of the syrup is added with flavourings. Each drachm contains two grains of iodine. It may be given in doses of from half a drachm to two drachms in water or wine before meals according to age.

I have found that children tolerate it well and it has proved specially useful in cases of chronic lymphadenitis associated with, or independent of, enlarged tonsils and adenoids, especially when the enlarged cervical glands persist after tonsillotomy. It is further indicated in those children who possess but slightly enlarged faucial and pharyngeal tonsils in whom operation is contra-indicated or objected t In atrophic rhinitis it has afforded gratifying resul especially when combined with arsenic; also in simpl bronchocele supplemented with the use of iodine oleate (in 9 of oleic acid) as a pigment.

Such an organic combination of iodine is by no means ne as it was introduced many years ago in the form of a wine—"Vin Nourry"—but so far as I know no definite or simpl formula suitable for prescribing purposes has been availabl It is for this reason and for the very satisfactory result which it has afforded in a prolonged trial that I venture t recommend it.

Devonshire street, W.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Procemium.

THE FRENCH HOSPITAL, SHAFTESBURY AVENUE.

SIX CONSECUTIVE CASES OF DISEASE OF THE FALLOPIAN TUBES.

(Under the care of Dr. SEPTIMUS SUNDERLAND and Mr. EDMUND OWEN.)

FOR the notes of the cases we are indebted to Mr. Jehan M. Barlet, resident medical officer.

CASE 1. *Double tubo-ovarian abscess.*—A married woman, aged 39 years, who had borne no children, was admitted into the French Hospital on Oct. 8th, 1903, for pain in each ovarian region. She had had gonorrhœa and had been in the French Hospital two years previously with the same symptoms. On vaginal examination a semi-elastic swelling of about the size of a hen's egg could be felt on the right side, but nothing definite could be made out on the left, though she complained of more pain on that side.

Mr. Owen made a three-inch incision in the median line and finding the right ovary and tube enlarged removed them, the tube rupturing under the manipulation and pus escaping. The soiled viscera were carefully wiped over but no irrigation was employed. The left ovary and tube were also diseased and were removed. A drainage-tube was left in for 48 hours. The woman made an uninterrupted recovery.

CASE 2. *Double tubo-ovarian abscess.*—A woman, aged 32 years, who had been married ten months and had had no children, was admitted into the French Hospital on Nov. 11th, 1903, for pain over each ovary. For six months previously she had had pain in the right iliac fossa, there being a history of a diminution of the menstrual flow for two months, followed by an advance of the period by 15 days, lasting 15 days. Her husband had had gonorrhœa.

A three-inch median incision was made. The left tube was much dilated and the ovary was enlarged; they were removed. The right tube and ovary were then brought to the surface and also found to be diseased and were likewise removed. (On opening the tubes subsequently pus was discovered in each) A drainage-tube was left in for 48 hours. She also made an uninterrupted recovery.

CASE 3. *Encysted purulent peritonitis secondary to pyosalpinx.*—A woman, aged 30 years, was admitted into the French Hospital on Jan. 20th, 1904, for abdominal pain. There was a large swelling in the right iliac fossa. There was a history of pains in the lower abdomen during six years; they had usually passed off with rest and douches. 12 days before admission she had been seized with severe pains and had passed a dark clot of blood per vaginam. She said that she had had a temperature going up to 103° and 104° F. and also that a large swelling had begun to form in the right lower abdomen. On admission she was looking ill; she vomited. The pulse was 124 and the temperature was 100°. The abdomen was distended, especially on the right side. There was a limitation of respiratory moveme [illegible] A large swelling could be felt in the right [illegible] upper part of the tumour. On vaginal examination a hard [illegible] fornix, the uterus being [illegible] ual examination fluctuation was obtainable; the mass was fixed.

Mr. Owen opened the abdomen on the day following her admission by a median incision below the umbilicus. The small intestines were congested, covered with lymph, and adherent to [illegible] of foul-smelling pus [illegible] out with abundant hc [illegible] bes were brought out by counter openings, but the case seemed hopeless. The source of the pus could not then be discovered as all the tissues were closely matted together. The patient was very much collapsed after the operation but by [illegible] She died early on [illegible] vere matted together [illegible] and the uterus was an abscess containing about ten ounces of pus, which had not been discovered at the operation. There was pus in the right Fallopian tube and ovary, and in the body of the uterus was a *large, deep ulcer which encroached upon the opening* of the right Fallopian tube. At one spot the wall of the bladder was ulc [illegible]

CASE 4. *Ec* [illegible] years, who had had [illegible] French Hospital on [illegible] lower abdomen on the right side. Her history was as follows: On Christmas Day, when walking with her husband, she was suddenly taken faint and had to be carried home. From that time she had been constantly losing blood. The pain continued and she had neuralgia down the inside of the thigh. She frequently vomited. There was no history of gonorrhœa. The temperature was normal. Examination showed that there was acute tenderness over the region of the right ovary, a resistance being distinguishable The uterus was moveable and the os was capable of admitting the tip of the index finger. Against the right fornix a tender, moveable, semi-elastic swelling, [illegible] shed.

[illegible] ches long, [illegible] cavity. A [illegible] the right [illegible] to the sur- [illegible] The tube [illegible] at was tied off and the mass was removed. On cutting into it a large blood clot was found associated with a ruptured tubal gestation. There was also a small cyst of the ovary. The pelvis was wiped clean of blood and the wound was closed. A few weeks later she was sent to the convalescent home at Brighton.

CASE 5. *Right pyosalpinx; left suppurating ovarian cyst.*—A woman, aged 27 years, married, with no children, was admitted into the French Hospital on Jan 15th, 1904 She had [illegible] tant pain in the [illegible] in menstruation [illegible] had had three [illegible] years previously she had a [illegible] associated with pains which had [illegible] all these years. She had been [illegible] ouches and rest but without material advantage. Vaginal examination showed that the uterus was fixed and thrust backwards by an elongated mass on the left side, which was also fixed to the rectum and bulged against the left fornix. On the right side was a moveable, semi-elastic swelling of about the size and shape of a hen's egg and partly posterior to the uterus.

[illegible], the right tube was [illegible] ding tissues; these [illegible] the swollen and con- [illegible] lymph, was brought to the surface, tied off, and removed The left tube was made out with difficulty, as it was concealed by, and was closely adher [illegible] the rectum, and [illegible] at length been [illegible] age was brought to the surface, secured, and removed. There was a good deal of oozing, the blood being mopped out with sponges soaked in a very hot saline solution. A Keith's tube was inserted and the abdominal wound was sewn up. The drain was removed after 48 hours, there being only a slight [illegible]. The temperature remained [illegible] e above 84 per minute. On examining the masses removed the one on the right side proved to be a pyosalpinx, whilst the one on the left side had the appearance of an ovarian cyst which had suppurated. She made a rapid recovery.

CASE 6. *Right salpingitis and cyst in the broad ligament; left salpingitis.*—The patient, a widow, aged 24 years, was admitted into the French Hospital on Feb. 1st, 1904, for great pain in the right iliac fossa. She had had no children but had one miscarriage four years before. A week previously she had been wrestling and on the next day she felt an acute stabbing pain in the right iliac fossa, which doubled her up and, as she says [illegible] pain. At the time of her violent e [illegible] of her monthly period, and after [illegible] increased very considerably, with [illegible] had always been regular. The a [illegible] with respiration, except in the l [illegible] was a slight resistance on the right side. Vaginal examination showed that the os was patulous and that the uterus was definitely enlarged and pushed over to the left side by a semi-elastic swelling which bulged down against the right fornix. *It seemed to be of about the size of a small orange.* Above this could be felt a distended tube There was free discharge of blood from the uterus. Dr. Sunderland had seen her in consultation at her own house and, recognising the presence of an acute pelvic condition which evidently needed exploration, sent her into the hospital for operation. This was performed on the following day. Colonel C. H. Joubert, I M S., late professor of obstetrics at the Calcutta Medical College, was present at this operation.

A median incision having been made, there was found on the right side a dark and adherent mass which proved to be the distended Fallopian tube; below this a cyst was found as big as a small orange lying between the layers of the broad ligament in close connexion with the enlarged Fallopian tube. The cyst burst on being freed from adhesions, discharging a thin sanguineous fluid. The whole mass was tied off in sections and removed. On the left side a slightly enlarged tube showing evidence of salpingitis was found behind the uterus and removed. The oozing from [illegible] adhesions was stopped with sponges wrung out [illegible] be was left in for 24 h [illegible] which had appearances suggestive of an extra-uterine gestation, was sent to Dr. G. Leslie Eastes for examination who reported as follows: "This specimen shows the presence of thrombosed vessels, and free hæmorrhages in the walls of the tube, together with a large amount of granulation tissue. Chorionic villi have not been found, so that tubal gestation cannot be diagnosed We must conclude that the intramural hæmorrhage was due to some acute condition supervening upon a chronic inflammatory process" The patient, who strenuously denied the possibility of ectopic gestation, made an uninterrupted recovery.

Remarks by Dr. SUNDERLAND and Mr. OWEN.—The misapprehension that gonorrhœa is not a very serious disease is widely spread. It has been argued that though it is a common affection of young adults one rarely hears of a man being permanently damaged by it, provided only he has escaped being the subject of organic stricture of the urethra and the various diseases of the bladder and kidneys which may depend upon it. But the surgeon who sees a patient with secondary gonococcal inflammation of the knee-joint or of a series of joints, and the physician who is called to advise in the treatment of a [illegible] tion of the pericardium has [illegible] venereal urethritis, cannot fail [illegible] as one of extreme potentia [illegible] saddest, as well as the most [illegible] of gonorrhœa are met with in the case of the married woman whose life is rendered miserable and uncertain by infection which was unwittingly communicated to her by her husband. The probability is that the man honestly believed himself to be, and was duly advised that he was, perfectly cured of his urethritis at the time of his marriage, when, as a matter of fact, gonococci were still present in the urethral canal It is quite possible, moreover, that the wife was infected with the micro organisms without realising that there was *anything seriously* amiss with her, that the area of incubation of the micro-organisms was chiefly confined to the interior of the cervix uteri, for instance, and that she had none of the usual symptoms of gonorrhœal infection. It not infrequently happens that when the practitioner has asked all the questions which he deems it prudent to put to the wife, he leaves off his cross-examination without having obtained collateral evidence of her having been definitely infected, though the confessions of the husband and the circumstances of the case leave little room for doubt.

Of the four cases of pyosalpinx reported above, Nos. 1 and 5 gave a clear history of gonorrhœal infection; No. 3 had probably been a victim to it, and No. 2 might well have been infected from her husband. No. 3 is one of those sad cases in which infection spreads from a tubal abscess to involve the peritoneum in a fatal suppuration. Bacilli coli communes must have been present in myriads, the original tubal swelling having been probably infected from adherent intestine. The history of this case adds further support to the teaching of those who advise that in all cases in which the existence of a tubal abscess is suspected the tumour should be explored without delay by abdominal section, and then dealt with in the only possible way—that is, of course, by removal.

Another point for remark is that if in the process of being separated from the surrounding adhesions the cyst gives way and its foul contents spread themselves over the adjacent coils of intestine, the most practical manner of cleansing these is by the free use of dry absorbent sterilised swabs. Formerly it was very much the custom to deal with the soiled viscera by hot flushings, but though in cases where the pus was not sterile this method could not be depended upon to wash away all the germs it was certain to convey some of them to parts of the serous membrane which, up to that time, they had not reached. In operations in which the foul contents of an appendicular or a tubal abscess unavoidably find access to the serous covering of neighbouring viscera, is not the simple process of wiping the part clean with a soft dry sterilised swab as likely to prove efficient as the less convenient one of irrigation? In every case the surgeon should do his best to prevent the occurrence of any fouling, but if, notwithstanding, it does occur and the case turns out successful nevertheless, he must not ascribe all the credit for the happy result to the way in which he dealt with the straying pus.

What is the explanation of the favourable course which cases often run when the surgeon has concluded his operation with the full knowledge that pus has been left behind? It is possible that the escaping pus was sterile. In other cases where pus which contained bacilli escaped upon and contaminated the peritoneum and no worse results followed than a slight localised peritonitis, it is probable that the formation of leucocytes and plasma-cells on the peritoneal surface prevented the entrance of the poison to the system. Possibly, also, during the time that an abscess was forming an antitoxin was being prepared in the blood which sufficed to render harmless the occurrence of, or even to prevent, a localised peritonitis. Therefore, when there is no urgent indication for immediate operation it is advisable to prepare the patient for the operation by rest in bed, good feeding, and a course of ferruginous tonics so that the blood cells may be the better able to resist the ravages which might be caused by bacilli-laden pus if the tubes happen to rupture during the operation.

In 1899 Mr. A. G. R. Foulerton reported the results of 459 cases of salpingitis (including 16 cases investigated by himself) in which the pus had been examined by competent observers. In about 20 per cent. of these cases the gonococcus was discovered, in about 20 per cent. bacteria other than the gonococci were found (including the staphylococcus pyogenes albus, the bacillus coli communis, the bacillus tuberculosis, and the streptococcus pyogenes), but in the remaining 60 per cent. the contents of the tubes had been found absolutely sterile. He explained this absence of bacteria by the fact that many cases of pyosalpinx are not operated upon till a considerable period after the formation of the abscess, by which time the causative parasites have perished as the result of starvation or of being poisoned in a small closed cavity by their own excretory products. With regard to the 20 per cent. of cases in which other bacteria than gonococci had been found, in a certain proportion of them the bacillus discovered did not always harmonise with the etiology of the disease, for in some of them the pus had become sterile and had been secondarily infected with the bacillus coli communis from adherent intestine. It is thus impossible to determine from examination of the pus contained in the tubes the proportion of cases which owe their origin to gonorrhœa. But it is our opinion, judging partly from the records of Mr. Foulerton and partly from our own clinical experience, that the number of cases of pyosalpinx which owe their origin to gonorrhœa is considerably under-estimated and that the proportion given by text-books of a percentage of from 20 to 30 is far below the mark.

In a case of salpingitis arising during an attack of gonorrhœa when there is evidence that pus has formed in one or in both tubes the questions arise: Should the condition be dealt with per vaginam (through Douglas's pouch), as recommended by some surgeons, or by laparotomy? And, secondly, when should operation be undertaken? In our opinion cases in which incision and drainage of the tube through the vagina should be resorted to must be of very rare occurrence. When there are much matting and adhesion it must be difficult to insure that all the pus has been evacuated, and certainly it seems a more sound principle to remove the whole of the diseased tube by laparotomy, as in the case of intrapelvic abscess due to disease of the appendix cæci.[1] With regard to the time for operation, it is probably wise to allow the patient to get over the acute inflammatory attack and unless urgent symptoms should call for interference to wait for a few months until the virulence of the contents of the tubal abscess may have abated in order to minimise the risk of infecting the peritoneum. It is impossible to lay down definite rules, for the circumstances of each case have to be considered. Indeed, some of these cases if left alone get well without operation, the pus apparently becoming absorbed.

In conclusion, we would like to insist upon the importance of the careful and thorough treatment of gonorrhœa in females in its initial stage. This cannot be too strongly put forward when one considers the amount of suffering and the risk to life which may attend upon an apparently slight attack of the disease.

Medical Societies.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—A meeting of this society was held on March 18th, Dr. Percy G. Lewis being in the chair.—Mr. Harold Burrows showed a case of Enlarged Liver and Spleen in a girl, aged 13 years. Six months previously laparotomy had been performed for supposed hydatid disease of the liver but the liver was found to be uniformly enlarged and smooth. There was no history of syphilis but as there were the remains of old retino-choroiditis in both eyes a diagnosis of syphilis had been made.—Dr. C. W. Chapman showed a girl, aged 12 years, who had suffered from Mitral Disease with recurrent attacks of Dilatation of the Heart. These had at first yielded to the ordinary remedies but later the dilatation and failure of compensation which were accompanied by orthopnœa were not relieved until solution of adrenalin was administered in five-drop doses every four hours. This was followed by steady improvement.—Mr. J. Keogh Murphy showed a case of Hæmatoma of the Parietal Bone in an infant, aged eight weeks, and a case of Double Pes Cavus in a boy, aged four years.—Dr. Leonard G. Guthrie showed a boy, aged 11 years, who for two years had been subject to peculiar attacks in which he would suddenly run to his mother, exclaiming, "Horrid smell." He would appear much agitated and distressed for a few moments, sometimes spitting and grimacing, and going through the action of trying to pull something out of his mouth. He would then behave "as if he were silly," running to persons in the room and trying to embrace them. After five or ten minutes of this behaviour he would become quiet, turn pale, shiver as if cold, seem exhausted, and lie down to sleep. Dr. Guthrie regarded the case as one of automatism with olfactory and gustatory auræ, a condition allied to epilepsy or megrim. Under treatment with bromide of potassium in eight grain doses thrice daily the attacks diminished rapidly in frequency and severity.—Dr. Lewis commented on the large pupils and a tendency to exophthalmos in the patient.—Dr. E. A. Jones said that visual auræ were of two kinds, either of persons which were usually unpleasant, or of landscapes which were usually pleasant.—Dr Edmund Cautley showed a case of Multiple Congenital

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[1] Brit. Med. Jour., Feb. 20th, 1904, p. 426.

Deformities in a girl, aged five years. She was one of 12 children, all the others being healthy and well formed. She was very small and intellectually deficient. Walking or standing had not yet been accomplished, although there was no indication of muscular or nervous lesion. The eyes were marked by notching of the upper lids, dermoid cysts on the conjunctivæ, coloboma of the iris and choroid, and choroidal atrophy. There were accessory auricles and macrostoma on the right side.—Mr. J. P. Lockhart Mummery said that the association of auricular appendages with the fissure of the mouth was interesting because those cases seemed to support the theory that the auricular appendages were developed around the outer end of a partly persistent inter-maxillary cleft, the anterior part of which was represented by the fissure of the mouth.—Mr. J. Howell Evans pointed out that the notch in the upper eyelids occurred at a point where there was a division between the nerve-supply of the outer two-thirds and the inner third, a situation often occupied by birth-marks and moles.—Dr. G. A. Sutherland showed a boy, aged eight years, suffering from Chronic Interstitial Nephritis and commented on the syphilitic origin of these cases although there was no history of that disease in the present instance. There was marked cardiac hypertrophy and the radial arteries were thickened. The urine was of low specific gravity and contained occasionally a trace of albumin and granular casts. There were no retinal changes.—Dr. E. P. Baumann showed a specimen of Early Parrot's Nodes from a child, aged two years. The nodes were in an early stage, being small, sharply limited, and still vascular. It was uncommon to find them *developing* at such a late age. The patient had well marked signs of syphilis.—Dr. George Carpenter said that he regarded Parrot's nodes as definite evidence of syphilis and that the spleen would usually be found to be enlarged in such cases.—Mr. Sydney Stephenson read a paper on Congenital Word-Blindness in Children.—Dr. J. Porter Parkinson and Dr. Douglas Drew communicated notes on a case of Nephrolithotomy.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 18th, Dr. D. Newman, the President, being in the chair.—Professor McCall Anderson showed three cases of Lupus which had been treated for long periods with the x rays with no improvement. Professor Anderson proposed to treat the cases with tuberculin and he intended to show them to the society after undergoing a course of that treatment.—Dr. W. S. Syme made a brief communication on Chloride of Ethyl as a General Anæsthetic for short operations on the throat and nose. He demonstrated a simple inhaler and with this inhaler the results compared favourably with those obtained with more elaborate inhalers. He claimed for ethyl chloride the following advantages. With a single administration, the dose varying according to the age of the patient and the time required, a period of anæsthesia up to two and a half minutes might be confidently expected. There was a minimum of struggling, so that, as in some of his cases, the assistance of a nurse was sufficient. The patient quickly recovered and the after-effects were slight. If vomiting did occur it was of short duration. Chloride of ethyl came next to nitrous oxide in safety. The dose he recommended was from three to eight cubic centimetres though more might be given if necessary.—Dr. G. H. Edington showed: (1) A specimen of Undescended Testicle, showing Tubercles in the Processus Vaginalis; (2) a specimen of Testicle fully descended strangulated by torsion of the pedicle; and (3) Solitary Kidney with Dilated Ureter associated with Malformation of Generative Organs, Ribs, &c., from a case of Atresia Ani.—Dr. J. Hinshelwood reported a case of Congenital Word-blindness.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on March 23rd, Dr. J. Nigel Stark, the President, being in the chair.—Dr. J. M. Munro Kerr showed: (1) A Myomatous Uterus with a large Multilocular Ovarian Cyst; (2) an Ovarian Cyst with the pedicle twisted three times; (3) Pyosalpinx; and (4) a Pregnancy situated either in the interstitial portion of the tube or in one half of a double uterus.—Dr. E. M. Pace showed a Fibroid Tumour of the Uterus undergoing Myxomatous Degeneration. There was also myxomatous tissue in the broad ligaments.—Dr. R. Jardine showed a Curette for the Treatment of Abortions. The edge was sharper than that of the ordinary dull curette.—Dr. Jardine also read notes of a case of Ulcer of the Stomach after removal of a large ovarian cyst. The cyst was complicated by the presence of a fibroid tumour of the uterus, which, however, was not removed on account of the debilitated condition of the patient. On the second day after operation the patient collapsed. The motions after this were dark, like altered blood. On the twelfth day collapse again occurred, followed by coffee-ground vomiting. The patient ultimately made a good recovery.—Dr. Carstairs C. Douglas said that in some such cases where death took place no gastric ulcer was found on post-mortem examination and suggested that this was a case of post operative hæmatemesis.—Dr. Jardine replied that post-operative hæmatemesis occurred within a few days of operation, whereas in his case the second attack of collapse set in on the twelfth day.—Dr. W. L. Reid gave an estimate of the Relative Merits of Ventrofixation and certain other Operations for the Relief of Uterine Prolapse and Retroflexion. Dr. Reid said that if a prolapse or retroflexion, in which latter term he included retroversion, was capable of being so modified as effectually to relieve the patient by the use of a pessary he usually contented himself with recommending it, more especially as a permanent cure often resulted. Where pessaries failed and where there were no adhesions shortening of the round ligaments frequently did well. He had largely given up this operation, partly on account of the difficulty of performing it, partly because of the danger of hernia, and partly because of the appreciation of other operations. The next method he favoured, for prolapse only, was anterior and posterior colporrhaphy. To be trustworthy this had to be done thoroughly. If the uterus was heavy it was well also to amputate the cervix. Later, in young women likely to bear children he had begun to perform hysteropexy.

ROYAL ACADEMY OF MEDICINE IN IRELAND: SECTION OF PATHOLOGY.—A meeting of this section was held on March 18th, Dr. H. C. Earl, the President, being in the chair.—Mr. E. H. Taylor and Dr. O'Sullivan exhibited a Tumour from the leg of a man, aged 42 years, which had originated a year previously in a mole. The tumour, which was attached by a pedicle, was pigmented and had grown very rapidly. The glands in the inguinal region and in the iliac fossa were large and hard. Dr. O'Sullivan demonstrated microscopic preparations from various portions of the tumour. It showed near the periphery spaces lined by a single layer of high cubical cells separated from blood-vessels by hyaline connective tissue. In a deeper portion the cells, several layers deep, had encroached in this connective tissue and formed a sort of outside sheath to the vessels. The main part of the growth consisted of solid columns of cells separated from one another by a fine fibrous stroma. These cells showed very numerous mitoses. The pigment was confined to the stroma. Dr. O'Sullivan considered the tumour to be an endothelioma growing from the lymph spaces in the subcutaneous tissue.—The President discussed the paper.—Mr. L. G. Gunn showed *two Tumours from* Kidneys of Different Subjects. One which he called a sarcoma showed large round cells invading the kidney substance. He discussed the possibility of the tumour being a carcinoma of the suprarenal capsule. The second tumour showed a firm cystic structure with a papillary growth extending into, and dilating, the ureter.—The President and Dr. O'Sullivan spoke.

NEWPORT (MON.) MEDICAL SOCIETY.—A meeting of this society was held at the Newport and County Hospital on March 30th, Dr. J. Howard-Jones, the President, being in the chair.—Dr. R. J. Paton showed a specimen of Encysted Hæmatocele of the Cord.—Mr. J. McGinn read a paper on the Value of Venesection in Over-distension of the Right Side of the Heart and quoted his own favourable experience of the treatment.—Dr. J. Batten Coumbe read a very able and interesting paper on the Nature and Action of Toxins and Antitoxins.—The specimen and papers were fully discussed by the members present.—Mr. W. Bassett drew attention to the recent circular of the Medical Defence Union with regard to the proposed medical defence branch of the British Medical Association and it was decided to hold a meeting in April to discuss the subject.

BRENTWOOD CONVALESCENT HOME FOR CHILDREN.—On Thursday afternoon, April 14th, the new building of this institution will be opened by Lady Rayleigh. A short opening service by the Bishop of Colchester will be held previously.

Reviews and Notices of Books.

Vaginal Tumours, with Special Reference to Cancer and Sarcoma. By W. ROGER WILLIAMS, F.R.C.S. Eng. London: John Bale, Sons, and Danielsson, Limited. 1904. Pp. 92. Price 5*s.* 6*d.* net.

THE subject of vaginal tumours has hitherto not received much attention from English writers and this valuable monograph by Mr. Roger Williams is an attempt to collect and to coördinate the details with regard to these tumours which exist scattered throughout medical literature. The book includes a consideration of all the different forms of vaginal tumours, special reference being paid to cancer and sarcoma. The author agrees with Nagel's views as to the development of the vagina from the Mullerian ducts and does not accept Berry Hart's theory of the part played by the so-called Wolffian bulbs. He is also inclined to agree with the theory of Davidsohn that the small cysts lined with cylindrical epithelium found in the upper part of the vagina are aberrant offsets of the cervical glands. It is curious to note that in spite of its rarity cancer of the vagina is the commonest of the primary vaginal neoplasms, although its frequency of occurrence amounts only to about 0·43 per cent. of all carcinomata in women—a rate of frequency which is a most powerful argument against the view that irritation plays any part in the production of such growths, for few parts of the body are so liable to irritation as the vagina. The posterior vaginal wall is by far the most frequent seat of growth, 50 of the 76 cases tabulated by Bernard arising in this position. The disease is of the most fatal character, for of 16 cases operated upon in Olshausen's clinic in no less than 15 the disease soon recurred. The infantile type of sarcomata are considered to arise from developmental irregularities occurring more especially in connexion with the development of the cloaca. The great majority of these tumours are found in infants, no less than 17 out of the 25 collected by Gatti being of this variety. Details are given of a number of cases illustrating the main features of these interesting growths. In a short description of "vaginal polypoid formations in infants" attention is called to the fact that these tumours are often erroneously referred to as examples of congenital vaginal myomata. Primary melano-sarcoma of the vagina is of the utmost rarity but two cases recorded by Horn and Parona are related by Mr. Williams.

In considering the important question of the occurrence of deciduoma malignum in the vagina the author gives it as his opinion that instances of this disease occurring independently of pregnancy have not been substantiated and he sees no reason for resorting to such a far-fetched hypothesis as that of "fœtus in fœtu" to account for these tumours.

There seems little reason to doubt that the great majority of so-called fibroid tumours of the vagina are really myomatous in origin. This was probably so in no less than 19 out of the 29 recent cases tabulated by Phillips. The section devoted to cysts of the vagina is of particular interest and the author recognises no less than seven different modes of origin for these tumours—viz , from the Wolffian or Müllerian ducts, cysts derived from "rests" of the mucosa of the uterine cervix, cysts derived from "rests" of the vulvar mucosa, dermoid cysts, endothelial cysts, and parasitic cysts. There can be no longer any doubt that cysts arise from "rests" of both the Wolffian duct and the Wolffian body. The cases recorded by Routh, Skene, Milton, Rieder, and others prove this. Freund was the first to suggest that certain cysts of the vagina arose from the "rests" of the Mullerian ducts and he has recorded tumours of this kind occurring in the vaginal portion of the cervix and the upper part of the vagina. The "glandulæ aberrantes cervicales" described by Davidsohn no doubt represent the so-called vaginal glands of Huguier, Hennig, and others. Vaginal cysts, apparently arising from these glandular structures, have been described both by Davidsohn himself and by Poupinel. Vaginal cysts in the neighbourhood of the vulva undoubtedly take origin, in some instances, from "rests" of the vulvar mucosa. Although so little has been written on this variety of vaginal tumour, yet, as the author shows, dermoid cysts of at least three kinds occur in the vagina—viz., implantation dermoids, true dermoids, and dermoids derived from "rests" of the vaginal epithelium. A short final section is devoted to the interesting question of hymeneal cysts.

The extracts we have given show with what thoroughness Mr. Williams has discussed his subject. This little work is full of facts and information and should prove of the utmost value to the gynæcologist and to the general practitioner.

La Peste: Étude Critique des Moyens Prophylactiques Actuels. (The Plague: Critical Study of the Present Prophylactic Measures.) By Dr. J. Th. DUPUY. Paris: F. R. de Rudeval. 1904. Pp. 158. Price 2 francs.

La Fièvre Jaune. (Yellow Fever.) By Dr. J. Th. DUPUY. Paris: F. R. de Rudeval. 1904. Pp. 85. Price 2 francs.

IN his work on plague Dr. Dupuy gives us a critical study of the methods of prevention that may be carried out not only in the port of arrival but also in the interior of the country affected. The author anchored in the harbour of Monte Video with a clean bill of health in April, 1902, when news came that Buenos Ayres, the port to which his ship was bound, was affected with plague. After eight days the vessel left Monte Video for France, her sanitary state having been certified to be excellent, and in three weeks she arrived at Marseilles. During the subsequent disembarkation no dead rats were found. A week after her arrival, however, a mortality amongst these animals set in, when the ship was disinfected with sulphur. About a week afterwards two of the crew were seized with the disease, one of whom died. The ship was ordered to the lazaretto at Frioul. Such was the history of the onset of the affection. Dr. Dupuy then details the measures that were taken during the quarantine of the vessel as regards disinfection. All communication with the shore having been stopped, the ports were closed and fumigation with sulphur was carried out, after which they were opened and free perflation of air was allowed. Any dead rats found were collected and burnt. A general disinfection of the crew was effected and all who desired it were inoculated with prophylactic serum, a dose of six cubic centimetres being given, the men who had come into contact with the rats being especially urged to undergo the inoculation. At the lazaretto there were two other steamboats affected. Inoculation of their crews was also resorted to; no untoward result followed beyond an eruption like that of scarlet fever or an erythema around the point of injection in three or four of the men. The vessel was then attended to, the mattresses and linen being subjected to hot air; the ports were then closed and the holds and passages were fumigated also with hot air for several hours, whilst the sails, forecastle, and various parts of the ship were washed with sublimate. Sulphate of copper, 5 per cent., was placed in the bilge. Next, in the proportion of 50 grammes for each cubic metre, sulphur was placed in receptacles and lighted with alcohol, all doors and other apertures being closed for 36 hours. The bakery and slaughter-house were washed with sublimate, 1 in 1000. Finally, after a second disinfection of the holds with sulphur and a washing with sublimate from the hose, the ports were opened. Thus, to sum up, all the parts of the vessel below the water line were fumigated with sulphur dioxide and then washed with a solution of 1 in 1000 sublimate; all above the water line were treated twice with the sublimate. The engine room was washed with 5 per cent. cresyl. 27 rats were found asphyxiated by the sulphur dioxide and were burnt.

Observations on 170 individuals who were injected with the prophylactic serum of Yersin, the dose being six grammes, showed not the slightest bad effect. The strictest antiseptic measures were taken No cutaneous eruption or fever appeared; the only thing observed was slight nervous apprehension amongst a few.

The latter part of the work contains some remarks on the results of protective inoculation in 44 individuals Here also no untoward effect followed. Four showed localised œdema in different places, whilst one had a generalised urticaria, but whether this latter was due to the injection or to his having previously eaten largely of fish, "bouilla baisse," could not be determined. In his survey of the operations Dr. Dupuy states that the principal conclusion at which he arrives is that they will always take an "enormous" time. He remarks that the length of quarantine imposed on any vessel is six days, whereas his operations of disinfection took 12 days, although the attending circumstances as regards the *personnel* for the carrying out of the necessary measures were remarkably favourable. Had they not been so the time necessary for their completion, he considers, would have been doubled. Of the means of disinfection he thinks that by sulphur to be the best and the most suitable. He comes to the conclusion that the contagion of plague is as a rule feeble and that we are better armed against it than against the majority of our great endemics. This, however, from the experience in India, would not seem to be in every case the fact.

In the second volume under review, Dr. Dupuy details the interesting results of his personal observations on yellow fever. In August, 1899, he reached the roadstead of Dakar and found a notification there to the effect that yellow fever had occurred in Rio Janeiro, where it had raged with great severity from April to the commencement of July, Bahia being also affected, these two ports being most frequented by the French marine. A series of cases that subsequently came under his care is related, with remarks as to diagnosis. Dr. Dupuy advocates the installation of a laboratory on board the vessels trading in the yellow fever zone whereby an early diagnosis of the disease could be made and the only logical method of treatment—that by serum therapeusis—could be carried out. The treatment of his cases consisted in regularly bathing the patients, in giving them an efficient purgative at the onset, and in administering antiseptic medication to the intestinal canal by salol or benzo-naphthol. The work also contains several instructive clinical histories of cases.

The Roentgen Rays in Therapeutics and Diagnosis. By WILLIAM ALLEN PUSEY, M D, and EUGENE WILSON CALDWELL, B S. Demy 8vo, pp. 591, and 176 illustrations. London, Philadelphia, and New York: W. B Saunders and Co 1903. Price 21*s*

THIS book is one which is indispensable to the x ray worker. The first part of 215 pages deals with the apparatus and with the uses of the x rays for purposes of diagnosis and is written by Mr. Caldwell whose name is well known as the inventor of a very useful form of electrolytic interrupter. The second part is by Dr. W. A. Pusey, professor of dermatology in the University of Illinois, and deals with the therapeutic applications of the x rays. The book is rendered additionally valuable because it supplies summaries of the experiences of other writers and because of the copious references which are given to their writings on the subject of x-ray therapeutics.

The future of x-ray work is largely bound up with the development of apparatus for direct use with the current [illegible] of the street mains When things can be so arranged that the practitioner may at once procure the illumination of a fluorescent screen by the turning of a switch the examinations of patients with the x rays will at once acquire a much more extended sphere of usefulness. Development along these lines is now progressing rapidly. Upon direct current circuits a simple arrangement of coil and turbine interrupter in a cabinet or hanging cupboard provides an outfit which can be worked with the minimum of attention and does away with most of the troublesome details of x-ray management. Almost equally good results can now be had upon alternating current circuits by means of a synchronous interrupter of the types designed by Dr. Batten and by Messrs. Siemens or by the use of an electrolytic rectifier with aluminium poles or by the new transformer of Koch. These instruments are worthy of more attention than they receive in the volume under review. For alternating circuits Mr. Caldwell advises the Gaiffe Galliot form of Wehnelt interrupter but this, in common with other forms of electrolytic interrupter, labours under the disadvantages of being noisy in action, of throwing a severe strain upon the tubes employed, and of being hardly suitable for prolonged use, such as may be needed in hospital practice, when the gradual heating of the fluid in the interrupter vessel becomes serious. We are still in need of an interrupter which will operate satisfactorily for two or three hours at a time The difficulty, it is true, may be partly overcome by the use of very large tanks of liquid. Capacities of five or six gallons have been found necessary by some operators in this country when working with electrolytic interrupters to delay this overheating effect. The use of the fluorescent screen for stereoscopic work is also described rather too briefly. This method of x-ray examination is still in its infancy but is likely to develop in time

In the second part the question of the therapeutic application of the x rays is ably handled in 17 chapters and of these five are devoted to the subject of malignant disease. Upon this important section of x-ray work a vast amount of interest is now concentrated. It appears certain that some real successes have already been obtained in the treatment of carcinoma and of sarcoma and the next few years will probably determine the value and the limitations of the benefit to be obtained from this method of treatment Rodent ulcer may be considered to be curable by x-ray treatment whenever its situation is such as to permit of the exposure of the diseased part to the rays. Details of the x-ray treatment of lupus and other forms of tuberculous disease and of various chronic skin affections are also considered and are dealt with in an impartial manner which will commend itself to the reader.

Photothérapie et
Light.) By
17 figures. 1
Price 4 francs

Professor Finsen in a preface to this book writes that the reader will find in its pages the best account of the subject and he draws special attention to its last chapter which, he says, provides a necessary counterpoise to the exaggerations and fantastic applications to which, to his great regret, photo-therapy has given rise. The chapter in question deals with the electric-light bath as a mode of general treatment, complains of the charlatanism which surrounds it, and points out that, although in a general way its action may be useful as a Turkish bath method, before any further utility can be conceded to it there is need for much patient laboratory work. This so called phototherapy is now very much in evidence in this country mainly through the medium of advertisements and is a popular quack remedy for almost everything.

The volume under review is a scientific study of the [illegible] biological effects of light and as such is a valuable contribution to the literature of the subject. The various lamp instruments used in phototherapy proper are described and figured. The iron electrode arc lamps of Bang and of Broca and Chatin are considered but no description is given of the condenser lamp with iron electrodes which is known in this country as the St. Bartholomew's lamp or Leslie Miller lamp. This instrument emits a light which is remarkably rich in violet and ultra-violet rays and is capable of giving very good results in the treatment of lupus.

Lectures on Physiology, published under the Authority of the University of London. Vol. I. Eight Lectures on the Signs of Life from their Electrical Aspect. By AUGUSTUS D. WALLER, M.D. Aberd., F.R.S. London: John Murray. 1904. Price 7*s.* 6*d.*

"The Signs of Life from their Electrical Aspect" is in many ways a very interesting volume. Considered in the first place as a sign of educational life on the part of the University of London it forms, it may be hoped, a prelude to a great advance. A book for which its author claims with truth the nascent state of its subject matter as an advantage is truly an omen of an alteration in character in the centre of English scientific pedagogy, and the University of London has wisely accorded its imprimatur to a work in which is displayed the living nature of the teaching now to be obtained beneath its roof. From it we learn that experimental tests are evidently applied before the students to the ideas which wit and experience and the continuity of knowledge produce within the mind of an investigator of eminence and distinction, and the resultant confirmation or rejection of such ideas is obviously watched with interest by the student in a lecture room surrounded by research laboratories where patient work may drive home every point. To be shown how to confront the fancies which skirmish beyond the margin of knowledge, to criticise the tendency of the facts afterwards elicited and the manner in which they are arranged by the skilled critic and worker authorised to teach them, is indeed to draw nutriment from an *alma mater* stimulated to continuous benevolence.

Dr. Waller has been for many years consistent in his belief that the electrical states and changes, which can be measured in animal and plant tissues, are of importance. He has been singularly successful in an endeavour to rescue the instrument by which they can be recorded and most sensitively measured from the sacred precincts of the dark room and its mysteries. His methods of using the galvanometer, and his manner of explaining its use, have brought it within the reach of students hitherto dismayed by the appalling ritual demanded, so they were led to think, by its devotees. A complete justification of this welcome attitude is to be found in the many phenomena which Dr. Waller has observed in apparently simple fashion. The "blaze currents" which form the subject matter of this book, and the text of the lectures recorded in it, are by no means the least interesting examples of this. Led to their study by an investigation of the currents obtainable from the eyeball, Dr. Waller has elicited a series of facts of considerable physiological interest and of probable technical importance in the future. The facts are not deposited vaguely in the arena of scientific knowledge but are carefully defined—that is to say, the positions in which they are developed and their relation to various changes in environment have been accurately determined by ingenious experiments. It seems probable, as in all similar work, that the phenomena may not finally bear the precise significance which is here attached to them and that many of the ideas which are made to hover so gracefully around them may subsequently prove evanescent. Dr. Waller is, however, himself quite clear upon this point, and part of the excellence of the work is that a clear boundary is placed between fact and fancy.

The book, in fact, like all the volumes which Dr. Waller has produced for the benefit of the student, is of great educational value and is none the less so in this case because the reader is designedly never allowed to escape from the personal magnetism of his teacher.

The Pathogenic Microbes. By M. le Dr. P. JOUSSET, Physician to the Hospital Saint-Jacques, Director of the Laboratory of Bacteriology of the Hospital Saint-Jacques. Authorised translation of HORACE P. HOLMES, M.D. Philadelphia: Bœrecke and Tafel. 1903. Pp. 192. Price $1.00.

So far as can be perceived through the somewhat turbid medium of the translation this short work of Dr. Jousset seems to be an interesting essay on the bearings of the general principles of bacteriology on clinical medicine. It appears to be modelled on the work published by Professor Bouchard in 1892 and it is implied in the preface that the present book is concerned chiefly with the discoveries of the last ten years and brings Professor Bouchard's book up to date. There is no indication that it recognises any discoveries which have not appeared in French literature. The work does not describe the pathogenic microbes, as might be suggested by the title; individual micro-organisms are only mentioned when they serve to illustrate some general principle, such as variation of virulence or latency. The author strongly and rightly insists that the microbe, though indispensable, is only one of the factors necessary to the production of a bacterial disease and draws attention to the great importance of the conditions found in the body of the host to which the microbe gains access. Unfortunately, these conditions are disguised under the expressions "morbid spontaneity" and "morbid imminence," terms which we venture to think will convey little meaning to the English reader. In the chapter on Bactericidal Sera the author propounds what we believe to be an original view as to the relation between *alexin* and *sensitising body*—viz., that the former is transformed into the latter by heating to 55° C. (p. 57). The view that the action of antitoxin (a term much disliked by the author) on toxin is not of the nature of a chemical neutralisation is strongly asserted but none of the experiments which traverse this position are even mentioned. We regret to see Haffkine's cholera "vaccine" once more spoken of as a cholera "serum." It has already been suggested that the translation is unsatisfactory. It is little more than a literal transcript and it is difficult to do justice to the matter when presented in this form. Whether a well-known organism should be spoken of as the "bacillus coli" or the "bacillum coli" appears to depend on "the taste and fancy of the speller," as both forms may be met with even on the same page.

As usual in French books there is no index. We may point out that in the few footnotes to which the initials of the translator are attached there is no evidence of the eccentricities of style which disfigure the body of the translation.

LIBRARY TABLE.

Medical Annals and Report of the Hamidié Children's Hospital for 1902. Fourth year of publication. Constantinople. 1903. Pp. 663.—This report of what is apparently a first-class hospital organised upon the most modern lines contains some very interesting matter. Although the Hamidié hospital was founded by the Sultan for women and children yet a number of wounded soldiers were treated there during the 12 months October, 1902, to October, 1903. The report is printed mainly in Turkish but there are also articles in French, German and English, together with records from the *livre d'or* or visitors' book. Most of the English articles in the book are quite correctly printed but the following is worthy of reproduction as a fearful example of what may occur from what is said to be a common failing of the medical profession—namely, the inability to write legibly:—

> It has given me the greatest pleasure to have been turn round the hospital and I am greatly stuck with the manner in which the work is carried on, and also with all the haket objects and instruments that are used.
>
> ——, M B E N.,
> Blackleen,
> Lancardiv, England.

We have omitted the practitioner's name, but we have left in the letters which we presume refer to a qualification. Among the preliminary articles is one by M. Barcilles, the secretary and librarian of the hospital, upon medical science among the followers of Islam. This is an interesting historical retrospect of "Arab" medicine. We learn from M. Barcilles that the treatment of fractures by immobilisation was in vogue in Constantinople towards the end of the 17th century. Fractures were then put up in plaster-of-Paris splints and if the fracture was compound the splint had windows cut in it. This we fancy was long before the introduction of the plaster splint into Western Europe.

The Book of Herbs. By Lady Rosalind Northcote. London: John Lane. 1903. Pp. 212 Price 2*s.* 6*d.* net.—Lady Rosalind Northcote has collected in her little book a vast amount of information about herbs. She confesses that her definition of what constitutes a herb is somewhat indefinite and we see that she includes such plants as cardoons, rhubarb, samphire, skirrets, and chives. However, anybody who has a garden will do well to get this book and to grow herbs according to the directions given therein. The latter portion of the volume is taken up with an account of the uses of herbs in medicine and in magic, and with sundry details of the folk lore of herbs. With all the absurdities with which the use of herbs and other plants in medicine was overlaid there was often a substratum of truth. For instance, not so very long ago it was the custom in the West of England to rub the inside of a churn with nettles to keep it sweet, and cream cheeses were laid upon nettles to prevent them going mouldy. Nowadays the very latest disinfectant and antiseptic is formaldehyde and yet it has always existed in nettles together with formic acid.

Charles White, F.R.S.: a Great Provincial Surgeon and Obstetrician of the Eighteenth Century. By Charles J. Cullingworth, M.D. London: Henry J. Glaisher. 1904. Pp. 56. Price 2*s.* 6*d.*—Biographies of medical worthies who have played important parts seldom fail to be interesting and these conditions are fully realised in the present volume which is a publication in book form of an address delivered by Dr. Cullingworth before the Medical Society of Manchester on Oct. 7th, 1903. A lengthy abstract of the address appeared in The Lancet of Oct. 17th, p. 1071. Charles White was one of the founders of the Manchester Royal Infirmary, the origin of which dates from 1752, and he was an active member of the staff until 1790. The illustrations comprise a portrait of Charles White, a view of his house in King-street, and two views of the Infirmary. It would, perhaps, have been better if the names of these views had appeared on some part of the plate itself instead of on a separate and unpaged leaf.

Traité de Radiologie Médicale. Published under the direction of Ch. Bouchard, Professor of General Pathology to the Faculty of Medicine, by MM. Béclère, Bergonié, Bertin-Sans, Bordier, Bouchacourt, André Broca, Cluzet, Fabre, Guilloz, Imbert, Leduc, Le Noir, Marie, Mignon, Maunoury, Oudin, Ribaut, Ruault, Sagnac, Scheier, Villard, and Weiss. With 357 figures and seven plates. Paris: G. Steinheil. 1904. Crown quarto, pp. 1100. Price 30 francs.—This important work covers the whole ground of radiography and its applications to medicine and surgery. It is edited by Professor Bouchard with the collaboration of a large number of distinguished writers. The consideration of the Crookes tube and of the various electrical generators employed for the production of the x rays, together with a study of the physics of the x rays, occupies the first part of the volume The second part deals mainly with radiography in all its medical applications. Every detail of technique for the operations of x-ray work for purposes of diagnosis finds its proper place in these pages. X-ray therapeutics are somewhat meagrely dealt with in the concluding chapter and the dangers and accidents of x-ray work are considered at somewhat greater length in the preceding one. As a work of reference this volume is very valuable and its magnitude serves to illustrate the enormous developments of x-ray work up to the present time.

Cours de Dermatologie Exotique. (*A Course of Lectures on Tropical Diseases of the Skin.*) Par E. Jeanselme, Professeur agrégé à la Faculté de Médecine de Paris, Médecin des Hôpitaux; recueilli et rédigé par M. Trémoilières, Interne des Hôpitaux. Avec 5 cartes et 108 figures dans le texte en noir et en couleurs. Paris: Masson et Cie. 1904. Pp. 403. Price 10 francs.—Professor Jeanselme was appointed to lecture at the Institut de Médecine Coloniale de Paris on the diseases of the skin peculiar to, or especially prevalent in, the tropical regions and in performance of that duty he delivered the lectures which were reported by M. Trémoilières. We consider that the author has done well to publish these lectures, for they deal with a branch of dermatology not sufficiently studied until very recently. In this country the two schools of tropical medicine are doing much to remove from us the reproach of neglecting the diseases of warm climates though so many parts of the British Empire lie between the tropics. The diseases dealt with in this volume comprise leprosy, syphilis, yaws, and verruga Peruana; the Oriental sores, various hyphomycetic conditions such as tinea imbricata, elephantiasis Arabum and other conditions connected with animal parasites, and a few other diseases which are difficult to classify as we know but little of their mode of origin. The style in which the book is written is fluent and pleasant to read and this work should prove an interesting introduction to tropical dermatology for any medical man proceeding to a warm climate. It is excellently illustrated.

Nurse Charlotte. By L. T. Meade. London: John Long. 1904. Pp 319.—Like many of Mrs. L. T. Meade's writings, this book will serve to amuse medical readers without affording instruction beyond the indication of the many pitfalls besetting the path of those who deal with medical matters with insufficient equipment. On the eighth page a young lady announces her intention of getting "a post at St. Thomas'" through the influence of a country practitioner. She succeeds, but we find her installed at St. Christopher's where medical and surgical cases are strangely mixed up, where the leading physician is obviously engaged in general practice and has long had his eye on the country practitioner "as a possible partner" for himself. The description of the inner life of the nursing staff is nearer the truth than was the pitiful caricature of hospital nursing once depicted by Mr. Hall Caine, but that is all the commendation which we can give honestly. We doubt also if any nurses genuinely engaged in nursing will find the story wholly flattering to the system or to the individuals concerned, although the heroine is meant to be an angel of light.

JOURNALS AND MAGAZINES.

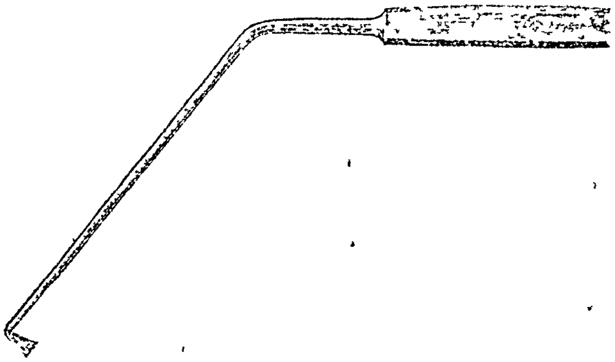
The Journal of Physiology. Edited by Sir Michael Foster, K.C.B., F.R.S., and J. N. Langley, F.R.S. Vol. XXX., Nos. 5 and 6. London: C. J. Clay and Sons, Feb. 25th, 1904. Price 8*s.*—The contents of this issue are as follows: 1. J. A. Macwilliam, M.D., Professor of Physiology, with A. H. Mackie, M.D., and Charles Murray, M.D., Assistants in Physiology in the University of Aberdeen, on the Intravascular Injection of Salts and of Nucleo-proteid, with 14 figures in the text. Tracings are given showing the effect of the intravascular injection of various sodium salts on the respiration. The exophthalmos which has long been known to follow the injection of nucleo-proteid obtained from the thymus or from lymph glands is shown in this article to be due to blood clots at the back of the orbits. 2. Otto May, M.D., on the Relationship of Blood-supply to Secretion with especial Reference to the Pancreas, with nine figures in the text. Dr. May finds that there is no direct relationship between the rate of secretion of pancreatic juice and the amount of its blood supply. Secretion continues for some time after complete cessation of the pancreatic secretion. He also finds that the pancreas is well supplied with vaso constrictor nerves which in the cat proceed from the solar plexus in the bundle of post-ganglionic fibres accompanying the cœliac axis artery. 3 W. M. Fletcher, the Osmotic Properties of Muscle and their Modifications in Fatigue and Rigor, with 11 figures in the text. 4. J. N. Langley, F.R.S, and H. K. Anderson, on the Union of the Fifth Cervical Nerve with the Superior Cervical Ganglion. The experiments of the authors of this article lead them to conclude that certain somatic fibres are capable in favourable circumstances of making functional connexion with sympathetic nerve-cells. 5. Keith Lucas, on the Influence of Tension upon the Contraction of Skeletal Muscle at High Temperatures, with five figures in the text. 6. E. G. Wilcock, the Action of the Rays from Radium upon some Simple Forms of Animal Life. 7. Major R. H. Elliot, M.B, and E. Burnett, B A, a Modification of Professor Schäfer's Frog-heart Plethysmograph, with some observations on the mode of using it, with one figure in the text. 8 R Row, M.D., on Some Effects of the Constituents of Ringer's Circulating Fluid on the Plain Muscle of Rana Tigrina, with 15 figures in the text. 9. T. G. Brodie, M.D., and W. E. Dixon, M.D., Contributions to the Physiology of the Lungs, with 10 figures in the text. This article is occupied with the consideration of the vaso motor nerves of the lung. The authors give the results of their experiments with various drugs on the rate of flow of blood through the pulmonary vessels. They find the pulmonary arterioles have no vaso-motor nerve supply. 10. W. B. Warrington, M.D., Note on the Ultimate Fate of Ventral Cornual Cells after Section of a number of Posterior Roots. This issue of the journal contains the Proceedings of the Physiological Society on Dec. 12th, 1903, and Jan. 23rd, 1904.

The Journal of Hygiene. Vol. IV., No. 1. January, 1904 London: C. J. Clay and Sons. Price 7*s.* net.—This number opens with a joint paper on the Chemical Constitution of the Tubercle Bacillus by Dr. William Bulloch and Dr. J. J. R Macleod, who arrive at the conclusion that the acid- and alcohol-fastness of the tubercle bacillus is due to the presence of an alcohol. Dr. Alexander Edington makes some further remarks on the production of a malarial form of South African horse-sickness, and Dr. E F. Bashford treats of some fundamental experiments in immunity in a paper which is accompanied by some very instructive plates. Dr. A. E. Boycott and Dr. J. S. Haldane contribute their second paper on Ankylostomiasis in which they discuss the methods of diffusion and the means of diagnosis and treatment of the disease. In the last article Dr. Herbert E. Durham passes in review the several theories which have been held responsible for beri-beri and he arrives at the conclusion that "the appearances and disappearances of beri-beri and the more or less seasonal waves of the disease are not unlike those which are seen in the case of the infective diseases which are met with in this country." Dr. Durham, in fact, thinks that beri-beri may prove to be a communicable disease and that it has to be considered rather in the light of what he calls a "gang" or "institutional" disease than as a "place" or "house" disease.

New Inventions.

INSTRUMENT FOR THE REMOVAL OF FOREIGN BODIES FROM THE NOSE.

THE accompanying illustration represents a little instrument which I have designed for the removal of foreign bodies from the nose. The ordinary methods of removal are not always satisfactory and it was after meeting with a difficult case in which an indiarubber teat had been introduced into one of the cavities that I sought for some new instrument likely to prove valuable in such circumstances. As will be seen, the end of the instrument is flattened and turned down, this portion being six millimetres in depth and being provided with three small teeth. It can be readily passed into the nose beyond the object to be withdrawn and gentle traction will lead to rapid removal of the foreign body without laceration of the surrounding parts. Rhinoliths may, no doubt, be dealt with in the same way. Messrs. Mayer and Meltzer, of 71, Great Portland-street, London, W., made the instrument for me.



ARTHUR ROBERTS, F.R C.S. Edin.,
Surgeon to the Ear, Throat, and Nose Department,
Reading. Royal Berkshire Hospital.

NOTE ON A SIMPLE STERILISABLE BAG FOR CLOSED ETHER INHALERS.

THE indiarubber bags for Clover's and other ether inhalers are liable to perish unless often used and kept in a warm place, besides not always being easily replaced. Moreover, they will not usually stand repeated or prolonged boiling. I should like to describe a simple home-made article made from jaconet, or still better, from a new waterproof material which can be boiled called "mosetig battist." This is sold in widths of 36 inches and one yard is enough to make four Clover's bags. There are other materials of like make sold —e.g., one called "billroth." The directions for making the bag are as follows. A yard of battist is taken and doubled so that the shiny surface is inside, then the pattern is laid on the battist (using no pins), the bag is cut out, then stitched round its edge, leaving a margin of from one-eighth to one-quarter of an inch, and, still keeping the shiny surfaces together, is turned inside out and stitched round again, making a flat seam. Then the bag is inverted and is ready for use. The shiny surfaces seem to adhere along the seam. Bags so made are airtight and watertight and can be used just like rubber ones, than which they are very much cheaper. The neck, of course, should be made wider than that of a Clover's bag as it will not stretch. A rubber band or piece of string is used to fix the neck to the angle piece of the inhaler. These bags, t[illegible] quickly and easily made at home, are very chea[illegible]g, and are very lasting.

Birmingham. [illegible]

THE LANCET.

LONDON: SATURDAY, APRIL 9, 1904.

The Education Act and Physical Fitness.

THERE are indications that in a physical sense the people of this country are passing through a critical stage. We do not go so far as to suggest that upon the nature of the steps which are taken now to improve the condition of the individual, and thereby of the mass, may depend the future survival of the nation as a leading commercial and fighting entity. We know that much of the talk about national physical deterioration is only talk, but none the less there is an uncomfortable substratum of truth at the bottom of this talk. The position is a serious one and it behoves every Englishman worthy of the name to do his part in bringing about a better condition of affairs. It is impossible at present to demonstrate by statistics which shall be beyond criticism the alleged physical deterioration of the people. As yet no serious study of anthropometrics has been undertaken and there are consequently no data available which will allow us to compare the physical condition of our predecessors with that of the present generation. Doubtless the necessity for the compilation of accurate data in the above sense will form one of the recommendations of the Select Committee on Physical Deterioration which is now sitting. The fact that the death-rate is diminishing and that the average duration of life is increasing cannot be regarded as negativing a view that the physical condition of the people is deteriorating. By tending plants in greenhouses during the winter months we can reduce their death-rate almost to *nil* but it would be altogether erroneous from this to assume that the plants were more hardy. That the physical condition or fitness of those who spend their lives under rural conditions is *ceteris paribus* better than that of those who pass their lives in the din and dirt of our large cities must, it seems to us, be accepted as a fact, and if this be conceded the rapidly increasing tendency to forsake the country for the town must be making for deterioration rather than for improvement. Sedentary lives, overwork, smoke, noise, and absence of fresh air and light are all forces which on general biological lines are likely to lead to diminished vitality and the problem of the future is how best to counteract these detrimental agencies.

In our view a powerful instrument in this direction is at hand in the new Education Act. The education of the children of this country has until quite recently been in the hands of authorities who have had no interest in, and no concern with, the public health and who were not elected to safeguard the health of the nation. This state of affairs still obtains in the metropolis. But after May 1st the education of the whole country will in large measure be entrusted to authorities who have for many years been concerned, at least in some degree, with the public health and who will now have to deal, in addition, with public education. It is the primary duty of the education authority to teach the children something by which they may obtain the means to live; it is one of the duties of the sanitary authorities, although they have largely neglected it in the past, to teach the people *how* to live. It is therefore reasonable to hope that the sanitary authorities will not, in discharging their educational functions, lose sight of the functions for which they were established. There is now before the county boroughs, and to some extent before the district councils of this country, an opportunity for work in a national and imperial sense which has never before been equalled in their histories. They have now an opportunity of eclipsing in a public health sense all previous records. It is to be hoped, therefore, that the new education authorities will have brought home to them the urgent necessity for detailed attention to the physical welfare of the children. We should like to see their attention called to the subject by the central health authority, the Local Government Board, a department which might very well take upon itself a little initiation in this all important matter. The expiring London School Board has done a good work in investigating into, and caring for, the health of its charges, as anyone who has read Dr. J. KERR'S first and last report will appreciate; but it is disappointing to find that as regards any scientific investigation into the ventilation, heating, and lighting of the schools very little has been attempted and it seems to us that in the past far too much attention relatively has been devoted to infectious diseases alone. The mortality from, and sequelæ of, infectious diseases form but a small factor in the national health. The first step should, in our opinion, consist in the appointment of medical officers who should, so far as is possible, be in possession of special experience. In some cases use might be made of the medical officer of health and by combining this appointment with his other duties it would be possible to appoint whole time officers to a greater extent than is the case at present. Before any child is allowed to attend school such child should be provided with a medical certificate, given after careful examination, testifying to his or her mental and physical fitness to undertake the work, and there would, we think, be no objection to the postponement of the commencement of education to a somewhat later age than at present. With this certificate should be furnished particulars as to the weight, height, and age of the child and the condition of his or her special senses. Such information should be brought up to date at least once annually, when the teeth and the special senses should be re-examined. When such data have been collected for some years we shall no longer find as we find in Dr. KERR'S annual report a statement of regret that "we have no trustworthy measurements of the development of London children."

But in addition to this record of the physical progress of the children it is essential that the rudiments of healthy existence shall be impressed upon them. The value of cleanliness, of fresh air, and of light in the prevention and reduction of disease should be taught by the aid of simple diagrams and illustrations and the children should be made to feel the effects of physical fitness by carefully arranged exercises carried out in the open air. In a word, the rising generation should be taught the vast importance of vigorous health in the struggle of life and the best means by which it may be attained and kept. The children should have the love of fresh air, cleanliness, and light so ingrained into them that when they grow up they will refuse to inhabit the slums and will bestow administrative power not upon the jerry builder but upon the representative who will do most for the health of the people. In the girls' schools, too, the elements of cooking should be taught and the older children should learn from experienced teachers how to purchase food which will provide the highest nutritive value for any given outlay. It is in ways such as these that we shall gradually develop a health conscience which will react upon the physical condition of the future generation. The Local Government Board should call the attention of all medical officers of health to the desirability of dealing with this subject of physical education in their annual reports and copies of such reports should be sent to the members of the local educational committees. The Local Government Board owes, we think, this initiative step to the nation and it may well be asked :—If the physical condition of the people does not concern that department upon which department does the duty devolve? We are glad to see that in some instances medical officers have already been appointed and that in other cases, of which Richmond in Surrey is an example, such an appointment has been recommended by the medical officer of health.

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The Cumulative Action of Drugs.

IN several recent prosecutions for the sale of impure drugs it has been interesting to note that in the course of the evidence reference has been made to the evil "cumulative" effect of the trace of impurity. This has been mentioned especially in connexion with cream of tartar in three samples of which lead was found in the proportion of three-quarters of a grain to the pound, while a fourth sample contained one-tenth of a grain of arsenic to the pound. Of course, these contaminations ought not to be present and in three of these cases penalties were inflicted. In the fourth case the druggist was able to show that the article was sold as received with a warranty from a wholesale house and, since it was necessary that proceedings against the warrantors should be taken within six months of the time of the giving of the warranty, both the retail druggist and the wholesale house escaped the infliction of a fine. In these cases and in many others the analyst has given evidence that in his opinion the contamination was prejudicial to the health of the consumer and the question of cumulative action has been raised to support this opinion. Without disputing the validity of this claim and without defending or excusing the presence of these impurities it may be of interest to review briefly the present state of our knowledge of the mode of action of cumulative poisons or drugs. It has long been recognised that occasionally undesired effects result from the administration of remedies which have been given in average or moderate doses and when such accidents occur it has been customary to refer them either to some special idiosyncrasy or to cumulative action. The former explanation is the easier way out of the difficulty since it assumes a peculiar individual intolerance of drugs which are generally beneficial or at least harmless in moderate doses and it thus shifts responsibility from the prescriber to the consumer who, presumably, if already aware of individual intolerance, should have given the word of warning which would have prevented a repetition of unpleasant experiences. Special idiosyncrasy can only be ascertained by experiment but there is no need to repeat the experiment if the disquieting result can be predicted with accuracy, even though the explanation of the result still evades scientific precision.

On the other hand, the possession of cumulative action appears to be a special attribute belonging to the drug rather than to the consumer. While intolerance applies to some unknown individual peculiarity for particular drugs cumulative action seems to depend upon some disproportion between the rate of absorption and the rate of elimination and it is a property which in all likelihood affects most individuals in a precisely similar fashion. Cumulative action, therefore, is to be explained from the known physiological effects of the drug and it can, within certain limits, be determined by experiment upon animals and thus guarded against in practice. The best known illustration of cumulative action is afforded by digitalis and it has been ascertained that the occasional disproportionate effect in retarding the cardiac pulsations occurs when its elimination by the kidney, that is the diuretic action, has been checked. This is not the sole explanation, however, since it would appear that in some cases active principles may pass out of the blood-vessels into effusions into serous cavities, or into subcutaneous tissues and that they may there be innocuous but again become potent after reabsorption. It is an aphorism of medicine that a drug is active so long as it is circulating in the blood. On this hypothesis the amount in circulation at any given time must depend upon the degree of solubility and upon the rate of elimination through any excretory organs. Circumstances favouring solubility must increase the rate of absorption and in this we find the explanation of the variations in the results which may ensue from the different modes of administration of sparingly soluble drugs such as sulphonal. The rate of elimination is more difficult to control and it is often more difficult to explain. It may depend upon the nature of the active principle of the drug; thus while glucosides are slowly absorbed they are much more slowly eliminated and thus they may produce an overwhelming influence after long-continued use with little apparent effect. Dr. HOBART AMORY HARE has recorded an example of cumulative action with digitalis in a case of pleuritic effusion in which the toxic influence persisted three days after the cessation of administration and he also mentions another instructive case in which the relief of ascites by tapping was followed by reabsorption of fluid from the subcutaneous tissues and by a violent explosion of digitalis poisoning.

With regard to mineral substances the term cumulative action has been less commonly employed, perhaps because the effects produced have been less violent, less obvious, and less immediately consecutive to the use of the drug. There can be no doubt, however, that many minerals are slowly eliminated and that they are largely deposited in various tissues in which they may produce deleterious effects. The results of the continued absorption of small quantities of arsenic have been emphasised since attention was directed to the subject in connexion with the contamination of beer with this substance. Antimony, mercury, and lead also afford examples of mineral drugs which may similarly produce toxic symptoms of long duration. Some symptoms of bromism and iodism, however, probably result from direct irritation during elimination and thus do not afford examples of cumulative action.

The importance of due appreciation of the relative rates of absorption and elimination is not limited to the occasional presence of impurities from which we should be protected by examination of the drugs employed. This knowledge should also govern the dosage and administration of drugs which have the undesirable property of accumulating within the system, and it affords another opportunity of laying stress upon the risks which may arise from the possession of prescriptions given without sufficient warnings of the limits of safety or the need of caution. Prosecutions for impurities and adulterations are interesting and necessary but they would fail in their full measure of instruction if they did not serve also to direct attention to possible dangers which may arise during the injudicious use of some most trusted remedies.

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Remarkable Resuscitations.

The fear of being "buried alive" seems to be inherent in the minds of certain individuals and elaborate instructions are occasionally included in their last testaments in order to prevent a fearful calamity, the occurrence of which is not denied though its frequency has been much exaggerated by popular report. The uncertainty of the signs of death must be acknowledged but medical literature contains only one or two authenticated cases of a living person having actually been buried. The first man of science or philosopher whose opinion is available as to what constitutes a proof of death is Democritus and he maintained that there was no certain sign of the cessation of life. Celsus severely criticised this opinion and asserted that if the apparent identity of certain signs deceives an unskilful physician an experienced and intelligent man cannot be mistaken. Orfila, Fodéré, and Michel Levy all believed in the possibility of premature burial. Lancisi and Louis, on the other hand, controverted such a doctrine. Brouardel,[1] in his interesting work "Death and Sudden Death," which has been translated into English by Dr. F. L. Benham, whilst admitting that premature burial cannot be absolutely denied, demonstrates that it must be extremely rare. In support of this contention he instances the mortuary chambers established in Germany and elsewhere in which dead bodies are placed, a bell rope being attached to the hand of each. He says "that from the time that mortuary chambers were instituted—and that at Weimar dates from 1792—neither at Weimar nor at Munich ...... nor anywhere else, I believe, has anybody ever rung that bell."

Although, then, premature burial for all practical purposes may be considered not to take place, nevertheless many instances are on record in which by skilful treatment the apparently dead have been restored to life. The majority of such cases have occurred in individuals who have been removed from the water apparently lifeless. It is difficult to fix accurately the time in which drowning proves fatal. In human beings, as a rule, asphyxia supervenes in from one minute to two minutes after submersion and death usually before the expiration of five or six minutes, but life may be considerably prolonged if from any cause water has been prevented from entering the lungs. A case was recorded in The Lancet by Mr. Charles Pope[2] in 1881 in which a man was sailing in a boat when it capsized and he fell into the water with some weights on top of him, so that with the exception of his left arm he was entirely and continuously submerged for from 12 to 15 minutes. He was resuscitated with considerable difficulty and eventually recovered. The weights probably prevented water from entering the lungs. Longer periods of submersion with recovery than this, however, have been recorded. In one case submersion had lasted for 20 minutes,[3] and in another, which is, however, "doubtful," one hour is the recorded time.[4] Examples again have been recorded of resuscitation after two hours' employment of Silvester's method of artificial respiration, the subjects being apparently dead.[5] On one occasion[6] a boatman towed the body of a man ashore and pronounced life to be extinct; a medical man corroborated this opinion but two more sanguine bystanders began vigorous treatment, with the result that the apparently drowned man entirely recovered from the effects of the submersion. Another class of case in which resuscitation has occurred, although the individual was apparently dead, is after hanging. Hofmann reports such a case.[7] A criminal, who was sentenced to be hanged, had round his neck enlarged glands which partly neutralised the constriction of the encircling slip-knot. The body remained suspended for 20 minutes and death was certified to have taken place. The body was then transported in a van at a rapid pace to the post-mortem room. There was some distance to go and when the van arrived the physicians were greatly surprised to see instead of a corpse an individual who raised himself up before them and looked at them with a scared expression. Three or four hours afterwards the man died from pulmonary congestion, evidently a result of the hanging. Other criminals are believed to have been luckier, for there are stories, which seem to have their origin in fact, of the recovery and escape of men who have been judicially hanged.

It is not a matter for wonder that in cases of concussion of the brain mistakes have arisen. During the retreat from Russia General Ornano had his head grazed by a bullet while in the act of charging the enemy; he fell from his horse and his orderly ran to his assistance but found that he showed no signs of life; he therefore buried him under a heap of snow. The orderly then went to announce the death to Napoleon. Two hours afterwards General Ornano appeared and reported himself to the EMPEROR; he lived a long time afterwards and was actually one of the pall-bearers to the orderly who had buried him. The after-effects of lightning have given rise to similar error. SESTIER, in his work entitled, "De la Foudre," relates seven cases in which apparent death lasted for five or six hours. BROUARDEL records the case of a boy, aged 13 years, who fell from the sixth storey of a house on to the pavement. The boy had been taken to a druggist who had pronounced him to be dead and sent him on to a hospital where admission was refused as he was supposed to be dead. BROUARDEL, however, saw him and stated that the lad was alive, although the sounds of the heart could not be heard on auscultation. The boy received suitable treatment and recovered.

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[1] Death and Sudden Death. Translated by F. L. Benham.

[2] The Lancet, Oct. 1st, 1881, p. 606.

[3] Amer [illegible]

[6] [illegible]

Alcohol may produce a condition of apparent death. A case is recorded of an old woman who was found in the street and in whom no sign of life was apparent. She was conveyed to the hospital and the rectal temperature was found to be 77° F. Energetic treatment was resorted to and she recovered. Prolonged narcotism brought about by other substances sometimes gives rise to natural alarm. The late Sir BENJAMIN WARD RICHARDSON[8] mentioned the case of a medical man who took 120 grains of chloral. When seen he was to all common observation dead, there was no sound of respiration, it was very difficult to detect the sounds of the heart, there was no pulse at the wrist, and the temperature was 97° F. He had been in that condition for some hours. He was revived by raising the temperature of the room to 84° F. and injecting warm milk-and-water into the stomach. He made a perfect recovery. Finally, we may refer to a class of case more or less familiar to all members of the profession—namely, apparently stillborn infants who if left simply to the care of the mother or to an ignorant midwife surely perish but if properly attended to in all probability survive. DEPAUL succeeded in restoring newly born children by means of pulmonary insufflation one and a half, two, and even three hours after the heart had ceased to beat.

The instances that we have recorded of resuscitation of the apparently dead are, of course, of extremely rare occurrence In the vast majority of instances no difficulty is experienced by a medical practitioner in determining whether or not death has taken place but occasionally cases are met with in which some doubt may exist and it is needless to add that in such circumstances no efforts to restore animation should be relaxed until it is absolutely determined that all vital processes are extinct.

Annotations.

"Ne quid nimis."

THE NOMENCLATURE OF DEATH CERTIFICATION.

The Registrar-General has just caused to be distributed copies of the new list of diseases causing death which is now in use in the General Register Office at Somerset House as well as in the similar offices of Scotland and Ireland The list is based on the "Nomenclature of Diseases" authorised by the Royal College of Physicians of London. In the notes which accompany it a hope is expressed that in future medical practitioners will assist the work of registration and the compilation of statistics by abandoning so far as practicable sundry terms now deemed obsolete, such as "convulsions," "scrofula," and "phlegmon," which are given in the list, to say nothing of such vague words as "consumption" or "decline," which belong only to the popular terminology. Certain suggestions which give evidence of a commendable desire to establish the statistical tables upon a foundation of scientific pathology are offered, as thus: "In certifying deaths from small-pox the patient's condition with respect to vaccination should be carefully stated." Puerperal "fever" is to be described as pyæmia, septicæmia, or septic intoxication of puerperal origin. Three forms of pneumonia are recognised and are included under "general diseases." Malignant disease is to be differentiated into carcinoma or sarcoma when possible and care is to be taken to specify the particular organ or part affected. The epidemic form of cerebro-spinal meningitis is to be distinguished as cerebro-spinal fever; the exciting cause of "peritonitis" is to be mentioned and the nature of a "tumour" is to be explained. If any exception is to be taken to these and to the other propositions set forth it can only be on the ground of want of feasibility. It may not be possible always to state the cause of death with the wished-for accuracy. There is in private practice usually a difficulty in obtaining leave to make a post-mortem examination and without such examinations it is doubtful whether the objects of the new arrangement stand much chance of being realised. Nor is this the only direction in which obstacles are to be found. A covering letter to the medical officers of asylums asks that in certifying the deaths of persons of unsound mind "particulars of the definite brain disease for which the patient was under treatment in addition to any disease other than brain disease which may have been the immediate cause of death" shall be inserted in the certificate. In the present condition of cerebral pathology this is hardly practicable. Patients in asylums are rarely under treatment for "definite brain disease" in the pathological sense. The clinical aspects of their disorders form the basis of the classification of mental diseases. It is assumed with some show of reason that every mental abnormality is correlated with a structural change in the brain but the exact nature of the relation is yet obscure, for the alterations in the brain substance are not always visible and if visible may appear inconstant. Only, perhaps, in the case of general paralysis of the insane does the train of symptoms afford an index of the progression of the process of cerebral degeneration. One other point occurs to us. Alcoholism is mentioned as a cause of death but no allusion is made to it in the notes appended.

THE HOLMAN TESTIMONIAL.

FOR the last 50 years the name of Constantine Holman has been prominent in all the public work of the profession as treasurer and vice-president of the British Medical Association, vice-president of the British Medical Benevolent Fund, president of the Surrey Benevolent Medical Society, treasurer and vice-president of Epsom College (for which he has collected over £7000 by his personal efforts), and member of committee of the Royal Asylum of St. Anne's. He has rendered signal services to his profession and the cause of charity. So great have been these services that, as we have already announced, it is thought desirable by his friends and colleagues that some record of their appreciation should be established. It is proposed to devote the proceeds of this testimonial to the erection of an art and reading room at *Epsom College* to be called the "*Holman Art and Reading Room*." Subscriptions of any amount will be received by Dr. John H. Galton, Chunam, Sylvan-road, Norwood, S.E.

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[8] Transactions of the Medical Society of London, 1889, vol. xii., p. 105.

treasurer. Communications should be addressed to Mr. W. A. Berridge, Oakfield, Redhill, secretary.

SANITARY WORK.

THE Lord Mayor of Manchester took the chair on March 1st at the annual meeting of the Manchester and Salford Sanitary Association. The Bishop of Manchester (Dr. Knox) and the Bishop of Ripon (Dr. Boyd Carpenter) were present. The report showed that the association was still watchful and diligent in the cause of public health. The Bishop of Manchester said that at about the beginning of last century the idea was that people would see how uncomfortable it was to live in misery and degradation and so would put out their best efforts. This theory was found wanting and the great problem was—how much they must leave to individual enterprise, what was to be the share of benevolent enterprise, and what was the exact position of the State and municipal enterprise in dealing with the evils around us. The Bishop of Ripon was glad to see that Manchester was in earnest about the public health. He advocated authorised medical inspection in schools, the distribution of information, and especially the proper feeding of children. "The committee regretted the claims of the association for increased pecuniary support were not recognised adequately." Much more good could be done with a small addition to the funds. Donations to the amount of £100 are wanted to meet existing liabilities and additional annual subscriptions to the amount of £50 are needed. *Surely in a wealthy city like Manchester there should be no difficulty in raising these small sums.*

GUARDIANS AND THEIR OFFICERS.

CERTAIN boards of guardians are just now considerably perturbed by what are to them uncomfortable and unexpected results of modern democratic tendencies. At the meeting of the Birkenhead guardians on March 29th a member asked whether it was true that one of the board's paid officials had nominated a gentleman as a guardian at the recent election. The question proved to have only too sure a foundation on fact, for it appears that not one officer but two officers, and those district medical officers, had acted in the way described. Thereupon the board, metaphorically speaking, demanded the heads of the guilty parties. One member was "surprised that such a thing should be brought before them in these enlightened days" and wished to fly to the Local Government Board for vengeance. Another of less truculent disposition suggested that the officers "might have signed not knowing it was wrong," which seems likely enough. A third with profound sagacity feared that the matter might lead to "possibilities of which they had not the slightest idea" but was apparently unable or unwilling to be more explicit. It was eventually decided to let the matter drop, perhaps because there was nothing else to be done, in the hope that the offenders would be deterred in future from repeating their misdeeds by reflecting on the storm which they had raised. Another aspect of the same lamentable disregard of parochial sensibilities has been visible at Lambeth. At a meeting of the board for that district a lady guardian communicated the distressing intelligence that several superannuated Poor-law officers were standing as candidates at the elections shortly to be held. She asked whether this kind of thing could not be prevented; it could, she thought, never have been contemplated that such persons should be able to get elected and she, also, wanted to appeal to the Local Government Board. The clerk to the guardians said that that august body had been appealed to but declined to offer any opinion as to the merits of the case. However ill it may consort with the traditions of a parish that servants or former servants of a board should be enabled to control in some slight degree its policy there is really no cause for alarm in the development referred to. A district medical officer is none the worse fitted for attending to his duties because he exercises his rights of citizenship and to object to the election of some particular representative on the ground that he is enjoying the annuity which, through the agency of the Superannuation Act he has purchased for himself, is so eminently illogical that it is surprising that anyone could take up such an attitude seriously. To suppose that it would be possible for a person in receipt of a superannuation allowance, if a member of a board of guardians, to abuse that position by diverting the funds of the board into his own pocket is absurd. Old officers are, on the contrary, likely to make guardians of the best kind. Familiarity with the details of administration gained from long personal experience fits them to come to reasonable conclusions on points about which the average guardian can only talk nonsense and the prospect of their interfering with the grinding of axes by self-seeking members is not one which the community at large need fear.

FATAL ULCERATIVE STOMATITIS AFTER MEASLES.

IN the *British Journal of Children's Diseases* for March Dr. D. McKenzie has reported a case of a very rare complication of measles—ulcerative stomatitis. A well-nourished girl, aged 18 months, was attacked with measles on March 2nd, 1903. The disease ran a moderate course without complications. On March 29th Dr. McKenzie was sent for because the temperature was 104° F. There was a general rash resembling somewhat that of scarlet fever but it was not definitely punctate and the throat was not sore. All the accessible lymphatic glands were enlarged. The pyrexia and rash lasted for three or four days. On April 18th there was fine branny desquamation and the glands had become normal except two left submaxillary glands which were large and hard. On the alveolar margin of the gum above the left upper lateral incisor tooth was an ulcer three millimetres in diameter with a grey rough floor and undermined edges. It was surrounded by red and swollen mucous membrane. During the next few days the temperature was high, the ulcer enlarged, and the submaxillary glands became larger and semi-fluctuating. On April 24th a glandular abscess was opened and scraped under chloroform. The ulcer was scraped, broken-down tissue reaching to the periosteum was removed, and the raw surface was painted with carbolic acid. On the following day the roseolous rash recurred with a temperature of 104° and diarrhœa. The abscess cavity slowly filled up but the ulcer on the gum gradually increased in depth and extent. At the same time the general condition improved. The ulcer was again scraped and painted with carbolic acid. It extended from the alveolar margin of the gum above the incisor and canine teeth to the junction of the mucous membrane of the gum and cheek. Ten days after the appearance of the second rash desquamation was observed. On May 7th the ulcer was scraped for the third time. The left submaxillary region was occupied by a hard brawny mass and the left cheek was red and œdematous. On the 16th the rash appeared for a third time and was duly followed by desquamation. During the next six weeks there was local improvement: the ulcer ceased to spread, the inflammation of the cheek diminished, and the submaxillary induration showed signs of absorption. But the wound enlarged by disintegration of the subcutaneous tissue. On June 17th there was evidence of cerebral complication—vomiting, transient loss of consciousness, photophobia, and retraction of the head. On June 28th the patient died comatose. The necropsy showe alveolar abscess yielded post mortem a culture of the staphylocccus pyogenes aureus. The roseolous rashes were probably due to septic absorption. In the Transactions of the Pathological Society of London for 1887 Mr. Jonathan Hutchinson, jun., reported a somewhat similar case but death seemed to have been due to miliary tuberculosis. The patient was a child, aged 21 months, and the ulcers in the mouth persisted for nine months. Such cases appear to be due to the breaking down of the powers of resistance of the body to the invasion of pathogenic microbes by an attack of measles.

WOMEN INEBRIATES.

THERE is no need to dwell on the misery and degradation which follow when a woman becomes a drunkard. But there is every reason why efforts for her reclamation should excite interest and coöperation. At a retreat for such cases at Fallowfield, Manchester, two classes are received. One consists of persons of education who have fallen into the habit of drinking and they employ themselves "in the lighter domestic duties" and in needlework. A smaller fee is paid by patients of the industrial class and they are occupied in more menial household work. "No patient can be admitted to a retreat except at her own request, signed before a justice." She may sign for one or two years' detention, those signing for two being the minority. The report says that by the end of the first year they have become aware of their weakness and of the strength required before they can face temptation. The treatment is simple, without fads: "rigid abstinence, no drugs, cheerful industry, regular exercise, and a sympathetic atmosphere of religious and moral influence." The home has only accommodation for 25 patients and to show how much it is needed and trusted the applications for admission last year were 125, of which 26 were successful.

ISLINGTON MEDICAL SOCIETY.

A MEETING of this society was held on March 22nd, Dr. B. G. Morison being in the chair. Dr. Morison read a paper on the Comparative Merits and Effects of Prescribing and Dispensing in Medical Practice. He maintained that patients could pay, and were willing to pay, both practitioner and druggist. Even in club practice this arrangement had been found to be possible and druggists were not averse to reducing charges in favour of the poor. The custom of prescribing on the part of druggists was largely the outcome of dispensing by medical men. He questioned whether the profits alleged to accrue from the dispensing system were much, if anything, in excess of the expenses and even losses which it entailed. From a professional point of view the practice of dispensing was indefensible. Dr. G. A. Heron stated that during the period from 1869 to 1871 the general practitioners of Margate, with one exception, at his suggestion ceased to dispense. He found on inquiry that in 1903 there were only three practices in that town in which dispensing was carried on and that the medical practitioners as a body strongly objected to return to the original system. He also mentioned the fact that in Scotland prescribing practice was the rule. Mr. J. Smith Whitaker also spoke in favour of the discontinuance of dispensing which he thought would be feasible if medical men in any district would unite for this purpose. Dr. H. Fraser Stokes, Dr. E. S. Tait, and Dr. A. Reid also preferred prescribing but would like to be convinced as to its practicability. Dr. Alexander Morison spoke in similar terms but held that the vested interests of dispensing practitioners must be taken into account. Mr. T. D. Jago saw no need to change the method now existing and considered prescribing in general practice to be impossible. Dr. J. G. Glover, though accustomed to prescribe and expressing some sympathy with the change proposed, was of opinion that it would bear hardly on the poor, especially in London. Any attempt to press it would be unjust as well as impolitic and would tend to drive patients to the prescribing druggist. The interests of the poor deserved every consideration and though much might be done to promote a better understanding with druggists the liberty of medical men who preferred to dispense must not be interfered with. Dr. B. G. Morison proposed to move at the next meeting of the society that a committee should be appointed to inquire into the questions in dispute. This was agreed to.

LEPROSY IN NEW SOUTH WALES.

FULL clinical histories of the patients admitted during 1901 into the New South Wales leper lazaret are given in an official report by Dr. J. Ashburton Thompson, chief medical officer of the Colonial Government and president of the Board of Health. The lazaret is at Little Bay near Sydney. On Jan. 1st, 1901, there were 11 persons under detention. During the year ten persons were reported to the Board under the Leprosy Act, 1890, as being suspected lepers and nine of them were ultimately admitted to the lazaret under warrants. During the year there were five deaths and on Dec. 31st, 1901, there remained under detention 15 persons, including nine whites, four Chinese, one Javanese, and one South Sea Islander. In his remarks on two of the cases Dr. Thompson refers to instances in which the lesions of leprosy have been erroneously attributed to syphilis.

DEATHS AND QUACK MEDICINES.

AT an inquest held on March 30th Mr. Troutbeck inquired into the death of a child aged seven months. Medical evidence was given to the effect that the child weighed only nine pounds and died from meningitis set up by improper feeding. The mother stated that she had fed the child on tinned milk and a food prepared by a local druggist. One of the jurors raised a question as to the sale of foods and pointed out that they were sold as foods fit for children. The coroner said that in the present state of the law the sale of these foods by means of enticing advertisements was allowed and there was not the slightest doubt that this was the cause of a great deal of disease and death. The same remarks applied to patent medicines but in their case the State made an immoral profit on their sale. We are glad to be able to agree with Mr. Troutbeck. The false statements which are made in advertisements are only too flagrant and whether the Government wishes so or not the revenue stamp on patent medicines is taken as an endorsement of the statements about the medicines which are made by the proprietors. A morning contemporary publishes a series of police regulations which have recently been issued in Lübeck regarding unqualified practitioners and very admirable they are:—

> Persons wishing to practise medicine professionally without being approved by the State must notify their intention to the Medical Bureau. They must immediately report, with the name, age, and residence of the patient, if they advise or treat a person suffering from fevers and diseases of an inflammatory nature. The rules regarding advertisements are very stringent, reading as follows: Public advertisements by non-approved persons are forbidden, in so far as they are calculated to mislead concerning the training, capacity, or success of such persons, or contain boastful promises. Public advertisement of the objects, apparatus, methods, or means which are applied for the prevention, alleviation, or cure of illness is forbidden, when (*a*) superior power over and above their true worth is attributed to such objects, apparatus, methods, or means, or the public is misled by the manner in which they are described; or when (*b*) the objects, apparatus, methods, or means, by the nature of their construction or quality, are calculated to bring about injuries to health. These regulations are to come into force on May 1st and any contravention of the same will be punished by a fine not exceeding 150 marks or by imprisonment.

We commend the rules regarding advertisements to the Commissioner of Police in London and the watch committees in the provinces. If something similar could be carried out here it would bear hardly on those newspaper proprietors who insert lying advertisements of the kind issued by Pointing and "Dr." McLaughlin and upon that disgraceful quack, "Dr." Bell who scatters his dirty pamphlets broadcast through the assistance of His Majesty's Postmaster-General. Any respectable magazine or newspaper should be ashamed to take money for inserting such advertisements as those to which we have alluded. In this connexion we see that Pointing or the Century Thermal Bath Cabinet Company has been summoned at Marlborough-street police-court regarding his *Magic Foot Drafts* and for selling the same without a stamp. A fine was imposed of 10*s.* and costs.

THE SPOROZOA IN RELATION TO DISEASE IN MAN AND ANIMALS.

IN the fifth lecture[1] delivered by Professor E. A. Minchin on March 28th at University College, London, the life-histories of certain sporozoa parasitic on man and birds were dealt with, especial attention being given to halteridium, a form found in birds, and to the trypanosoma, or flagellate phase of the same, found in animals and man. Trypanosomes have been found in certain countries to cause the disease called sleeping sickness. The halteridium is a minute curved parasite which is found within the red corpuscles of birds bent in a semicircular form around the nucleus. Professor MacCallum of Toronto showed from a study of halteridia some years ago that a process of conjugation (sexual union) occurs in the body of birds. Mosquitoes which bite birds—e.g., the owl—infected by the halteridium serve as the intermediate hosts within the gut of which three forms of halteridia are developed—viz., an indifferent or neuter form (ookinete), a female form (trypanosoma), and a male form (trypanosoma). The first of these forms multiplies by fission, the second (female trypanosoma) by a sort of parthenogenetic reproduction, while the third (male trypanosoma) multiplies by repeated division and then dies. No conjugation between the male and female trypanosoma forms occurs in the mosquito's stomach and therefore the male trypanosomes must perish of necessity if forced to remain in the mosquito's body. Only in the blood of birds is conjugation known to occur. The life processes are as follows for each form as observed in the blood of birds. The ookinete first extrudes a droplet of protoplasm from the lower end of its body charged with pigment granules. Its nucleus now divides unequally into two parts by karyokinesis (macro- and micronuclei) and a spindle of fibres develops from the smaller part (micro-nucleus). This spindle structure ultimately gives rise to the flagellum, undulating membrane, and myonemes of the trypanosoma. The female form undergoes a cycle of changes similar to the above ookinete form, except that the micro-nucleus divides to form eight pairs of small nuclei which then undergo degeneration. The large nucleus (macro-nucleus) now divides unequally into macro- and micro nuclei and a process of evolution is now gone through similar to that of the ookinete form, terminating in the production of a flagellate female trypanosoma. The male form undergoes division of the micro-nucleus into eight pairs of granules which arrange themselves radially around the macro-nucleus as a centre. Each pair of granules collects around itself a mass of protoplasm, leaving a central mass of residual protoplasm around the macro-nucleus which now degenerates and dies. The eight peripheral nucleated masses are now separated off and each develops a flagellum with mantle and fibres (male trypanosome form). In the body of the mosquito these three forms multiply so long as there is abundance of blood. In case of "famine," however, when the mosquito has not fed itself for some hours many of the neuter and male forms die. The female forms, however, penetrate into the epithelium and swarm back again when the mosquito has gorged itself with blood. Conjugation of male and female forms never occurs in the mosquito's body; it is only known to take place in the bird or warm-blooded animals (Schaudinn). The neuter forms and the smaller female forms pass into the circulation of the mosquito and thence into the pharyngeal cavity, whence they are ready to infect a bird or other animal which the mosquito bites. Others enter the ovary of the mosquito and infect the ova, penetrating between the yelk granules and growing within the embryo of the next generation of mosquitoes (hereditary infection). Those which have been inoculated into birds by the bite of the mosquito attach themselves to the red corpuscles of the former by the flagellum and then penetrate within the corpuscles, losing the flagellum and assuming the characteristic curved form (halteridium) once more. At night these endoglobular halteridia issue forth into the blood plasma and some of them develop flagella, swim about freely in the blood (motile forms), while the others remain without flagella (non-motile forms). Both these forms multiply by night, the free-swimming forms re-entering the red corpuscles. Schaudinn, from his studies of these trypanosome forms, anticipates that a trypanosome stage of the malarial parasite will be found in the human body.

THE STATE REGISTRATION OF NURSES.

IT was not to be expected that the manifesto issued by those experts who are opposed to the State registration of nurses, upon which we commented in THE LANCET of April 2nd, p. 946, would be allowed to pass without notice by other experts who take the opposite view. We have now received another manifesto from the Society for the State Registration of Trained Nurses signed by Miss Louisa Stevenson, president of the society and member of the board of management of the Royal Infirmary, Edinburgh; Mrs. Bedford Fenwick, honorary secretary of the society, president of the International Council of Nurses, and Member of the Distinguished Order of the Greek Red Cross; and Miss Isla Stewart, senior vice-president of the society, matron of, and superintendent of nursing at, St. Bartholomew's Hospital, president of the Matron's Council of Great Britain and Ireland, and president of the League of St. Bartholomew's Hospital Nurses. Besides these the signatories include a large number of ladies who are representatives of nursing leagues, vice-presidents of the society, or matrons of hospitals, or who are prominent in educational matters or in various spheres of women's work. We do not notice the name of any medical man. From the purely nursing point of view the manifesto in favour of State registration is as convincing as that against it. If, on the one hand, we have against registration the name of Miss Eva Lückes, matron of the London Hospital, we have in favour of registration the name of Miss Isla Stewart, matron of St. Bartholomew's Hospital. The Bill promoted by the Society for State Registration seeks to establish a central and representative nursing council to which all questions of training, discipline, and other professional matters will be referred and by which a register of trained nurses will be kept. Thus, the society wishes to do for nurses what the General Medical Council does, or is supposed to do, for the medical profession; in fact, it will do more, for "the training schools will certainly in every instance be required to testify that candidates possess the necessary personal qualities." We do not envy the training schools their task in the event of the Bill becoming law; however, as there is no doubt that both those who are against registration and those who are in favour of it are agreed upon the desirability of none but capable, trustworthy women being employed as nurses a meeting might be arranged at which representatives from both sides could attend. Then a conjoint course of action might be arrived at.

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[1] References to the first, second, third, and fourth lectures will be found in THE LANCET of March 12th, p. 736, and 26th, p. 889, and April 2nd, p. 950.

THE DISTRIBUTION OF PLAGUE.

Plague has been present in our South African colonies since February, 1901, when a suspicious case was reported to the medical officer of health of the Cape Colony as occurring at Cape Town. Three days later this was finally diagnosed as plague. On Feb. 14th an advisory board was appointed and a quarantine station was prepared to which "suspects" were removed. Between February, 1901, and August, 1902, 907 cases were officially reported, but from August, 1902, to March, 1904, only occasional cases were notified until for the week ending March 5th, 1904, there were eight cases reported at Port Elizabeth. For the week ending March 12th there were 3 further cases reported at East London and 3 at Uitenhage. Plague-infected rats were found at Port Elizabeth and at East London but in the Cape Town and Harbour Board area of 176 rats examined during the week none was affected with plague. In Natal plague first appeared on Dec. 5th, 1902, between which date and August, 1903, when the disease was practically stamped out, 223 cases had been notified. Durban was the heaviest sufferer, being a seaport, and there 174 cases were notified. In the Transvaal plague appeared early in March, 1904, and a telegram from Lord Milner dated April 2nd states that on that date the position was as follows: Total number of cases 75—in whites 9, in coloured persons 2, in Asiatics 51, and in natives 13. Suspected cases: whites 6, coloured persons 2, Asiatics 6, and natives 36; total 50. Ascertained deaths: whites 7, Asiatics 49, and natives 6; total 62. Suspected deaths: natives 5.

THE CASSEL FUND TRAVELLING OPHTHALMIC HOSPITAL IN EGYPT.

Our readers will recollect that in the beginning of 1903 Sir Ernest Cassel placed at the disposal of the Egyptian Government a sum of £40,000 to be used for the benefit of sufferers from the diseases of the eye which are so prevalent in Egypt. An object to be kept in view was also the training of native medical men in the diagnosis and treatment of such diseases according to modern methods. The Egyptian Sanitary Department, over which Sir Horace Pinching presides, ultimately decided to establish a travelling ophthalmic hospital or dispensary, the system being that a surgeon should proceed leisurely through the provinces with tents so that patients would not have to make long journeys to obtain treatment. Mr. A. F. MacCallan, who had held various offices at the Royal London Ophthalmic Hospital (Moorfields) was accordingly appointed to organise and to direct the enterprise. In an article, recently published in the *Wochenschrift fur Therapie und Hygiene des Auges* Dr. Alfred Osborne states that this system of travelling ophthalmic hospitals, now introduced into Egypt, originated about ten years ago in Russia where it has proved very successful. One of the first advocates of these Russian hospitals was von Bellarminow and their work has been described by Walter of Odessa and Andogsky of St. Petersburg. They are supported by a fund instituted by the Empress Marie Alexandrowna. In the year 1894 there were 21 of them and in 1901 there were 32. Dr. Osborne then goes on to describe what he saw on a visit made to the Egyptian travelling hospital while it was stationed near the town of Menouf in the west of the Nile Delta. It consisted of eight Indian tents and a kitchen of sun-dried bricks. The largest tent was used for operations of which on an average six were performed daily, about five-sixths of the total being operations for entropium (trichiasis). There were two tents for the accommodation of in-patients, only the more severe cases, especially those which required intra-ocular operations, being admitted. In another tent out-patients were treated by Mr. MacCallan's Arab assistant trained in Cairo. Including this assistant the staff of nurses and servants consists of about ten persons for whose accommodation three tents are provided. Great numbers of patients come seeking treatment and the large proportion of females who present themselves shows that the hospital has secured the confidence of the Mahomedan population.

RADIO-ACTIVITY A PROPERTY OF THE DROITWICH BRINE BATHS.

We have received a communication from Dr. P. A. Roden and Dr. John Wilkinson in which it is shown that Droitwich brine yields on boiling a gas which exhibits marked radio-active effects. They submitted to Mr. F. Soddy of University College, London, some of the brine, and although only a small quantity, which, moreover, had been standing for at least 36 hours before the test, was taken for the experiment, yet the gas given off proved to be quite distinctly radio-active. Further investigation is being made into the radio-active value of the brine with the assistance of Dr. Alexander Muirhead. It seems possible that radio-activity is an important factor in balneo-therapeutics. Hitherto much of the benefit gained by a course of waters has been ascribed to mere mechanical or thermic action, coupled with that of the constituents dissolved in the water. In the experience of Dr. Roden and Dr. Wilkinson a further explanation in the case at any rate of Droitwich brine must be sought. Cases are constantly met with, they assert, which when placed in all respects under similar conditions at different spas do certainly obtain benefit from one water and not from another, and this apart from internal treatment. It is highly probable, they add, that different reactions may occur from the use of baths containing different constituents and possibly such reactions may be due not only to those constituents but also to varying radio-activity. It seems to us that a fresh, careful, practical study of the waters employed at all the health resorts in this country in the treatment of disease should be undertaken on the lines indicated. It can hardly be supposed, however, that all waters give relief merely because they are radio-active. Such constituents as sulphuretted hydrogen, sulphides, iodides, barium, and calcium salts when present in waters have not only specific effects when employed internally but also when exhibited in the form of baths.

THROMBOSIS OF THE JUGULAR VEINS IN PULMONARY TUBERCULOSIS.

Thrombosis of the jugular veins is a very rare complication of pulmonary tuberculosis. In the *New York Medical Journal* of March 5th Dr. C. J. Aldrich has published a case and reviewed the literature of the subject. After a diligent search he could find only nine recorded cases. In four the thrombosis was due to causes external to the veins, pressure of tuberculous glands or adhesions. In the remaining cases the thrombosis appeared to be due to phlebitis from internal causes. In the case which is related by Dr. Aldrich a woman suffering from advanced pulmonary tuberculosis was seized with severe pain in the left side of the neck. Examination showed fulness of the supraclavicular fossa and a tender, slightly red tumour at the lower part of the internal jugular vein. The pain extended to the upper part of the left chest and arm. The veins of the left side of the neck became enlarged. Three days later there was peculiar puffy swelling of the hand, which did not pit on pressure and felt like an elastic cushion. The swelling increased and extended up the forearm to the middle of the arm. After a week it reached its height when a thrombus could be felt in the axillary vein. The superficial veins of the upper chest on the left side were enlarged and the lower part of the face was slightly swollen. A thrombus could be traced upwards in both the internal and external jugular veins for a distance of over two inches, while below was a hard tender cord which disappeared behind the clavicle. After about two weeks the swelling of the hand began to diminish. The tenderness and swelling at the root of the neck had almost disappeared when she was seized with pain on the right side of the neck where a red and tender swelling similar to that of the left side developed. The supraclavicular fossa was swollen and the superficial veins of the upper chest were enlarged. Three days later the right hand began to swell and soon it reached the size attained by the left. The forearm became affected and the axillary vein could be felt thrombosed. The thrombosis then extended to the basilic vein. The left hand remained swollen until death which took place four weeks after the onset of the thrombosis. Without warning the patient became unconscious, evidently from thrombosis of the sinuses of the brain. Examination showed extension upwards of the thrombus in the internal jugular vein with considerable œdema of the face and neck on that side. A necropsy was not allowed.

INTERNATIONAL CONGRESS OF SCHOOL HYGIENE.

THE first meeting of the International Congress of School Hygiene took place at Nuremberg on April 5th under the patronage of His Royal Highness Prince Ludwig Ferdinand of Bavaria. The direction of the Congress was in the hands of the chairman of the Allgemeiner Deutscher Verein fur Schulgesundheitspflege, Professor Dr. H. Griesbach, with the support of the following foreign societies: Ligue des Médecins et des Familles pour l'Amélioration de l'Hygiène Physique et Intellectuelle dans les Écoles, the Schweizerische Gesellschaft für Schulgesundheitspflege, the Allgemeen Pædologisch Gezelschap in Antwerpen, the Vereeniging tot Vereenvondiging van Examens en Onderwijs, and an English committee formed by representatives of the Royal College of Physicians of London, the Royal College of Surgeons of England, the Medical Officers of Schools Association, the London School Board, the Sanitary Institute, London, and the Incorporated Society of Medical Officers of Health, with Sir Lauder Brunton as President and Dr. James Kerr, the medical officer to the London School Board, as honorary secretary. The inaugural meeting of the Congress was held in the large hall of the Apollo Theatre on April 5th at 9 o'clock and was opened by His Royal Highness Prince Ludwig Ferdinand of Bavaria in person. The chair was taken by Professor Dr. Griesbach, of Mulhausen, who requested the Prince to open the Congress. The Prince said that it was with the greatest pleasure that he declared the first International Congress of School Hygiene open. He welcomed to Nuremberg the delegates from neighbouring States and distant lands. Professor Dr. Griesbach said that no less than 20 States were represented at the Congress and that Turkey and Italy alone were unrepresented. Delegates from the various countries then thanked the Prince and the committee for their welcome to the Congress. Dr. Eichholz, as representative of the University of Oxford, returned thanks on behalf of Great Britain.

THE London County Council has announced that chicken-pox is to be a notifiable disease for a period of four months from April 8th. Every medical man in the administrative county of London has received a notice informing him that in case he should be in doubt as to whether a case under his care is or is not one of small-pox he can without fee obtain the opinion of either Mr. S. Bingham, *formerly* medical superintendent of one of the Metropolitan Asylums Board small-pox hospitals, or of Mr. W. McC. Wanklyn, late small-pox referee to the Metropolitan Asylums Board. Letters should be addressed: Medical Consultant, Public Health Department, 8, St. Martin's-place, Trafalgar-square, W.C. This arrangement will continue until August 7th.

MR. F. W. Lowndes, the honorary secretary of the United Kingdom Police Surgeons' Association, has requested us to state that he will send a copy of the Statutory Declaration and Orders, 1903, to any member of the association or any medical practitioner on receipt of a letter addressed to him at 40, Knight-street, Liverpool, with two penny stamps inclosed. This important official paper gives full details of the increased fees and allowances sanctioned by the Home Secretary to medical witnesses on the recommendation of the Departmental Committee, 1902.

Professor Seeley of King's College, London, proposes to conduct ten geological excursions which should be of interest to all London sanitarians. The object of the excursions will be to examine the main channel of the Thames and some of its tributaries. A beginning will be made on April 23rd at Purfleet where the Thames flows over the chalk.

THE members of the medical staff of the West London Hospital will hold a conversazione, in connexion with the Post Graduate College, at the hospital on Wednesday, April 20th, at 8.30 P.M.

WHO PERFORMED LITHOTOMY ON MR. SAMUEL PEPYS?[1]

BY D'ARCY POWER, F.S.A., F.R.C.S. ENG.,
TREASURER OF THE SAMUEL PEPYS CLUB.

WE celebrate to-night the two hundred and forty-sixth anniversary of one of the great events in the life of Samuel Pepys—the day when he was successfully cut for stone at the house of Mrs. Turner in Salisbury-court, Fleet-street. The recollection of the day was often in his thoughts and the entry in his Diary on March 26th, 1660, is a faithful reflection of his usual state of mind at each return of spring. It runs: "This day it is two years since it pleased God that I was cut of the stone at Mrs. Turner's in Salisbury Court. And did resolve while I live to keep it a festival, as I did the last year at my house, and for ever to have Mrs. Turner and her company with me." Two years later, on March 26th, 1662, the entry is: "Up early. This being by God's great blessing the fourth solemn day of my cutting for the stone this day four years, and am by God's mercy in very good health. ...... At noon came my good guests, Madame Turner,[2] The.,[3] and Cozen Norton and a gentleman, one Mr. Lewin of the King's Life-Guard. ...... I had a pretty dinner for them—viz., a brace of stewed carps, six roasted chickens and a jowl of salmon hot for the first course: a tanzy and two neats' tongues and cheese the second: and were very merry all the afternoon talking and singing and piping upon the flageolette. ...... We had a man cook to dress the dinner to day and sent for Jane to help us." This is but a single example of many such pleasant dinners and in continuation of them we have met here to-night.

But the club is founded to elucidate as well as to celebrate events in the life of Mr. Pepys and I propose to ask to-night who operated upon Mr. Pepys? I do not think that he anywhere mentions the name of the surgeon, but he was on terms of intimacy with two surgeons, Mr. James Pierce and Mr. Thomas Hollier. James Pierce seems to have been under the protection of Lord Sandwich and it was in this manner no doubt that Pepys became acquainted with him. After the Restoration he was appointed surgeon to the Duke of York, Surgeon-General of the Fleet, and Groom of the Privy Chamber to the Queen. He hoped to be appointed surgeon to St. Thomas's Hospital by the influence of the Duke of York when Tom Woodall was killed in a drunken quarrel in 1666, but I do not find that he was ever elected to the office and he must not be mistaken for Mr. William Pearce who was some time a colleague of Mr. Hollier at St. Thomas's Hospital. James Pierce was master of the Barber-Surgeons' Company in 1675 and was at that time surgeon to the King. Although Pierce was well known to Mr. Pepys he does not seem to have consulted him professionally on any occasion and I think we may say with certainty that Pierce was not his lithotomist.

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[1] A paper read at the second meeting of the Samuel Pepys Club on March 26th, 1904

[2] Daughter of John Pepys of South Creake and wife of Serjeant John Turner, Reader in Law.

[3] *Her daughter, afterwards Lady Harris.*

Thomas Hollier was a man of different calibre. He was appointed surgeon "for scald heads" at St. Thomas's Hospital in 1638 and on Jan. 25th, 1643-44 he was chosen surgeon to the hospital in place of Edward Molines, surgeon for the cutting of the stone to the hospital, who had left his place to join the King's army at the beginning of the war. Molines was taken in arms against the Parliament at Arundel Castle and was in consequence deprived of his office as surgeon to St. Thomas's Hospital on the day when Hollier was appointed. After the Restoration King Charles ordered the governors to reinstate Molines, but as the place had already been well filled by Hollier the governors were unwilling to displace him. There was a considerable correspondence and the difficulty was solved at last by the appointment of Molines as a fourth or additional surgeon, the stipend of the surgeons being reduced from £40 to £30 apiece.

Mr. Hollier acted as a second warden of the Barber-Surgeons' Company in 1665, when Mr. Serjeant-Surgeon Wiseman was master, and was himself master of the Company in 1673. In 1669 the College of Physicians bought his house and grounds, extending from Warwick-lane to the City walls, for £1200 to build a new college in place of the college in Amen-corner which had been destroyed by the Great Fire. Hollier's position as lithotomist gave him unusual opportunities to perfect his skill and he is said to have cut no less than 30 persons for stone in one year without a single death, a result of which he might be justly proud were he living amongst us now. Hollier seems to have been the trusted medical adviser of Mr. Pepys, for he bled him, gave him sound advice on many occasions, and when Mrs. Pepys was ill he was summoned to attend her, and though a surgeon he refrained from operating. Sir Frederick Bridge, in his recently published book "Samuel Pepys, Lover of Musique" (p. 63), draws attention to certain entries in a volume of the Sloane MSS. at the British Museum.[4] These entries consist of two prescriptions written by Dr. J. M., the second being countersigned by Dr. G. Jolly. The first prescription is headed "Before he was cut for the stone by Mr. Hollier" and is ordered "for Mr. Peapes." It is a soothing draught, such as might still be given with advantage to a patient whose bladder was inflamed. It contains liquorice, marsh mallow, cinnamon, milk, rose water, and the whites of eggs carefully distilled over a slow fire. The dose ordered was six ounces with an ounce of syrup of althea,[5] to be taken daily in the morning and at bedtime. On the next page of the Sloane MS. is a second prescription for a draught to be in readiness when he was cut. "For Mr. Peapes who was cut for ye stone by Mr. Hollier, March ye 28th (1658) and had a very great stone taken that day from him." This prescription again is for a cooling and demulcent drink such as we still give to a patient whose mouth is parched after an operation. Its chief constituent was lemon juice to which a little syrup of radishes was added. It shows that Mr. Pepys was expected to be feverish after the operation, but the surgeons did not think he would be collapsed or dangerously ill, for the prescription especially mentions that musk was not to be employed and we know that musk in those days was held to be as sovereign a remedy for collapse as is alcohol now. Indeed, few people died in a regular way until they had received a viaticum of musk. It is curious that the prescription should be dated March 28th when Pepys says repeatedly that he was operated upon on March 26th, but we all know that there are other and similar discrepancies of date in the Diary which can in no way be reconciled.

I can find nothing about Dr. Jolly, who signs the prescription, except the reference to him under date, Feb. 27th and 28th, 1662, where Pepys says about a demonstration of anatomy at the Hall of the Barber-Surgeons: "Dr. Scarborough upon my desire and the company's did show very clearly the manner of the disease of the stone and the cutting and all other questions that I could think of ...... how the water comes into the bladder through the three skins or coats just as poor Dr. Jolly has heretofore told me." It appears from this passage that Dr. Jolly had died between the time Pepys was cut and the date of his beginning the Diary in January, 1659-60. There is no mention of Dr. Jolly in the Roll of the College of Physicians, nor was he a graduate of the University of Oxford.

The initials Dr. J. M. at the foot of each prescription stand, I have very little doubt, for Dr. James Moleyns, the leading lithotomist of his time, father of Edward Molines referred to above, and in all probability the master and teacher of Thomas Hollier. I feel a personal interest in James Moleyns because he was a predecessor in the great hospital of St. Bartholomew which I have the honour to serve. He held the office of "surgeon for the stone" both at St. Bartholomew's and at St. Thomas's Hospitals. At a time when medicine and surgery were absolutely divorced and surgery held a very inferior position James Moleyns was one of the very few people licensed by the College of Physicians to administer internal medicines in surgical diseases. His licence is dated Sept. 24th, 1627. He died in 1686 and is buried in St. Bride's, Fleet-street.

We have some interesting information in the books at St. Bartholomew's Hospital about Dr. James Moleyns or Mullins. He succeeded Mr. Robert Murrey, surgeon to the Lock Hospital, in 1622 and after a conference between the governors of St Bartholomew's and those of St. Thomas's Hospitals duties were assigned to him in the following order :—

> Vicesimo die Januarii Anno. Dni. 1622-3.
>
> It is ordered by the Governors of this Hospitall that James Mullins Chirurgion in consideracon of his care and paynes which he is to take in cuttinge and cureinge of poor diseased p'sons of the Stone, and the greifs and Malladies hereunder named, brought to the sev'all hospitalls of St. Barth'ewes and St. Thomas in Sowthwarke, shall have the yearly stipend of xxx*li.* per anm. from XXmas last past soe longe as he shall [illegible] to the good likeinge of the Governors of the [illegible] of his said stipend to be paid him quarterly [illegible] the other xv*l.* from St. Thomas' Hospll. and he [illegible] pounds of towe for every patient for theire more easie and warmer dressinge.
>
> For the annuall stipend of thirty pounds I under take (wth. God his helpe) my best skill and experience the manuall operacon and chirurgicall cuer of these issuinge Maladies viz.
>
> The Cureinge by insition the stone in the yard or Bladder.
>
> The cureinge of the rupture or falling downe of the Intestines or gutts into the Codds by Cuttinge.
>
> The Cureinge by Insition the Carnosity or fleshie substance in the Codds.
>
> Also the Curinge of Wenns by Insition.
>
> Desiringe that for every patient I may have the allowaunce of 2 pounds of towe for theire easier and warmer dressinge.

It will appear from these statements that the governors of the two hospitals appointed a special surgeon for the treatment of those conditions which had so far fallen into the hands of quacks (lithotomists, hernia specialists, and fistula curers) that the ordinary surgeons left them untended. It was no doubt due to these wise orders and to the appointment of suitable persons at the hospitals that lithotomy and hernia once more came to be considered a part of legitimate surgery. Now I think it is clear from the facts I have brought together that Mr. Pepys was operated upon by Mr. Hollier who had called into consultation his old master, Dr. James Mullins. He thus came under the care of the two best lithotomists of the time and I suspect that they used more than two pounds of tow for his dressings. If Mr. Hollier was his lithotomist there is a good reason why he should have taken rooms at Mrs. Turner's in Salisbury-court, for he would wish to be as near as possible to his surgeon who was living in Warwick-lane.

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[4] Sloane MSS., No. 1536, f. 63, margin.

[5] The syrup of althea itself was: ℞ Roots of Althea two ounces: roots of grass, asparagus, Liquorice cleansed: Raisons stoned: ana half an ounce. Taps of marsh mallow: leaves of mallow, Pellitory: Burnet: Saxifrage: Plaintain: White and Black Maidenhair: ana M. (a handful) i: Red Cicers an ounce: of the four greater and lesser cold seeds ana three ounces. Infuse them a whole day in clear water, lb. vi. Boil to the consumption of two pounds: then strain and press and with sugar, lbs. iiss. make a syrup in Balneo Mariae according to Art.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 8, 1826.

Case of apparent Superfœtation. By JOSEPH FITHIAN, M.D., of Woodbury, N.J.

IT has been a disputed point in physiology, and is to this day, whether superfœtation does ever take place in the animal economy.

We know, that nature, in the production of our race, generally pursues an undeviating and uniform course, which would lead us to believe, that whether two or more children are born at one birth, they are begotten nearly together, if not at the same time.

Many facts, however, of a curious and interesting nature are from time to time communicated, which appear to be exceptions to this general rule; and, among others, the following favours the hypothesis that superfœtation does occasionally occur.

Mrs. W. was delivered of a fine healthy child at the full time without any difficulty attending the birth.

After the labour was over, and the assistants were preparing to get her to bed, they discovered something which, from its uncommon appearance, induced them to call my attention to it.

Upon examining this substance, it proved to be a fœtus three or four inches long, with its membranes and placenta complete; all of a fresh, healthy appearance, and had undoubtedly been alive and healthy up to the time of the labour.

I have frequently seen abortions at every period of gestation, and from the appearance of this fœtus, had I been called to see it without any knowledge of the circumstances, I should without hesitation have pronounced it an abortion at the third or fourth month. It had the large head, small extremities, and general appearance which characterize a fœtus at that age.

I have communicated the above fact, as it occurred to me in my practice. I will leave it for others to draw their inferences.—*Ibid.*[1]

CENTRAL MIDWIVES BOARD.

A MEETING of the Central Midwives Board was held at the *Board Room, Suffolk-street, S.W.*, on *March 24th*, Dr. F. H. CHAMPNEYS being in the chair, when the following business was transacted.

1. On consideration of applications for approval of certificate as a qualification *under Section 2 of the Act* the certificate of the following institution was approved: National Maternity Hospital, Dublin.

2. The following institutions were approved for the training of midwives under Section C of the rules, subject to an undertaking to comply with the requirements of Section E of the rules: Birmingham Workhouse Infirmary, Bristol Royal Infirmary, Brownlow Hill Workhouse Hospital, Liverpool, *Essex County Cottage Nursing Society*, Gloucester District Nursing Society, Hull Lying-in Charity, and Ipswich Nurses' Home.

3. The following registered medical practitioners were approved as teachers under Section C 1 (3) of the rules: Mr. A. B. Batley, Mr. A. B. Calder, Dr. John Gutch, Mr. E. S. Hoare, Dr. Wilfred R. Kingdon, Dr. E. J. Maclean, Dr. Thomas Pimley, and Mr. Penrose L. W. Williams.

4. The following certified midwives were approved under Section C 1 (2) for the purpose of signing certificates of attendance (Forms III. and IV.): Eleanor Heatley, E. S. Sibery, E. S. Tate, and Bessie M. Worrall.

5. After consideration of applications for certificates the
names of 849 women [illegible] the Act
and ordered for entry bows the
separate numbers of present
entered on the roll: F Ireland,
1; Obstetrical Society [illegible], Rotunda Hospital, 43;
Coombe Hospital, 12; Queen Charlotte's Hospital, 52; Liverpool Lying-in Hospital, 15; British Lying-in Hospital, 2; Glasgow Maternity Hospital, 32; St. Mary's Hospital, Manchester, 53; City of London Lying-in Hospital, 6; Royal Maternity Hospital, Edinburgh, 5; Salvation Army Maternity Hospital, 3; and women in *bonâ-fide* practice, *July, 1901, 2238; the total enrolled being 3415.*

MEDICINE AND THE LAW.

The Conviction of an Abortionist.

AT the Old Bailey on March 25th Mr. Justice Grantham passed a sentence of seven years' penal servitude upon Bertha Bandach, an elderly German woman, who cannot be regarded as having been treated with undue severity. She was convicted of manslaughter upon facts which, strictly speaking, laid her open to indictment for murder, for she had brought about the death of a woman by procuring abortion
upon her,
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[illegible]

five years' penal servitude. An interesting question of evidence was raised during her trial owing to an attempt made to suggest that traces of injury inside the uterus of the deceased discovered by post-mortem examination might have been accidentally inflicted by the victim herself in using a vaginal syringe. In addition to medical testimony as to the difficulty which she would have found in reaching the spot indicated, the Treasury claimed the right to give evidence of similar "accidents" having happened in other cases with which the prisoner had been associated. This evidence was admitted by the judge and it is clearly of great importance that it should be so as the suggestion of an innocent accident, however unconvincing it might seem to medical men, is a natural defence to be raised at the trial of an abortionist. *It is to be hoped that the operation of the* Midwives Act when it comes more fully into force will prevent *such women* as Bandach *from carrying on their* trade, as she did, behind brass plates bearing the inscription of "midwife." The case also points to the defects of the existing system of death certification. The deceased woman would apparently have been buried without further inquiry, owing to the medical man who attended her when dying having been misled by statements as to her habits of life and previous condition of health, had not another practitioner who had treated her after the former miscarriage, which has been mentioned, communicated with the coroner. Bandach will be under restraint for some years to come but a woman who has found that the criminal *exercise of such skill as she may possess* can be made profitable is not likely to be reformed and it is for the safety of the public as well for the punishment of her offence that she is imprisoned.

Messrs. Burroughs, Wellcome, and Co. and the "Tabloid" Trade Mark.

The Court of Appeal has upheld the judgment of the late Mr. Justice Byrne refusing to remove from the register of trade marks the word "tabloid," placed there under the Patents, Designs, and Trade Marks Act of 1883. The appeal was made solely upon this issue, the question of the substitution of other wares for "tabloids," when "tabloids" were ordered, not being again raised. The question for the decision of the court, although strictly speaking one of law, involved really, as Lord Justice Vaughan Williams pointed out, a matter of fact as to what the word "tabloid" actually conveyed to those who heard it at the date of registration in 1884. The substance of the judgments *delivered* was that according to recent decisions a word registered as a "distinctive fancy word not in common use" must not be descriptive but need not be absolutely unsuggestive of the goods to which it is applied. Upon reviewing the cases dealing with the matter the court was of opinion that tabloid although "*suggestive*" was not at the time of registration "descriptive." Both Lord Justice Stirling and Lord Justice Cozens Hardy expressed themselves as not entirely free from doubt, the latter questioning whether ten years ago the word "tabloid" would have been left upon the register and adding "*the swing of the judicial* pendulum has been very great and the extreme point of the swing is to be found, I think, in the present case." No doubt Messrs. Burroughs, Wellcome, and Co., who are to be congratulated upon having maintained the judgment given in their favour on Dec 14th, 1903, are to some extent at a disadvantage owing to the public adoption of the word which they invented for their own benefit. "Tabloid" is now a convenient word for the expression of "much in a small compass," a sort of colloquial synonym of *multum in parvo*, and no doubt many people would be surprised to learn that 20 years ago the term was unknown to them.

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[1] Philadelphia Journal, February.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8076 births and 5464 deaths were registered during the week ending April 2nd The annual rate of mortality in these towns, which had been 19·0, 19·7, and 18·7 per 1000 in the three preceding weeks, was again 18·7 last week. In London the death-rate was 18·8 per 1000, while it averaged 18·6 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 8·4 in Walthamstow, 9·0 in Hornsey, 9·4 in Leyton, 11·0 in Willesden, 11·2 in Ipswich, 11·8 in Devonport, 12·3 in Reading, and 12·5 in East Ham and in Hastings; while the highest rates were 23·6 in Birkenhead, 23·9 in Swansea, 24·5 in Birmingham and in Manchester, 24·6 in Tynemouth, 24·8 in Warrington, 25·0 in Bury, 25·3 in St. Helens, and 28·6 in Rochdale. The 5464 deaths in these towns last week included 640 which were referred to the principal infectious diseases, against 500, 540, and 532 in the three preceding weeks; of these 640 deaths 234 resulted from whooping-cough, 211 from measles, 71 from diphtheria, 58 from diarrhœa, 32 from scarlet fever, 26 from "fever" (principally enteric), and eight from small-pox. No death from any of these diseases was registered last week in Hastings, Bournemouth, Southampton, Northampton, Ipswich, Burton-on-Trent, Handsworth (Staffs.), Kings Norton, Wigan, Barrow-in-Furness, Halifax, Rotherham, or Stockton-on-Tees; among the other towns the highest death-rates from these diseases were recorded in Hanley, Birmingham, Coventry, St. Helens, Warrington, Bolton, Bury, Manchester, West Hartlepool, and Swansea. The greatest proportional mortality from measles occurred in Norwich, Hanley, Wallasey, St. Helens, Bury, Manchester, Salford, Burnley, and Leeds; from diphtheria in East Ham, and Hanley; and from whooping-cough in Wolverhampton, Birmingham, Coventry, St. Helens, Warrington, Bolton, West Hartlepool, Gateshead, and Swansea. The mortality from scarlet fever, from "fever," and from diarrhœa showed no marked excess in any of the large towns. Of the eight fatal cases of small-pox registered in these towns last week, three belonged to London, two to Tynemouth, one to Nottingham, one to Oldham, and one to Gateshead. The number of small-pox patients remaining under treatment in the Metropolitan Asylums hospitals, which had been 54, 74, and 110 on the three preceding Saturdays, had further risen to 126 on Saturday, April 2nd; 42 new cases were admitted during the week, against 21, 26, and 54 in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital at the end of the week was 1570, against 1601, 1624, and 1585 at the end of the three preceding weeks; 153 new cases were admitted during the week, against 192, 176, and 145 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 414, 375, and 383 in the three preceding weeks, declined again to 370 last week, but were 132 above the number in the corresponding period of last year. The causes of 57, or 1·0 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Leicester, Nottingham, Salford, Bradford, Newcastle-on-Tyne, and in 43 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, St. Helens, Warrington, Manchester, Burnley, Preston, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 21·5, 23·0, and 22·3 per 1000 in the three preceding weeks, further declined to 20·6 per 1000 during the week ending April 2nd, but was 1·9 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 13·6 in Leith and 17·5 in Aberdeen to 22·4 in Greenock and 26·2 in Perth. The 681 deaths in these towns included 23 which were referred to measles, 23 to whooping-cough, nine to diarrhœa, five to small-pox, five to scarlet fever, four to "fever," and three to diphtheria. In all, 72 deaths resulted from these principal infectious diseases last week, against 68, 85, and 86 in the three preceding weeks. These 72 deaths were equal to an annual rate of 2·2 per 1000, which was also the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of measles, which had been 20, 23, and 22 in the three preceding weeks, rose again last week to 23, of which 12 occurred in Glasgow, four in Dundee, and four in Paisley. The deaths from whooping-cough, which had been 21, 24, and 29 in the three preceding weeks, declined again to 23 last week and included eight in Glasgow, five in Dundee, three in Edinburgh, two in Aberdeen, two in Paisley, and two in Leith. The fatal cases of diarrhœa, which had been 13, 18, and 15 in the three preceding weeks, further declined last week to nine, of which seven were registered in Glasgow and two in Dundee. The deaths from small-pox, which had been five, two, and seven in the three preceding weeks, declined again to five last week, and all occurred in Glasgow. The fatal cases of scarlet fever, which had been two in each of the two preceding weeks, increased last week to five, of which three were recorded in Glasgow, where three of the four deaths from "fever" were registered also. The deaths referred to diseases of the respiratory organs in these towns, which had been 156, 185, and 165 in the three preceding weeks, further declined last week to 157, but were 36 in excess of the number in the corresponding period of last year. The causes of 31, or nearly 5 per cent., of the deaths in these towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 28·3, 27·7, and 30·4 per 1000 in the three preceding weeks, declined again to 28·5 per 1000 during the week ending April 2nd. During the 13 weeks ending on that date the death-rate has averaged 28·0 per 1000, the rate during the same period being 18·3 per 1000 both in London and in Edinburgh. The 207 deaths of persons belonging to Dublin registered during the week under notice showed a decline of 14 from the number in the preceding week and included 20 which were referred to the principal infectious diseases, against 11, 20, and 14 in the three preceding weeks; of these, 11 resulted from whooping-cough, four from measles, two from "fever," two from diarrhœa, and one from scarlet fever, but not any from small-pox or diphtheria. These 20 deaths were equal to an annual rate of 2·8 per 1000, the death-rates during the same period from the principal infectious diseases being 2·3 in London and 0·6 in Edinburgh. The fatal cases of whooping-cough, which had been six, 13, and five in the three preceding weeks, rose again last week to 11. The deaths from measles, which had been four and five in the two preceding weeks, declined again to four last week. The 207 deaths in Dublin last week included 36 of children under one year of age and 59 of persons aged 60 years and upwards; the deaths of infants showed a considerable decline, while those of elderly persons were slightly in excess of the number in the preceding week. Seven inquest cases and five deaths from violence were registered, and 84, or more than two-fifths, of the deaths occurred in public institutions. The causes of nine, or more than 4 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified: — Fleet Surgeon W. G. Stott to the *Lancaster*. Staff Surgeon H. B. Hall to the *Endymion*. Surgeons: G. Taylor to the *Endymion;* H. G. T. Major to the *Bulwark;* E. H. Ross to the *Lancaster;* A. D. C. Cummins, C. W. Woods, and B. R. Bickford to the *Vivid*, additional, N. S. Meiklejohn, H.

Woods, C. J. Boucher, F. M. V. Smith, D. H. Vickery, and W. G. M. Anderson to the *Fire Queen*, additional, J. C. Bringham, W. P. Yetts, G. H. S. Mills, R. H. St. B. E. Hughes, G. D. Walsh, A. R. Davidson, E. Kenny, and E. P. G. Causton to the *Pembroke*, additional, L. C. E. Murphy, E. R. Townsend, and A. R. Schofield to the *Wildfire*, additional, all for disposal; and P. D. Ramsay and F. J. Gowans to the *Vivid*, additional, for Plymouth Hospital.

Fleet Surgeon Charles James has been promoted to the rank of Deputy Inspector-General of Hospitals and Fleets (dated Jan 4th, 1904).

The notice which appeared in the *London Gazette* of March 22nd, relative to the withdrawal from His Majesty's Naval Service of Staff Surgeon Henry Baker Hall is cancelled.

ROYAL NAVAL VOLUNTEER RESERVE.

Fielding Charles Whitmore has been appointed Surgeon (dated March 31st, 1904).

ROYAL ARMY MEDICAL CORPS.

Major H. Carr is transferred from the Poona to the Mhow District. Lieutenant-Colonel J. L. Hall is appointed to the command of the Station Hospital, Quetta. Lieutenant H. H. Kiddle is transferred from the Bombay to the Poona District.

VOLUNTEER CORPS.

Rifle: 4th Volunteer Battalion the Cameronians (Scottish Rifles): Brigade-Surgeon-Lieutenant-Colonel J. Macfie, Senior Medical Officer, Scottish Rifle Volunteer Infantry Brigade, resigns his commission and is granted the honorary rank of Surgeon Colonel, with permission to wear the prescribed uniform (dated March 26th, 1904). 1st Volunteer Battalion, the Duke of Wellington's (West Riding Regiment): Alfred Thomas Griffiths to be Surgeon-Lieutenant (dated March 26th, 1904) 2nd Volunteer Battalion the Hampshire Regiment: Surgeon-Lieutenant-Colonel R. T. Cæsar resigns his commission and is granted the honorary rank of Surgeon-Colonel, with permission to wear the prescribed uniform (dated March 26th, 1904). 3rd London: Surgeon-Lieutenant T. W. Parry to be Surgeon-Captain (dated March 26th, 1904). 2nd (Renfrewshire) Volunteer Battalion Princess Louise's (Argyll and Sutherland Highlanders): Surgeon Captain H. O. Donald to be Surgeon-Major (dated March 26th, 1904).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The Aberdeen Company: The undermentioned Lieutenants to be Captains:—W. A. I. Fortescue (dated March 26th, 1904); F. Kelly (dated March 26th, 1904); A. Ogston (dated March 26th, 1904); and T. Fraser (dated March 26th, 1904). The Glasgow Companies: Robert Yuill Anderson to be Lieutenant (dated March 26th, 1904).

VOLUNTEER INFANTRY BRIGADE BEARER COMPANY.

West Yorkshire: S[illegible] Captain G. G. Oakley (Honorary Cap[illegible] Battalion the Duke of [illegible] to be Captain and to c[illegible]).

THE SIR WILLIAM TAYLOR PRIZE.

The Sir William Taylor Prize of 25 guineas has been awarded to Major M. P. C. Holt, D.S.O., R.A.M.C., in recognition of distinguished professional attainments in surgery as evidenced by the returns of operations performed in Ireland. This prize is awarded annually by Sir William Taylor to the executive officer of the Royal Army Medical Corps on the active list, or on full pay employment below the substantive rank of Colonel, who shall, in the opinion of the committee, be most deserving on account of professional or scientific work.

THE WAR IN THE FAR EAST.

At a special sitting of the Medical Subcommittee held in Moscow on the organisation of the two flying hospitals being furnished at the expense of the local merchants' club it was decided, says the *Novosti*, to exclude entirely the female element from the staff to be attached to them. The horses required (45 in number) for their transport about the fighting zone will be procured in Manchuria.

Dental Surgeon H. O. Toone has been posted to Plymouth and Dental Surgeon A. F. A. Howe to Portsmouth.

Correspondence.

"Audi alteram partem."

THE HOLMAN TESTIMONIAL.

To the Editors of THE LANCET.

SIRS,—As treasurer and secretary of the Holman Testimonial Fund we ask your insertion of this letter and first list of subscribers. It is very rare in our own profession or any other that so consistent a course of public work and effort in the cause of charity can be found. In disregard of personal interest Dr. Holman has for the last 50 years taken more than his share, as a worthy successor to the Martins of Reigate, of the labour of love which builds up our medical charities. As founder and secretary of the South-Eastern branch and as treasurer of the British Medical Association he has advanced the progress of the Association and improved its finances, while as treasurer for 20 years of Epsom College he has fathered it and tided it over many difficulties until it is now recognised as a great public school with a greater future before it. It seems a worthy object to do something to mark time in such a career. In the church of St. Maria Antiqua in the Roman Forum are pictures of popes with square and round nimbi. The square nimbus is the mark of a living pope and such a one would we place on the head of our friend whom we desire to honour while living and we would do so in the manner most congenial to himself in some help to Epsom College associated with his name. We are sure that those most intimate with his work will be our helpers in this aim which we trust will lose no supporters from any inadequacy on the part of its promoters.

We are, Sirs, yours faithfully,
JOHN H. GALTON, M.D. Lond., Treasurer.
W. A. BERRIDGE, Secretary.

Subscriptions of any amount will be received by Dr. John H. Galton, Chunam, Sylvan-road, Norwood, London, S.E.

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THE PAINFUL PRONATION OF CHILDHOOD.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of March 19th, p. 820, a very useful summary is given of a paper by Professor A. Broca on the "painful elbow" or "elbow-sprain" of childhood. He has evidently overlooked an experimental research into this condition published by Mr. J. Hutchinson, jun., in the *Annals of Surgery* for August, 1885, otherwise your transcriber would scarcely have said that "there has been much uncertainty as to the exact lesion present." "The essential feature," writes Mr. Hutchinson, "of these far more common sprains in early life is the upward displacement of the orbicular ligament, to which I have hitherto found no allusion." There is a preparation in the museum of this college, placed there by Mr. Hutchinson in 1885, showing this condition. The fibres which bind the orbicular ligament to the neck of the radius are torn across and part of the orbicular ligament is wedged in between the head of the radius and the capitellum of the humerus. In considering the production of this condition most writers neglect the part played by the supinator brevis in retaining the head of the radius applied to the capitellum.

In young children, when caught suddenly by the hand and lifted, the supinator brevis is caught unawares and the strain, instead of being caught by this and other muscles, is thrown entirely on the ligaments, especially on the orbicular. There is a danger with the great modern rush of medical literature that valuable papers may be buried and forgotten and for that reason I draw attention to Mr. Hutchinson's paper.

I am, Sirs, yours faithfully,
A. KEITH, M.D. Aberd.
London Hospital Medical College, E., March 25th, 1904.

ON THE OPERATIVE TREATMENT OF RENAL HEADACHE.

To the Editors of THE LANCET.

SIRS,—A letter just received prompts me briefly to record its writer's case, which affords a striking instance of how headache of long standing and apparently due to deficient renal excretion may be permanently relieved by operative procedure. The patient is a married woman, aged 37 years. A year ago she had been subject to intense paroxysmal headaches for a number of years. Remedies proved of little or no use and the patient had been in the habit of shutting herself up and seeing no one during the attacks. She had recently had an attack of acute nephritis of the left kidney, with the result that the headaches had become even more frequent and severe. The patient was sent to Montreux to try the effect of change of climate and called on me first on Jan. 6th, 1903, to ask if I thought some other place would suit her better. She was in a condition of evident suffering, her face was drawn and her aspect was despondent. Her pulse was of somewhat high tension and the urine contained a little albumin. The abdomen was distended, the right kidney was in the neighbourhood of the caput coli and was freely moveable, and the left kidney was slightly moveable. After trying a variety of drugs, galvanism, faradism, compresses, and abdominal exercises with little result beyond rendering the abdomen less tense, I persuaded the patient to go into Professor Roux's clinique at Lausanne with a view to having a thorough examination made of the renal excretion.

On Feb. 25th an examination was made with Luys's bi-ureteral collector, a pill of methylene blue having been administered shortly beforehand. The two collecting tubes showed a nearly equal secretion of urine from either kidney, but the fluid from the left kidney was of a somewhat lighter colour than that from the right. A radiogram gave a negative result as regards stone. Thus, the condition of the kidneys was as follows: a highly moveable right kidney and a slightly moveable left kidney; the right kidney was small though healthy as far as could be ascertained by palpation, the left kidney having recently undergone an acute inflammatory process; no calculus was palpable in the right kidney; there was no indication of calculus in the radiogram of the left kidney; the right kidney functionally was more active than the left kidney, as was shown by the differential collector. With these facts before us the question was whether the headaches depended on the condition of the kidneys, if on one kidney more than the other, and on which, and whether operative interference would be likely to afford relief. Professor Roux decided on operating and selected the left kidney on the following grounds: that as a general rule a moveable left kidney produces more definitely marked symptoms than a moveable right kidney; that a kidney which is freely moveable produces less disturbance than a kidney which merely oscillates on its hilus; and that in the present case the left kidney had been recently inflamed and was probably surrounded by adhesions and that possibly it might contain a calculus.

On March 6th Professor Roux cut down on the left kidney, freed it from adhesions, and stitched it in position. From the date of the operation the headache decreased in intensity. On April 6th the patient came to Glion and on May 18th I saw her for the last time and I find the following entry in my notes as to her condition: "Patient looking remarkably well and bright" On March 7th, just one year after the operation, I received a letter from her, from which I give the following extract: "I have not had one bad headache since I came home and everyone here is simply amazed at the change in me."

If I may venture to trace the sequence of events in this case I should suggest that the slightly moveable left kidney gave rise to an irritative perirenal fibrosis resulting in the formation of a fibrous capsule which prevented the distension of the kidney under the influence of functional congestion. Hence defective excretion on the part of the left kidney, while the right kidney being moveable was not in a favourable condition for undergoing vicarious hypertrophy and doing double duty.

Note.—After perusal of this letter Professor Roux writes me that the headaches are perhaps rather to be regarded as part of a generalised nervous disturbance frequently associated with moveable kidney and to which it has hitherto been the custom to attribute certain forms of neurasthenia. Be the mechanism what it may, the fact remains that the treatment was in this case followed by most satisfactory results. I am, Sirs, yours faithfully,

Montreux, March 10th, 1904. STUART TIDEY.

SULPHONAL POISONING.

To the Editors of THE LANCET.

SIRS,—The following case may interest some of your readers and perhaps they would be able to confirm the diagnosis of sulphonal poisoning from similar cases they may have had. The patient, a colonel in the Royal Army Medical Corps, aged 50 years, while homeward bound from India was suffering from a "cold in the head" and took 20 grains of sulphonal; six or seven hours afterwards he experienced irritation and pain over the ankle joint. This caused him so much discomfort that four hours later he got up and examined his ankle, also noticing irritation at the knee and elbow. He discovered circular patches of erythema, varying in diameter from a quarter of an inch to one inch, over each of the joints above mentioned and also over two metatarsal and two metacarpal joints and one patch on the wrist of the same side. There was some œdema over the ankle, elbow, and metacarpal joints which was confined to the skin only. The redness disappeared on pressure. 30 hours after the irritation was first noticed the patient experienced the sensation of a blister forming, to use his own words, and noticed the exudation of a small quantity of clear serum. He was seen by three or four medical men on board who agreed that it was urticaria and treated him accordingly. I saw him on the third day and noticed two small patches on the abdomen. On the fourth day the patches were less distinct and the irritation was subsiding. I did not see the patient again but he has written saying that it has all disappeared. The patient said that 12 months ago he took 20 grains of sulphonal with a similar but less marked result; it was then put down to the malarial fever from an attack of which he was recovering. He enjoys excellent health, his only trouble being writer's cramp. The peculiarities of the above case are (1) the small amount of sulphonal taken—only one dose; (2) all the patches appeared simultaneously; (3) the position of the patches being, with the exception of two, confined to the neighbourhood of the joints; and (4) the length of time the rash remained, seven or eight days.

I am, Sirs, yours faithfully,
J. L. WHATLEY, M.R.C.S. Eng., L.R.C.P. Lond.
Aston Ingham, Ross-on-Wye, March 29th, 1904.

PNEUMONIA IN EARLY LIFE.

To the Editors of THE LANCET.

SIRS,—The following cases scarcely come under the heading of treatment by opium though minute doses were given in combination with iron. They occurred some years ago and nearly all in the month of March. With one exception they were patients of a Brighton medical charity and were treated at their own homes. All were, except Case 8, treated in the same manner with tincture of iron and tinctura camphoræ composita. In some poultices were applied for a time, followed by the application of camphorated oil, the thorax being then wrapped in wadding. The pallor and depression which pneumonia at times causes in young children have doubtless been often noticed by other observers. The notes are, I regret to say, exceedingly meagre.

CASE 1.—The patient was a boy, aged six years, with pneumonic consolidation of the right lung; the child was very ill. He was treated with tinctura ferri and tinctura camphoræ composita. Recovery ensued.

CASE 2.—The patient was a delicate infant, aged 15 months, with pneumonia of the left lung. There was tenderness on pressure. The child was treated with one minim of tinctura ferri and less than one-minim doses of tinctura camphoræ composita every four hours. Recovery ensued.

CASE 3.—The patient was an infant, aged 11 months, with pneumonia at the base of the right lung. The treatment was: 12 minims of tinctura ferri, ten minims of tinctura camphoræ composita, syrup, and water to one and a half ounces; one-twelfth part to be taken every four hours. Recovery ensued.

[illegible] years, after scarlet [illegible] doors. There was [illegible] ie right lung. The child was treated with tinctura ferri and tinctura camphoræ composita and recovery followed.

CASE 5.—The patient, a man, aged about 25 years, was found to be suffering from consolidation of the right lung. He had not remained in bed, though feeling ill. He was ordered to bed, treated with friction and with liniment and wadding, which latter he soon discarded on account of its heat. He was given tinctura ferri and tinctura camphoræ composita and some strychnia and made a good recovery.

CASE 6.—The patient was a child, aged two years. This little patient was seriously ill with a temperature of 103° F. There were broncho-pneumonia with diarrhœa, brain symptoms, and a brain cry. The diarrhœa—a sequel to castor oil—was troublesome, requiring bismuth and the discontinuance of the tinctura ferri which had been given with the tinctura camphoræ composita. The case was quite despaired of after a few days by me and also by the district nurse The diarrhœa, however, ceased, the brain symptoms passed away, and a complete recovery followed. This was the worst case of illness in the series.

CASE 7.—The patient was an infant, aged six or eight weeks. At the second visit I found pneumonia at the base of, I think, the left lung. Treated with tinctura ferri in one-minim doses a good recovery followed within a fortnight.

CASE 8—The patient, a baby, with pneumonia of the right lung, was treated with salines and small doses of aconite. Recovery ensued.

I am, Sirs, yours faithfully,
EDGAR DUKE, M.D. Durh.
Hove, March 28th, 1904.

TRANSPOSITION OF THE VISCERA.

To the Editors of THE LANCET.

SIRS,—A very [illegible] which I consider wort[illegible] ny experience. On M[illegible] sailor who had fallen into the hold of a ship called the *Kate Thomas*, lying in dock in this port. I found the man suffering from a severe sprain of the left hip-joint. In a *general examination for other possible injuries I* was astonished to find his heart, liver, and spleen situated abnormally as regards the mesial line. His heart was on the right of the mesial line and its apex beat could be seen one and a half inches below and a half-inch to the left of the right nipple. The second sound could be best heard in the first right intercostal space half an inch from the sternum. The liver was transposed to the left and the hepatic dulness, though embracing a field of normal extent, was wholly transposed. The spleen could be felt on the right side The man, whose name is Johan Heidenreich, is a Hollander, aged 41 years. He informed me that in 1880 he went to Amsterdam with the intention of entering the navy. The medical examiners, Dr. Zegars and Dr. Bienendyk, were surprised to find the viscera transposed and though the would-be recruit was quite healthy and sound they could not, in view of his abnormality, allow him to pass. When Heidenreich's physical peculiarity became known in Amsterdam it attracted much attention, an examination being made by Professor Stockfish and nearly a hundred other medical men. A petition was sent to the King praying that Heidenreich might be permitted to join the navy, but apparently the King could not see his way to over-rule the objection of the naval medical examiners, although Heidenreich's visceral abnormalities were not looked upon as in any way detrimental to his *health. The late Dr. Delanus, in* a *clinic relative* to Heidenreich's case, said that he had never seen, nor had he ever met anyone who had seen, such a case, but he believed that in the year he was born—1800—one was recorded in Vienna. Having been rejected by the navy Heidenreich tried for the army but was again rejected on the same grounds. Since 1882 he has been at sea, has sailed to all parts of the world, and was once shipwrecked in the Mediterranean. He has never been ill. He informs me that the Dutch and German journals devoted a good deal of space to his case.

I am, Sirs, yours faithfully,
WILLIAM HARTLAND.
Port Talbot, South Wales, March 29th, 1904.

ECLAMPSIA AND CHLOROFORM.

To the Editors of THE LANCET.

SIRS,—The case mentioned by Dr. J. F. Jennings in THE LANCET of March 19th, p. 793, brings to my mind a similar case to which I was called by a neighbouring practitioner about 22 years ago. The patient was a primipara, about 25 years of age. She had severe fits every few minutes. Labour had commenced, the os being dilated to the size of a five-shilling piece. I suggested the immediate administration of chloroform and the patient was kept under its influence until delivery was effected which was assisted by digital dilatation of the os and then the use of the forceps, and in about an hour the case was terminated, the fits ceasing in the course of another hour. The urine was highly *albuminous. The effect of the chloroform was so gratifying* that I should always do the same again in a similar case and not waste any time in trying other remedies. I have no notes of the case.—I am, Sirs yours faithfully,
Bristol, March 30th, 1904. A. H. HAINES, M.R.C.S. Eng.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Another Indian Municipality warned by Government for Neglect in Sanitary Matters.—Disposal of Contents of Septic Tanks—Increase in the Plague Mortality.—Quarantine for Indian Pilgrims to Mecca.—A Nursing Institute for Madras City.

I HAVE had from time to time to point to the serious shortcomings of Indian municipalities, more especially with regard to sanitary matters, and in some instances the neglect has been so flagrant that the Government has been compelled to deprive the defaulting bodies of their powers. An order has recently been passed by the Government of Madras against the Kumbakonam municipality. In financial matters great defects have been reported but in the sanitary department it appears that the chairman of this muni*cipality "has given no* attention to the supervision of the work of the chief sanitary inspector and his department, and that sanitary duties are neglected, filth is allowed to be deposited all over the town, persons committing nuisances are seldom prosecuted, the markets are in a disgraceful state, the private scavenging service is not progressing, there is no separate night-soil depôt, and the number of latrines and night-soil carts is insufficient for the needs of the population." In ten years the sanitation of this important town has been practically stationary, notwithstanding repeated recommendations by the sanitary officers, and no provision appears to have been made for carrying out any of the recommendations by the council in its annual budgets. The vital statistics of the town are reported as untrustworthy and there is no supervision over the work of the vaccinators. Notwithstanding neglect in every branch of the administration the Government is merely giving the council a warning and will allow the same body to continue in office for the present year. At this rate little progress will be made and I have no hesitation in saying that the council should be at once dissolved and the necessary powers for administration placed in other hands.

I regret to hear that the Lieutenant-Governor of Bengal has listened to the prayer of the Hindu community and has directed the discontinuance of the practice of discharging the contents of the septic tanks installed at a sparsely inhabited part of the river Hooghly several miles up from *Calcutta. Considering that the river is extensively used as* a latrine all along its banks and that drainings into it of all sorts of filthy matters is not prohibited the decision in this particular case is apparently intended to meet the sentimental wishes of a particular community. The disposal of sewage is a difficult one in India altogether and "throw backs" of this kind must be very disheartening to the promoters.

The plague mortality throughout India is steadily rising. For the week ending March 5th 28,919 deaths were recorded, as against 27,858 for the previous seven days and 29,648 for the corresponding week of 1903. The disease is increasing in the United Provinces, the Punjab, Bengal, and the Central Provinces. The detailed figures are: Bombay Presidency, 6442 deaths; United Provinces, 6910; Punjab, 5550; Central Provinces, 2040; Bengal, 3305; Bombay city, 964; Calcutta, 174; Karachi, 81; Madras Presidency, 674; Mysore State, 388; Hyderabad State, 813; Central India, 756; Rajputana, 427; and Kashmir, 395.

There appears to be ten days' quarantine at Camaran Island for Indian Mahomedan pilgrims to Mecca, notwithstanding that these pilgrims have already spent 15 days on board and the ship is classed as "healthy." The Turkish Government is to be asked to modify these hardships and to exempt the pilgrims from further quarantine provided the ship be passed as "healthy." An important point is that these pilgrim ships do not touch any intervening ports.

A scheme is on foot to revive the Madras Nursing Institute. The supply of trained nurses is now so uncertain that something in this direction must be done. A conference of senior medical officials and private practitioners in Madras was recently held and it was resolved to found an institute with an English-trained matron-superintendent and several locally trained nurses under her from which nurses can be supplied to up-country stations at reasonable rates. Considering that some of the railways have their staff of trained nurses Madras must be very behindhand. I understand that the Bengal-Nagpur Railway has English-trained nurses for the officials on the various sections of its line and there is the organisation started by Lady Curzon for the better supply of trained nurses at other than hospital towns and in the chief up-country stations.

March 19th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Death of Councillor R. W. Haines, M.R.C.S. Eng., L.S.A.

I MUCH regret to have to chronicle the sudden death of Mr. R. W. Haines, a highly respected member of the medical profession whose genial personality will be much missed in Birmingham and particularly in Balsall Heath, a suburb which he has represented upon the city council ever since it has been included within the city boundaries. Mr. Haines, who was one of the oldest practitioners in the city, was born at Bromsgrove and educated at the school in that town. He pursued his medical studies at King's College, London, and after qualifying came to Birmingham some 36 years ago and settled down in Balsall Heath. He always took a deep interest in public affairs and was a member of the local board of Balsall Heath while that district was still separate from the city. About 12 years ago it became included within the boundaries and Mr. Haines was elected one of its representatives on the city council. He was made a member of the free libraries committee and for some time was its chairman. In the work of this committee he always displayed a deep interest and in fact attended a meeting of one of its subcommittees the day before his death. He was also a member of the lunatic asylums committee and for two years was chairman of the Winson Green subcommittee. At recent meetings of both the above committees and of the city council resolutions of sympathy and condolence have been passed. Mr. Haines, who was in his sixty-first year, was suddenly seized with an attack of angina pectoris to which he succumbed in three hours.

The Dean of Worcester and Vivisection.

In my last letter but one I mentioned that at a meeting of the local branch of the Society for the Prevention of Cruelty to Animals, of which he was president, the Dean of Worcester made some remarks in favour of vivisection which were not received with general satisfaction. As a consequence the Dean stated that if his views were not in harmony with those of the members of the branch he should resign his position in connexion with it. Since this letter it appears that so much adverse comment has been made that the Dean has carried out his threat and resigned the presidency of the branch. At a meeting of the Worcester Medical Society the following motion was passed:—

> This meeting has much pleasure in learning that the Dean of Worcester is able to distinguish between the experiments made on animals for scientific purposes and cruelty to animals and begs to congratulate him on his action in severing his connexion with the Worcester Society for the Prevention of Cruelty to Animals, which appears unable to do so.

The Dean has expressed his thanks for, and gratification at, the resolution above quoted and in his reply states that a paragraph in the society's report had led him to believe that it had no objection to vivisection when conducted properly. It is much to be regretted that a society which does, and has done, so much really valuable work should mix itself up with an antivivisectionist propaganda which cannot be approved of by its more thoughtful and better-informed supporters.

Care of the Feeble-minded.

For a number of years the Birmingham education authority, whether school board or city council, has taken much interest in the subject of the care of feeble-minded children and recently the matter has been very much pushed to the front by the energetic action of Mrs. Hume C. Pinsent who is chairman of the subcommittee of the education committee charged with the care of the schools frequented by these unhappy children. A conference of the after-care committees of this city and of Leicester and Nottingham has recently been held in Birmingham and a large number of representatives of boards of guardians and education committees were present. The Lord Mayor, in welcoming the members of the conference to the Council House, where the meeting was held, said that he was glad that Birmingham should have been chosen for a conference of such national importance. Hitherto this vast subject had only been in the hands of those who had seen the great danger to the community generally by allowing feeble-minded members of society to go about in an untrained condition. These unfortunate people often fell victims to the evil-minded. Now that the town councils had undertaken educational work he hoped this matter would receive their attention. He knew it would be a surprise to many when they were asked to provide for the permanent care of the feeble-minded. As a matter of fact, these were already being accommodated in special schools, but after being kept there at great expense to the age of 16 years they were allowed to go adrift, many to make their reappearance in crime. In this way they really cost the public more than if permanent control had been taken of them. In the absence of Miss Dendy, secretary of the Lancashire and Cheshire Society for the Permanent Care of the Feeble-minded, a paper by that lady was read by Mrs. Pinsent. A child of low mental capacity but well trained, said the writer, would generally present a more favourable impression than one of higher intellect who had been neglected and thus it would be necessary for a careful medical examination to be made before admitting to a permanent home. In Manchester a school for the care of the mentally deficient had been established, but though of a voluntary nature it was in touch with the education authority. There was danger, she argued, in teaching children to earn their own living, for if they were allowed to go out into the world it increased the probability of their taking upon themselves the responsibilities of parenthood. This was one of the things to be guarded against, as the majority of feeble-minded cases were the result of some hereditary trouble. Unfortunately there was no power by which parents could be made to part with feeble-minded children and she contended that the Act of 1899 dealing with the control of imbeciles should be made compulsory instead of permissive. To her mind it was absolute cruelty to train children to the age of 16 years and then to turn them adrift to look out for themselves. What was necessary was that permanent residential homes should be provided. All they asked in connexion with the cost was that it should be borne equitably by the community instead of, as now, by only a section of it. Although there was little hope for the cure of the feeble-minded, if kept from danger they undoubtedly improved both mentally and morally, and being so safeguarded inflicted no hardship upon them. On behalf of the Birmingham education committee its chairman, Councillor G. H. Kenrick, welcomed the conference at its sitting in the afternoon. He urged them not to attempt to force legislation. In order to make legislation speedy it would be necessary to bring before the public such a multitude of facts that they would be convinced of its desirability and would not set up any hostile demonstration. Mr. W. H. Dickenson urged that the first care should be to stop the propagation of feeble-minded offspring. Dr. W. A. Potts, chairman of the Birmingham after-care sub-committee, described feeble-mindedness as a preventable disease and mentioned as the principal causes heredity, insufficient nourishment in childhood, criminal parentage, and chronic alcoholism of parents. Dr. S. H. Perry, alluding to the lack of nutrition in early life as a cause, contended that the municipality should supply sterilised milk as infants' food to poor people at less than cost price. A halfpenny rate, bringing in £6000, would provide for this and minimise the evil to a remarkable degree. A plea for better accommodation for non-pauper imbeciles was made by Mrs. Pinsent. She said that paupers were provided for and so should be the imbecile children of the working classes. Parents, to whom the idea of the workhouse was repulsive, would contribute towards the cost of maintaining their children. At the close of the conference resolutions were passed in favour of making compulsory the Elementary Education of Defective and Epileptic Children Act of 1899; that an inquiry should be held to consider the advisability of confining pauper and non-pauper imbeciles in suitable establishments on a different certificate from that now required; and that boards of guardians should receive 4*s.* per week for every harmless lunatic confined in homes provided by them to the satisfaction of the Local Government Board. The same subject was also brought before the recent meeting of the Birmingham Society for Promoting the Election of Women Guardians by Mrs. Pinsent, who strongly urged that the permanent care of the feeble-minded and epileptics should be in the hands of boards of guardians and not of city councils. I observe that Dr. Potts has been reading a paper on the same subject before the members of the Sanitary Institute in London. Dr. Potts detailed some facts learnt by him in Birmingham and stated that out of 46 cases on the list of his committee 18 were earning wages varying from 2*s.* to 12*s.* per week, the average wage per week being 7*s.* 1*d.*, so that these people were adding a really valuable sum to the weekly budget of the family. Ten out of these 18 were never likely to become permanently self-supporting and 23 out of the 46 cases should be segregated in a permanent home. Dr. Potts also stated that he had recently visited a number of charitable homes around Birmingham and examined 862 children. He found that 94 of these were so far mentally deficient as to require permanent care. Dr. Potts also stated that he had generally found that one or both of the parents of feeble minded children were drunken. He urged the necessity of preventing marriage among the feeble-minded.

April 4th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Hospital for Consumptives.

THE annual meeting of the friends and supporters of the Manchester Hospital for Consumption and Diseases of the Throat and Chest was held on March 23rd. The report told of increased work both at Bowdon, where the in-patients are treated, and at Hardman-street, where the out-patients attend. There was a deficit of £536 on the year's working. The Crossley Sanatorium at Delamere is not likely to be ready for patients till towards the end of the year. It may be remembered that Mr. W. J. Crossley is building this at a cost of between £70,000 and £80 000, but an endowment fund of £100,000 is needed for its maintenance, towards which £56,417 have been obtained. The chairman, Mr. W. J. Crossley, expressed his sorrow that consumption did not seem to be decreasing. It was estimated that there were 160,000 consumptives in the country and, so far as he knew, only about 60 sanatoriums, with about 2000 beds, and these almost entirely for rich people who could pay four or five guineas a week. He hoped county councils would quickly obtain and use powers for erecting sanatoriums, though he did not know that any had as yet done so. The Manchester Hospital had large numbers waiting for admission and while waiting their chances of recovery became less. He spoke of the danger of relapse when patients returned to "their old surroundings, the old infected dwellings, and suffered from want of food." Nearly 50 per cent. relapsed. Dr. J. Niven, medical officer of health, referred to the efforts of the corporation to prevent consumption by issuing instructions as to how to avoid the disease and by sending medical officers to visit the homes of the people. But in many of the wretched homes the instructions could not be carried out and the help of hospital treatment was necessary. He thought that the public, through the municipalities, should take up the question of providing hospital treatment for poor people.

Presentation of Address to Dr. A. Hodgkinson.

Before the close of the annual meeting of the friends of the Hospital for Consumptives a framed illuminated address was exhibited which the board of management and the medical board will present to Dr. A. Hodgkinson, the senior physician, on his retirement under the age limit rule. In association with the late Dr. Shepherd Fletcher he founded the hospital in 1875 and the address referred to his devoted services to the institution. The chairman said he would remain connected with the hospital as honorary consulting physician. Dr. Hodgkinson was unavoidably absent but the address will be formally presented by the chairman.

Manchester Infirmary Board.

Mr. W. Cobbett has been elected chairman of the infirmary board and there is no doubt that he will prove an efficient successor to the late Mr. John Thomson. He presided at the meeting of the board on March 28th, when it was reported that the plans of the proposed new infirmary buildings at Stanley Grove had been referred to the building committee with an instruction to ascertain to what extent economies can be effected. A resolution of sympathy with the relatives of the late Dr. F. Renaud was passed.

Exhuming a Body.

On March 26th an advertisement appeared in the Cheshire county newspapers of an unusual character. It was in the form of an apology from the Northwich burial board for removing a dead body from Lostock Gralam burial ground and undertaking to pay the costs of an action commenced in the King's Bench Division. It seems that there was a dispute with the Lostock burial trustees as to the position for a monument over the grave of the daughter of a parishioner. An order of exhumation was obtained from the Home Secretary. The burial board sent men "at the dead of night" who took the body from the grave and buried it again in the burial board's unconsecrated ground two miles away. This remarkable and most objectionable proceeding the board said was covered by the Home Office order but this was found to be an error. The diocesan authorities said that a faculty should have been obtained and that the Home Secretary had expressed personal regret that a licence was granted. This high-handed proceeding on the part of the burial board led to a writ being served on the board, which was followed by the board giving way, making a public apology, and settling the action commenced against it by paying the plaintiff's costs. One feels some regret that the members of the board instead of the all-suffering ratepayers have not to bear the expenses entailed. There is a strong feeling that graves should be respected as sacred even by burial boards.

The Levenshulme Anthrax Case.

Reverting to the case of anthrax which was mentioned in THE LANCET of March 12th, p. 760, it may be remembered that the farmer who sold the heifer left the infirmary while waiting to be conveyed to the Monsall Hospital. He went home and died in a day or two. The young man, Cresswell, who dressed the carcass for the Levenshulme butcher was taken ill and brought back from Sandbach and admitted to the Monsall Hospital, where he is said to be recovering. On March 22nd the butcher was summoned before the magistrates. The facts of the case were as follows. The heifer was on the farm of Pimlott, the owner, and on Feb. 23rd was observed to be ill. Next day some medicine was given to it but it did not improve and about mid-day Pimlott bled it to death when it was in a dying condition. Clarke, the butcher, sent Cresswell to dress it and he called Clarke's attention to the spleen which was enlarged. Notwithstanding this he bought the carcass, paying a low price. Professor S. Delépine certified Pimlott's case as one of anthrax and steps were taken to isolate the farm. The inspector ascertained from Clarke that the whole of the beast was sold except the tongue which was in pickle. The tongue, with other tongues and meat in contact with it, was seized and handed to Professor Delépine. His report was to the effect that he microscopically examined various parts of the seven tongues and found that one (numbered 691) was from an animal that had died from anthrax or had been killed in the last stage of the disease Anthrax bacilli were found still living and capable of rapid growth, were still virulent and capable of infecting animals. The defendant and his family, the solicitor stated, had partaken of the meat but neither they nor their customers, so far as was known, had suffered in the slightest degree. In answer to Mr. Yates, the stipendiary, Professor Delépine said there was usually no great danger from eating the flesh of an animal which had died from anthrax provided that the flesh was cooked. The danger arose when the flesh was not cooked before eating or was handled by persons with wounds on their hands. The defendant was fined £10 and costs and on the application of the prosecution £3 3*s* extra costs were allowed. It is clear that he was culpably careless but without putting him into that class it is to be feared that the race of slink butchers, whose business consists in dressing up diseased meat for sale, is by no means extinct.

April 5th.

WALES AND WESTERN COUNTIES NOTES.

(From our own Correspondents.)

"The Treherbert and District Medical Attendance Society."

Through the death of Mr. E. S. Warburton, who was surgeon to the Treherbert collieries in the Rhondda Valley, a vacancy has occurred in the position which he had held for many years and an alteration is to be made in the relations previously existing between the colliers and their medical officer. At all the collieries in the great Rhondda Valley the sum of 3*d.* in the £ is deducted from the colliers' wages by the managers and is paid over to the colliery surgeon who provides all the necessary medical assistance and pays the expenses of the practice, taking all the risk of the collieries working short time or being entirely closed, as many were during the five months' strike of 1898, when, as there was no money being earned by the men, there was no poundage for the surgeons, although there was no intermission in the medical attendance upon the colliers and their families. The Treherbert colliers have decided to give up this arrangement which has worked well for many years and have established the "Treherbert and District Medical Attendance Society," the object and rules of which follow very closely on the lines of a medical aid society and contain some of the objectionable features of the latter. It is proposed to appoint a "head doctor" at a salary of £450 per annum and one or more assistants at a salary of £200 per annum, each to pay his own rent and household expenses. The society will provide and pay for a groom, horse, and conveyance and will also provide and maintain surgeries and pay for all drugs and instruments required. The number of medical assistants is to be increased or reduced proportionately with the variation in the number of members in the society, but whether the "head doctor" or the society is to decide the need for additional assistance is not stated. Any person may become a member of the society who is employed in the collieries or other public industries in the district and who contributes to the funds 1¼ per cent. of his earnings, an amount, it will be observed, equal to the 3*d* in the £ formerly deducted in the colliery offices. Among the objectionable features already referred to is the admission to membership of the society of business and professional persons who contribute such a sum as may be determined by the committee but not less than 3*d.* weekly. No wage limit is fixed and the surgeon would not in any way benefit by increased contributions demanded from well-to do tradespeople or professional persons. The single contribution either from the colliers or other members, it should be stated, entitles not only the head of the household but also his dependents to medical and surgical attendance As it is not proposed that the colliers' contributions should be less than formerly it is difficult to understand what they are to gain by the alteration. They are promised that if the funds allow a nurses' institute shall be established and that the moneys of the society shall be applied for the medical benefit of the members in any form approved of by a general meeting. The president, treasurer, secretary, and three trustees of the society are to be paid for their services such remuneration as the committee, of which they are members, shall decide, and as it will no doubt be the duty of one of these officers to collect each month the contributions of the members it is obvious that the management expenses will not be small. One objection to the new scheme from the medical practitioners' point of view is that money contributed by the men expressly for medical attendance may be used to pay lay officials and, further, that the reputation of the surgeon may be used by the society to obtain increased monthly contributions from employés in private establishments or from business or professional persons; he may indeed be exploited by the society entirely for its own benefit The disadvantage to the colliers will be that they will not be able to secure the services, or at any rate the continued services, of surgeons with reputations equal to those of the gentlemen now practising in the Rhondda Valley. Most of these practitioners have been in the district for many years and they all have a distinct influence on the social life of the valley, but it is quite certain that there is not one of them who would have been satisfied for long with the exacting duties of a colliery practice on a yearly income of £450 in a district, moreover, where house rents are high and living is costly.

Prevention of Small-pox—Bristol Methods v. Leicester Methods.

At a meeting of the Bristol health committee held on March 17th during a discussion arising out of a communication received from the Imperial Vaccination League a member of the committee took occasion to compare the sanitary condition of Bristol with that of Leicester to the detriment of the former city and stated that Leicester was quite at the top of the tree as regards health. In January of last year this same gentleman persuaded the health committee to send through the town clerk a letter asking the Leicester authorities for details of their method of dealing with cases of small-pox. As at that time there were some 20 cases of the disease occurring weekly in Leicester the town clerk of that town no doubt thought he was being "chaffed" and made no response. The medical officer of health of Bristol (Dr. D. S. Davies) in a very exhaustive letter to the local newspapers has shown that however high Leicester may be in the sanitary scale Bristol is still higher if judged by certain standards. For example, in the ten years 1893-1902 the average yearly infantile mortality-rate in Bristol was 146 and in Leicester 191 and during the same period the average annual diarrhœa death-rate in Bristol was 0·67 per 1000 and in Leicester 1 53 per 1000. Dr Davies's comparison of the behaviour of small-pox in Bristol and in Leicester during the early months of 1903 is very striking He says: "In the first six months of 1903 small-pox was introduced into Bristol on 16 occasions—that is, on an average oftener than once every fortnight—but was kept under absolute control by common-sense methods which I need not detail and only caused three deaths. In Leicester during the same period under the operation of the 'Leicester method' small-pox assumed epidemic spread and caused more than 300 cases and 21 deaths—i.e., seven times as many deaths as in Bristol, although Leicester is a comparatively small town of 220,272 persons."

Cruelty to a Cow.

A cattle dealer was recently fined 40*s.* by the Neath magistrates for peculiarly gross cruelty to a cow. In order it is said that the cow might present a good udder in the market on the following day the dealer placed a rubber ring on each teat. A police constable found the animal groaning and evidently in great pain which was at once relieved upon the rings being removed and the milk drawn off.

Vagrancy in Glamorganshire.

The Bridgend board of guardians recently invited other boards in Glamorganshire to confer as to the best means of dealing with the increase of vagrancy in the county. A meeting of members of the boards was held on March 31st when a motion was passed urging the President of the Local Government Board to give speedy effect to his promise to hold an inquiry into the question of vagrancy, having regard especially to labour colonies and child vagrancy. A suggestion that a labour colony on the lines of the Salvation

Army colony in Essex should be established in the county met with some sympathy but no definite steps were taken in this direction.

Assaults upon Children.

The large number of young men in the colliery districts who lodge in the houses of their married fellow workmen no doubt partially accounts for the prevalence of offences against young children which is a deplorable feature of crime in Glamorganshire. At the last Cardiff Assizes Mr. Justice Walton in sentencing a youth to 18 years' penal servitude for brutally assaulting a little girl said: "If you had not been protected at all it seems to me that you, or any man guilty of such an offence, would be torn to pieces by his fellow creatures, but whilst the law does not allow the friends of those who are outraged in this manner to take their own revenge the law must inflict adequate punishment."

University College, Bristol.

An amateur performance of *The Schoolmistress* is announced to take place at the Victoria Rooms, Clifton, on April 29th and 30th. The performances, which will be under the direction of Dr. D. S Davies, are in aid of the funds to acquire an athletic ground for the students of University College, Bristol.

April 4th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Dispensary Medical Officers.

At a meeting of the Banbridge board of guardians held on April 4th a letter was received from Mr. Robert Martin inclosing a list of dispensary tickets for the consideration of the board as the persons to whom they were issued were in no way entitled to the benefits of the Irish Medical Charities Acts. In one case the relatives of the recipient are rated occupiers to the amount of almost £30 and in another case the ticket holder occupies between four and five acres of land. The guardians cancelled two of the three tickets, holding the third over for further consideration.

Irish University Education and the Cork Queen's College.

The city of Cork grand jury, consisting of some of the most representative gentlemen of the city and county, unanimously adopted the following motion recently:—

> That we, the grand jurors of the City of Cork assembled at the Spring Assizes of 1904, are strongly of opinion that the intellectual and material interests of the city demand that Cork shall continue to be a university centre; that the more highly trained the intelligence of a community the better fitted that community is to participate in the adminis[illegible]

The foreman having read the resolution for the presiding judge, the Lord Chief Justice of Ireland, his lordship stated he could not accept the resolution as it was outside the sphere of his duties and in the course of his remarks said, "they all knew how much he appreciated the intellect of Cork and the general ability of the citizens of Cork." He also added that "he appreciated and, if he might say so, agreed with the abstract considerations that were involved in the resolution."

Death of Mr. Hamilton Ross, M.D. Edin.

I regret to announce the death of Dr. H Ross at his residence, Ballynacree House, Ballymoney. He was a county Antrim man, born in 1829, the youngest son of the late Mr. John Ross of Drumagrove, Clough, Co. Antrim. Educated at the Royal Academical Institution, Belfast, he proceeded to the University of Edinburgh, where in 1855 he graduated M.D. He was also M.R.C.S. Eng. In 1854 he entered the Indian Medical Service in which he rose to a high position, being in turn physician to the Maharajah of Travancore and head of the medical service of that State and afterwards inspector general of prisons in Burmah. He subsequently retired and lived near Ballymoney, Co. Antrim. He married the eldest daughter of the late Judge Cook and has left one son (Dr. J. R. H. Ross) and five daughters. His death is deeply regretted by a large circle of friends.

April 5th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Infant Life Protection in a Small French Commune.

AT the meeting of the Academy of Medicine which was held on March 15th an account was laid before the meeting dealing with a letter addressed to the Academy by M. Morel who is mayor of the commune of Villiers-le-Duc (Côte d'Or). M. Morel set out the results which he has obtained during a consecutive series of ten years in his commune by the application of a few simple measures for the protection of infant life. The result is that the infantile mortality which at the beginning of the nineteenth century was 29 per cent. has within the last ten years in the commune in question practically fallen to nothing. The means adopted are as follows. Every necessitous pregnant woman who notifies her pregnancy at the seventh month at the Mairie is helped by the commune which provides her with a midwife and, if need be, with a medical man. After her confinement she receives one franc a day for ten days if she remains in bed. Every woman who has the care of a child is obliged to possess a sterilising apparatus if she does not suckle the child herself. All infants must be inspected every fortnight either at home or at the Mairie. In case of any infant being taken ill the fact must be notified at the Mairie within 24 hours. Finally, every mother or foster-mother who can exhibit her nursling in good health at the end of one year is given two francs for every month during which she has had the child under care. It is much to be hoped that the example of M. Morel will be followed by the mayors of many other communes.

A New Parasite.

At the meeting of the Academy of Medicine held on March 22nd M. Laveran reminded the members that on Nov. 3rd, 1903, he had shown specimens of a new parasite discovered in the Indies in the spleens of those patients who were suffering from an ill-defined form of fever (*fièvre irrégulière*). M. Laveran and M. Mesnil had described this parasite under the name of piroplasma Donovani. Now an army surgeon in Tunisia, M. Cathoire, has just sent to M. Laveran some scrapings from the spleen of an infant aged seven months which contained an abundance of parasites exactly similar to the piroplasma Donovani. M. Cathoire, who made a post-mortem examination of the body seven hours after death, stated that the spleen was 12 centimetres long by six and a half centimetres in width—i.e., it was much hypertrophied. These scrapings when stained by Laveran's method (blue with oxide of silver, eosine, and tannin) showed the parasites as oval or round elements, generally single, measuring from 2µ to 3µ in diameter. The protoplasm stained very slightly but there could be seen in the interior of each element a principal karyosoma which was round and an accessory karyosoma which was either round or staff-shaped and which stained better than the principal karyosoma. These karyosomata were sometimes in a state of division and M. Cathoire found in the general circulation bodies very similar to those found in the spleen. M. Cathoire's discovery is of great interest and it is to be hoped that medical men practising in Algeria and Tunisia will keep a look-out for cases of this disease and will collect information about its frequency and its clinical manifestations. Parasitic elements analogous to the piroplasma Donovani have been described as existing in the "buttons" which are endemic in certain hot countries—e.g., Aleppo button—and research might well be made into the question of the relationship, if any, which may exist between these "buttons" and the general manifestation of the parasite which has been observed in the Indies and by M. Cathoire in Tunisia.

Statistics of the Pasteur Hospital.

At the meeting of the Hospitals Medical Society held on March 18th M. Martin communicated the following figures from the Pasteur Hospital. From Oct. 1st, 1900, to April 19th, 1903, there were 2000 patients treated at the hospital with 189 deaths, or a mortality of 9.45 per cent. Cases of small-pox numbered 524, with 96 deaths; of diphtheria 443, with 50 deaths; of measles 126, with two deaths; of scarlet fever 92, with two deaths; of erysipelas 163, with 11 deaths; of non-diphtheritic sore throat 163, with three deaths; of suppurating glands 20, with no deaths; of hydrophobia 7, with 7 deaths; of chicken-pox 55, with 1 death; and of other diseases 179, with 17 deaths. There were 192 patients who were either mothers of sick children or children of sick mothers and among these there were no deaths. Finally there were 26 patients treated with antirabic antitoxin as a preventive and seven treated with antidiphtheritic serum as a preventive, with no deaths in either series.

A Case of Poisoning.

The Correctional Tribunal of Havre has just given judgment in a case of homicide by imprudence for which a hospital physician and the hospital dispenser were prosecuted. A child, aged six years, was given an injection of cocaine of a strength of 1 in 50 instead of 1 in 500 and died within a few minutes. The physician was fined 200 francs with a stay of execution. The dispenser was acquitted. The court held that the medical man had been imprudent in not himself verifying the solution and in allowing the syringe to be got ready by a porter and that he alone was responsible. The dispenser received the benefit of the doubt for the prescription could not be found and so its exact text could not be put in evidence.

April 5th.

NEW YORK.

(From our own Correspondent.)

Diphtheria on a Naval Vessel.

A very instructive instance of diphtheria occurring on board a naval vessel and its destructive effects before its nature was recognised is reported. The ship was the United States cruiser *Buffalo* which arrived at New York in October, 1902. Without being disinfected she proceeded to the Norfolk navy yard where she received on board 450 landsmen for training, making with her regular crew a total ship's company of about 750 men. During her stay of 44 days at Norfolk 38 cases of epidemic catarrh were treated and five cases of sore-throat. She left for New York and thence sailed to the West Indies on Dec. 12th; meantime ten cases of sore-throat appeared. Subsequently other cases occurred with severe general symptoms and swelling of the cervical lymphatics. On Dec. 22nd two cases appeared which were evidently of a more malignant character, one of which was fatal. The vessel arrived at Pensacola on Dec. 30th, having had 42 cases of so-called tonsillitis and eight of diphtheria admitted to the sick list. 48 cases were transferred to the naval hospital where bacteriological examinations revealed the true nature of the disease. The ship then went to Port Royal and on Jan. 22nd, 1903, she was vacated and thoroughly disinfected. On Feb. 2nd 206 men returned to the ship, the others remaining in hospital, among whom the disease continued to appear. On Feb. 17th the services of a bacteriologist were secured and the isolation of all having bacilli in the throat was rigidly enforced. This practice put an end to the epidemic. The total number of cases was 137. It thus appears that for nearly three months epidemic diphtheria prevailed in this small community, during which time the preventive measures which are recognised as most efficient were not employed. The lesson which this event teaches is of general usefulness but its special application to the medical department of the navy must be fully appreciated.

Candidates for the Public Health and Marine Hospital Service.

Very great importance is now attached to the qualifications of candidates for the positions in this comparatively new department of the general Government. Formerly the service was confined chiefly to the care of sailors sick in the ports of the country, but the recent legislation which placed this service at the head of our national public health system has added the whole realm of public hygiene, national and international. These positions have therefore become of vastly greater importance in the public estimation and the greatest care is taken in the selection of the officers to fill these places. From the announcement of examinations about to be held it appears that candidates must be of a high grade of education and character as certified by competent authority. The immediate examination for the service is of the most rigid and exhaustive character, covering the field of primary education, medicine and surgery, and, finally, the whole scope of hygiene, municipal, State, national, and international. These positions are now regarded by the highest grade of medical graduates as well worthy of their ambition. The tenure of office is permanent. The rate of pay is as follows: assistant surgeons, $1600; passed assistant surgeons, $2000; surgeons, $2500; commutation at the rate of from $30 to $50. All grades above that of assistant surgeon rece longevity pay, 10 per cent. in addition to the regular sal for every five years of service up to 40 per cent. after years' service.

The National Legislative Council.

The organisation of a National Legislative Council by Americal Medical Association was designed to provide a c mission, representing the medical profession, that shall h supervision of all measures relating to the Army, Navy, a Public Health and Marine Hospital Service that come bef Congress. A meeting of this council has recently been h at Washington and a large number of measures were brou forward for its action. Some of the more important are general interest. An effort is being made by the Pu Health and Marine Hospital Service to increase the capac of its hygienic laboratory and an appropriation was secu to erect suitable buildings. These buildings have b erected and, moreover, the scope of laboratory w has been greatly extended by the addition of th new branches—viz, medical zoology, pharmacology, chemistry. The council approved of the necessary legislat to carry this scheme into effect. The council also appro of a measure for establishing a corps of dentists and organising a corps of trained nurses in the United St navy. The council took action to have the Public Hea and Marine Hospital Service empowered to prepare and maintain a standard of antitoxin for determining the stren of antidiphtheritic serum and recommended that a diphtheritic serum should be introduced into the Uni States Pharmacopœia and that the standard prepared the Public Health and Marine Hospital Service should made officinal.

The New Mount Sinai Hospital of New York.

The opening of this hospital for inspection by the publi the popular event of the day. Upwards of 25,000 pe passed through the buildings in the two days of exhibit Judging it both in detail and as a whole it is undoubte the most perfect hospital construction in this country. Jewish charities of this city are of the highest grade excellence in construction, maintenance, and managem But in the lavish expenditure of money, to secure perfec of detail in even the most minute and unimportant feat of construction work, the New Mount Sinai Hospital excels any similar institution among us. This hospital originally located at Madison-avenue and Sixty-eig street where it had a long and honourable career. new hospital is located at Fifth-avenue and One Hun and First-street and occupies a block having a large expo upon Central Park. The entire cost of the hospital is upw of $3,000,000. The general arrangement of the build gives a central administrative building, with its offices residential apartments for the staff of officers: on one is a building for surgical cases and on the other a buil for medical cases, each being constructed in detail for special purposes; the building on the park side is devote private patients and its elaborate finish excels any hot the city; on the Madison-avenue side is the dispens every part of which is adapted in structure and equipn for its special work. The house for the training schoo nurses, the children's wards, the operating rooms which numerous and for special purposes, the pathological dep ment, the mortuary with its exquisite chapel, and the kitc and laundry are all, without exception, models in const tion and equipment. It should be stated that this hosp though supported by private funds, is never lacking in means necessary for its full and constant operation.

A Reserve Army Medical Corps.

A plan of having a reserve army medical corps has perfected by the Surgeon-General and approved by Secretary of War and will become law. The princ feature of the Bill authorises the President to issue c missions as first lieutenants in such corps to such gradu of reputable schools of medicine, citizens of the Uni States, as shall from time to time, on examination to be scribed by the Secretary of War, be found physica mentally, and morally qualified to hold such commissi the persons so commissioned to constitute and to be know the medical reserve corps. In emergencies the Secretar War may order officers of the medical reserve corps to ac duty in such numbers as the public interests require and may continue such officers on such duty so long as their services are necessary. It is provided that an officer of this corps who is unwilling to serve shall not be required to do so. When on duty such officer has all the authority and the full pay of a regular medical officer of the same rank.

March 26th.

Obituary.

FRANK RENAUD, M.D. EDIN., M.R.C.S. ENG.

By the death of Dr. Frank Renaud Manchester has lost her oldest consultant. Born in London in 1819 of an old Huguenot family, he appears to have begun some preliminary medical studies in England but soon went to Edinburgh where he took his degree of M.D. in 1844 and in the same year became a Member of the Royal College of Surgeons of England and a Licentiate of the Society of Apothecaries. He at once settled in Manchester and in 1845 was elected one of the physicians to the Ardwick and Ancoats Dispensary which has now developed into the Ancoats Hospital with 114 beds for in-patients. In 1848 he was elected by the casting vote of the chairman one of the honorary physicians to the Royal Infirmary. In those days the physicians and surgeons were elected by the votes of the infirmary trustees—i.e., by the subscribers of three guineas a year—and the proceedings resembled those of a Parliamentary election. The polling took place at the infirmary. Each [illegible] carriages were in [illegible] conditions took pl[illegible] and Dr. H. Simpso[illegible] Shortly afterwards another vacancy for a physicianship occurred, when Dr. Morgan, being unopposed, had a walk over. Soon after his appointment at the infirmary Dr. Renaud became lecturer on medical jurisprudence at the Pine-street Medical School but subsequently exchanged this position for the chair of morbid anatomy and pathology which he occupied with distinction. The Pine street school in course of time became the medical faculty of the Owens College but before that time Dr. Renaud had relinquished his connexion with the medical school. His opinion was much valued by the public and by the members of his own profession and in addition to his busy consulting practice he became the consulting physician to various lunatic asylums. His connexion with the Manchester Royal Infirmary, in which institution he always took the most affectionate interest, was maintained unbroken from 1848 to 1903 as physician, consulting physician, and advisory member of the board, to which honourable and complimentary position he was elected by the board of management in 1892. He was a man of what is called a conservative mind, clinging somewhat to the old ways and not fond of change for the sake of change, and so during the long drawn-out controversy as to the removal and rebuilding of the infirmary he was the staunchest and most uncompromising advocate of its retention in Piccadilly. When therefore it was decided by the trustees that it should be rebuilt in Stanley-grove he resigned his seat on the board, together with the chairman and the majority of the members. But the respect in which he was held by those who agreed with, and by those who differed from, him was so great that it culminated in the presentation to the infirmary of his portrait in oils which now hangs in the board room of the institution which had been so long dear to him and to which he had given so much of his time, his sympathy, and his talents. The late Mr. John Thomson, the chairman of the new board, in accepting the portrait, said that Dr. Renaud "had endeared himself to all who knew him by his courtesy and kindness and nothing could exceed the interest he had taken in the Royal Infirmary. There was no one whose likeness had a greater right to a place in the centre of that institution." His interests were, however, not confined to his professional work. He had a strong literary bent and was an enthusiastic antiquarian. In 1876 he prepared for the Cheetham Society "Contributions towards a History of the Ancient Parish of Prestbury," much of which information was embodied by Mr. Earwaker in his "East Cheshire, Past and Present," and led to his election as a Fellow of the Society of Antiquaries. He contributed many papers to the Transactions of the Lancashire and Cheshire Antiquarian Society on its establishment in 1883. In 1885 he wrote under the auspices and authority of the Manchester Royal Infirmary a short history of the "House of Recovery" in Aytoun-street, the fever hospital connected with the infirmary. At one time, indeed, the fever cases were treated in wards in the upper storey of the infirmary itself. Now they are dealt with at the Monsall Hospital which has passed under the control of the corporation. Until near the close of his life his energy and tenacious vitality seemed to endow him with perpetual youth and though living for many years at Prestbury and then at Alderley Edge, he would till quite recently go to his consulting rooms in Manchester, more perhaps from habit than for the fees which it pleased him to think an "octogenarian physician," as he called himself, might chance to pick up, and he was present at the annual meeting of the infirmary trustees a few weeks ago. He married late in life a lady of one of the Cheshire county families, who died two or three years ago, and left no family. His funeral at Alderley was marked by many tokens of respect and regard by members of the infirmary board and medical staff and by representatives of many public bodies as well as by private friends.

JOSEPH PEEKE RICHARDS, M.R.C.S. ENG., L.S.A.

Mr. Joseph Peeke Richards, whose death occurred somewhat suddenly at Ealing on March 22nd, will be regretted by the many friends who knew and esteemed his sterling qualities of character. He was the son of a medical man and was educated at King's College, London, of which he was an Associate, taking his medical diplomas in 1863. After qualifying he became house surgeon to the Stockport Infirmary; his next post was that of assistant medical officer at the Devon County Asylum whence he was elected to a similar post at the Hanwell County Asylum under Dr. J. Murray Lindsay. On Dr. Lindsay's resignation Mr. Richards succeeded him in the office of medical superintendent of the female department. Mr. [illegible] ties of this office for upwards of [illegible] success and ability. His con- [illegible] and his methodical habits and keen judgment made him a very successful administrator of the large establishment committed to his charge. His thorough general knowledge of his profession and careful study of his cases, in addition to his personal sympathy with his patients, showed him to be a most capable alienist physician. The deceased gentleman, who was 63 years of age, has left a widow and family to deplore their bereavement.

Medical News.

UNIVERSITY OF ABERDEEN.—The following candidates have completed the first medical examination:—

Ernest E. Allaway, John Anderson, Douglas Walker Bruce, A. L. E. Coleman, William Y. Davidson, Thomas Donaldson, Norman A. Duncan, James William Littlejohn, W. J. Macintosh, Daniel J. McKinnon, James M Mathieson, Harry Middleton, Secossene Pissroux, Walter Richards Stephen, Alexander Stewart and William Lemmon Stewart.

The following have passed a portion of the first medical professional examination:—

William Stephen Angus, George Davidson, John Geddes, Herbert Hargreaves, James B. McAllan, William George McDonald, Elizabeth McHardy, Elizabeth M. McLaggan, Andrew James Shinnie, Alex. D. Trail, M. J. Williamson, and Charles Coutts Wood.

The following have completed the second medical professional examination:—

William Bain, *Robert Chalmers, George Cooper, *James George Co[illegible] *M[illegible] †J[illegible] Im[illegible] S[illegible] Mc[illegible] Mi[illegible] Ja[illegible] Stu[illegible] Cri[illegible]

The following have passed the first portion of the second medical professional examination:—

Henry Begg, William Begg, Theodore Chalmers, James McK. Clark, Stewart O. Howard, Eneas K. Mackenzie, William A. H. McKerron, and John Murray.

The following have completed the third medical professional examination:—

*Robert Brown, Hubert K W. H. Dornhorst, Robert R. Duncan, Richard Eager, George J. Forgie, William Low, *James B. McDiarmid, James McIntosh, James Mackenzie, Kenneth Mackinnon, George Milne, Harry Ross Neilson, Paul B Roth, Robert F. Russell, James Archibald B. Sim, Charles M. Smith, *Robert H. Spittal, John H. Stephen, J. F. B. de Villiers, and Lisette A. M. Wilson.

The following have passed the first portion of the third medical professional examination:—

Mary R. Bisset and William Ewan Reid.

The following have passed the final medical professional examination for M.B. and Ch.B under the new regulations:—

George Adam, Aberdeen; Francis Anderson, Gamrie; William Beedie, Gamrie; †James Clark, Sorn, Ayrshire; Alexander Dyce Davidson, Aberdeen; Francis W. Davidson, Brompton, London; Alexander Duguid, Aberdeen; James Farquhar, Aberdeen; Alexander Flett, Findochty; Archer I. Fortescue, Aberdeen; James Alexander Gibb, Udny; James S. Gray; J. D. Henderson, Aberdeen; John Hunter, Aberdeen; Alexander Hutchison, Aberdeen; Herbert M. Jamieson, Aberdeen; F. Hernaman Johnston, Aberdeen; Neil Kennedy; William W. J. Lawson, Aberdeen; Donald McKay, Dufftown; Malcolm Macleod, Balallan, Stornoway; Charles G. MacMahon, Aberdeen; William M. McPherson, Newburgh; Alexander McRobbie, Aberdeen; Archibald D. Pringle, Aberdeen; James Robertson, Aberdeen; Alexander Nicolas Ross, Balintore, Ross shire; B. R. G. Russell, The Manse Walls, Orkney; Herbert W. B Ruxton, Balmacassie, Ellon; William Alexander Smith, Hatton, Cruden; and *William Wood, Peterhead.

M.B. and C.M. (Old Regulations).—Alexander S. Cardno.

* Passed with distinction. † Passed with much distinction.

Royal College of Surgeons in Ireland.—The following is the list of prizes awarded for the winter session, 1903-04:—Descriptive Anatomy: Junior: D. P. Clement, first prize (£2) and medal; and G. S. Levis, second prize (£1) and certificate. Senior: D. Adams, first prize (£2) and medal; and P. G. M. Elvery, second prize (£1) and certificate. Practical Anatomy: First year: G S. Levis, first prize (£2) and medal; and D. P. Clement, second prize (£1) and certificate. Second year. P. G. M. Elvery, first prize (£2) and medal; and T. A. Buchanan, second prize (£1) and certificate. Practice of Medicine: R Bury, first prize (£2) and medal; and P. D. Sullivan, second prize (£1) and certificate Surgery: J. S. Dunne, first prize (£2) and medal; and R. Bury and F. Lyburn (equal), second prize (£1) and certificate. Midwifery: J S Dunne, first prize (£2) and medal; and R. A. Brown, second prize (£1) and certificate. Physiology: D. Adams, first prize (£2) and medal; and T. Sheehy, second prize (£1) and certificate. Chemistry: D. P. Clement, first prize (£2) and medal; and A. E. S. Martin, second prize (£1) and certificate. Pathology: L. Lucas, first prize (£2) and medal; and P. D. Sullivan, second prize (£1) and certificate. Physics: A. E. S. Martin, first prize (£2) and medal; and W. G. Ridgway, second prize (£1) and certificate.—The lectures and practical courses of the summer session will commence on Monday, April 11th.

University of Oxford: Second Examination for the Degree of B M. and B.Ch.—The Board of Faculty of Medicine gives notice of the following changes in its regulations (see Examination Statutes, pp. 190, 191). The regulations under the heads of medicine, surgery, midwifery, and pathology have been amended and now stand as follows. V. Medicine.—The examination shall be held in the principles and practice of medicine and shall consist of the following parts: 1. A written paper of three hours. 2. Clinical work. This shall include (*a*) a full clinical report upon a given case, together with a statement of the treatment, and the writing of appropriate prescriptions; and (*b*) an oral examination upon other cases selected by the examiners. 3. Practical examination in the chemical and microscopical methods of diagnosis, such as the investigation of urine, identification of parasites, examination of blood, sputum, &c., and on the use of special instruments for diagnostic purposes. 4. A *vivâ voce* examination. VI. Surgery.—The examination shall be held in the principles and practice of surgery. (Candidates will be expected to possess a general knowledge of the surgery of the eye and ear). The examination shall consist of the following parts: 1. A written paper of three hours. 2 Clinical work, partly in writing, partly oral. 3. An examination in surgical anatomy, the methods of operations, questioning on the living or dead subject, and the use of surgical instruments and appliances. 4. A *vivâ voce* examination. VII. Midwifery.—As at present, except that the words "(1) paper work, (2) practical examination ......" have been replaced by the words "(1) a written paper of three hours; (2) a practical and *vivâ voce* examination. ......" In the *vivâ-voce* examination in medicine, surgery, and midwifery candidates shall be shown pathological specimens and shall be examined upon such appearances as bear upon the clinical aspects of disease. VIII. Pathology (including General Pathology, Morbid Histology, and Bacteriology).—The examination shall consist of three parts: (1) a written paper of three hours; (2) a practical examination of three hours; and (3) a *vivâ-voce* examination. These regulations will come into force at once and take effect at the examinations of Trinity Term, 1904.

Health of Gloucester.—The medical officer of health of Gloucester reports that during 1903 the death-rate of that city was 12·1 per 1000, being the lowest on record. The zymotic death-rate was 0·76 per 1000. The birth-rate was 28·2 per 1000.

Bristol Eye Dispensary.—The annual meeting of the subscribers to this institution was held on March 29th under the presidency of Mr. P. J. Worsley. The medical report stated that 2268 patients had been treated, being an increase of 444 as compared with 1902. During the year a large out-patient room and a waiting room had been added to the building. The financial statement was satisfactory and showed a favourable balance of £47.

The County Council Elections in the West of England and Wales.—To the names published in The Lancet of March 12th, on p. 760, must be now added those of Mr. John Beddoe, M.D., LL D. Edin., B.A, F.R.C.P. Lond., F.R.S., for the Bradford-on-Avon district of the Wiltshire county council; Mr. Mervyn Seppings Wilson, B.A. Cantab., M.R C.S. Eng., L S A, for the Chippenham district of the Wiltshire county council; Mr. Ptolemy A. Colmer, M R.C.S. Eng., L.R C.P. Lond., L.S.A., for the Yeovil borough of the Somersetshire county council; Mr. T. S. Hawkesford Hincks, M.D, C.M. Edin., J.P, for the Hay division of the Brecknockshire county council; whilst Mr. J. James, M.R.C.S. Eng., L.R.C.P. Lond., and Dr. Evans have been elected for the Taliesin and Nantcwnlle districts respectively of the Cardiganshire county council.

The Public House Trust.—The third annual report of the executive committee of the Central Public House Trust Association, of which Lord Grey is President, has just been issued and forms a pamphlet of some 200 pages, containing complete information relating to the 42 existing trust companies. The association was formed in 1901 with two objects: (1) to convert, wherever possible, the public-house from a drinking bar into a house of refreshment for the supply of wholesome food and non-alcoholic liquors as well as of beer and spirits; and (2) to provide such an organisation as will enable the licensing authorities to secure that all new licences with their high monopoly values shall be administered as a trust in the interests of the public and not by private individuals for their personal gain. According to the report, "the fear expressed in some quarters that trust management might tend to increase the national consumption of drink is shown to be unwarranted by facts, and evidence is given of the influence exercised in favour of the higher temperance by properly conducted trust houses."

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Drought, Percy J., L.R.C.S.I., L.K.Q.C.P.I., L.M., has been appointed Divisional Surgeon to the Police of J Division, stationed at Barkingside.

Griffith, W. S., M B., C.M Edin., has been appointed Certifying Surgeon under the Factory Act for the Milford Haven District of the county of Pembroke.

Hogg, Gustave H., M.D Edin., has been appointed Port Health Officer for Launceston, Tasmania.

James, Walter T., M.B., Ch.B. Edin., has been appointed Second Assistant Medical Officer to the Joint Counties Asylum, Carmarthen.

Jeffares, J., L.R.C.P., L R.C.S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory Act for the Kegworth District of the county of Leicester.

Jones, Herbert, L R.C.S. Irel., D.P.H, has been appointed Honorary Bacteriologist to the Herefordshire General Hospital, Hereford.

Mackinnon, Charles, M.A., M.B., C.M. Glasg., has been re-appointed Medical Officer for the South District by the Cirencester Board of Guardians.

PARKER, CHARLES, M.B., C.M. Edin., has been appointed Honorary Medical Officer of the General Hospital, Launceston, Tasmania.

SPROTT, GREGORY, M D Glasg , has been appointed Port Health Officer for Hobart Tasmania.

STUMBLES, H. M., M B., B S. Edin., has been appointed Certifying Surgeon under the Factory Act for the Amble District of the county of Northumberland.

THOMAS, JOHN LEWIS, M.R C.S , L S.A., has been appointed Medical

YOU [illegible] nty

YUL [illegible] to

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BURY INFIRMARY.—Senior House Surgeon. Salary £110, with board, residence, and attendance.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shad[illegible]

GREAT [illegible] Surgeon. Salary £90 per annu[illegible] washing.

HOSPITA[illegible] rmond street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

LEEDS HOSPITAL FOR WOMEN AND CHILDREN—Resident House Surgeon for six months. [illegible]

[illegible] Third Assistants to the [illegible] vices. Salary of First [illegible] Third £100.

[illegible] Surgeon. Salary £60 per annum, with board, washing, &c.

ROYAL FREE HOSPITAL, Gray's Inn road, W.C.—Resident House Physician and Resident House Surgeon (females), both for six months. Board, &c., provided. Also House Physician and Casualty House Surgeon [illegible]

ROY[illegible]

ROY[illegible]

SA[illegible]

SEAMEN'S HOSPITAL SOCIETY (Dreadnought), Greenwich, S E —House Physician. Salary £65 per annum. Also Junior Resident Medical Officer. Salary £40 per annum. Both with board, residence, and washing.

SOCIETY OF A[illegible] Surgery.

S[illegible]

T[illegible] House Surgeon

V[illegible] ne. Salary not [illegible] Victoria, 142,

V[illegible] Third Assistant [illegible], with apartments, board, &c.

Births, Marriages, and Deaths.

BIRTHS

BARTON.—On March 30th, at Redcliffe gardens, South Kensington, the wife of Charles N. Barton, L R.C.P. Lond., M.R.C S. Eng., L S A Lond., of a daughter.

LOCKYER—Mrs. Lockyer, wife of Cuthbert Lockyer, M.D., B.S., M.R.C P., F.R C S , of 117A, Harley-street, of a son.

SICHEL—On March 30th, at The Lawn, Guildford, the wife of Gerald Sichel, F.R.C S., late R.N., of a son.

MARRIAGE.

PARKER—WISE.—On April 5th, at St. Peter's, Eaton-square, by the Rev. C. S. Woodward, Arthur Percy Parker, M.A , F.R C S., to May, only daughter of A. J. P. Wise, of Belleville Park, co. Waterford.

DEATHS.

ARNISON—On April 4th, at Allendale Town, Northumberland, George [illegible]

BRO[illegible] Sanatorium, Robert Major [illegible] 44 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE OLD LOVE AND THE NEW.

WE have received a copy of the *Christian Science Journal* for November, 1903, which contains "an experience of one who practised medicine for 12 years and then came to Christian Science." The gentleman who communicates the story of his conversion from scientific medicine to Christian Science appears to have founded his change of tenets upon the fact that a child of his, having shown symptoms of hip disease, and having spent many months in the open air at "what is considered one of the most bracing seaside places in England," became better about the time when help was sought from Christian Science. We feel that a man with a mind so superior to all logic as to be able to argue in this manner must be terribly cramped by the common-sense definitions and limitations of medicine. For we observe that he has *ceased to practise* The causal relations of common events as revealed to trained intelligence by hard work could mean nothing to so soaring a spirit, and it is well that Mr. W. F. W. Wilding has ceased to practise medicine. But ought he to wear the favours of the old love while professing his affection for the new? Mr. Wilding signs his communication, "M.R C.S., L.R.C.P."

"THE FILTHIEST TOWN ON EARTH."

IN the *Times* of April 6th a special correspondent gives a graphic account of the Chumbi Valley and he describes the town of Phari as the filthiest town on earth. The sod-built hovels of one storey, or at most two storeys, high prop each other up. A blue haze from the dried yak dung fuel fills the rooms which are permanently covered with a layer of soot. Water is almost non existent except during the melting of the snow. The only access for light and air is a square hole in the flat roofs "In the best quarter of the town, that in which the houses are two-storeyed, the heaped up filth—dejecta and rejecta alike—rises to the first floor windows, and a hole in the mess has to be kept open for access to the door. .. .. In the middle of the street, between the two banks of filth and offal, runs a stinking channel which thaws daily. In it horns and skulls and bones of every beast eaten or not eaten by the Thibetans lie till the dogs and ravens have picked them clean enough to be used in the mortared walls and thresholds. .. ... Here and there a stagnant pool of filth has partially defied the warmth and carrion, verminous rags, and bones are set round it in the broken yellowish ice. ..... A curdled and filthy torrent flows through the market place and half breed yaks shove the sore eyed and mouth ulcered children aside to drink at it" The men and women never wash themselves. The extreme cold and the fact that the diminished atmospheric pressure at the altitude at which Phari is situated causes breathlessness and apathy to follow on the slightest physical exertion are, no doubt, contributing causes to this almost incredible condition of human existence.

TREATMENT OF FLAT FOOT.

WRITING on this subject in the February number of the *Birmingham Medical Review* Mr. Leonard Gamgee says that the primary cause of the ordinary or static form of flat foot lies, not in the foot itself, but in the muscles of the calf of the leg. The three chief muscles concerned are the tibialis posticus, the flexor longus hallucis, and the peroneus longus. The first of these, after passing round the back of the internal malleolus, passes under, and gives support to, the inferior calcaneo-scaphoid ligament, thus aiding that ligament in keeping in position the head of the astragalus, which is the keystone of the longitudinal arch of the foot. The flexor longus hallucis tendon forms the tie rod to the longitudinal arch; while the peroneus longus tendon, in crossing the sole of the foot from without inwards, is one of the chief forces maintaining the *transverse* arch. Weakness of these muscles lessens the support given by them to the arches of the foot and the whole stress of maintaining the arches is thrown upon the ligaments, which stretch, and so the condition of flat foot is caused. The calf muscles will nearly always be found to be weak, soft, and flabby and the treatment to be relied upon chiefly is that directed towards the restoration of tone and strength to these muscles. The patient should regularly, twice or three times a day, carry out the following exercises, the shoes, of course, having been removed. 1. With the toes turned in the patient raises himself on to tip-toe and then lets the heels drop to the ground again. This should be done quickly and repeated until the muscles of the leg feel tired. The turning in of the toes is essential to its success. 2. The patient, standing, should raise the inner border of the foot from the ground till the foot rests on its outer edge. The sole is then brought flat on to the ground again. This also should be done sharply and repeated a number of times. 3. The patient, sitting with the knees crossed, circumducts the foot from without inwards, sweeping the toes round as wide a circle as possible. At first the patient finds it possible to continue these exercises for only a few minutes, but the time can generally be lengthened as the muscles become stronger. Combined with the exercise, massage to the foot and leg should be done daily and the patient [illegible] to take a moderate amount of walking ex[illegible] standing. In incipient cases these [illegible] sufficient without recourse being had to any artificial support to the arch in the form of pads or metal soles; but in more severe cases a metal instep arch, properly fitted to the boot, is useful, while in still more severe cases the boot invented by H. O. Thomas is most serviceable, as it both gives support to the arch and corrects the tendency to valgus. When there is marked valgus, treatment by exercises and supports should not be commenced till the valgus has been overcome. This may be done in one of two ways: 1. By tenotomy of the peronei tendons. This certainly overcomes the valgus but it tends to cause flattening of the transverse arch and so is not, in Mr. Gamgee's opinion, to be recommended. 2. Under an anæsthetic steady traction is made on the foot in an inward direction. The peronei muscles can be felt to yield, the valgus disappears, and the foot can be brought into a position of slight varus. At the same time the arch can to a large extent be restored. In this position the foot is fixed in a plaster case, extending from the balls of the toes to just below the knee. The plaster case should be kept on for from three to six weeks; and on its removal treatment by exercises and massage as above described *must* be regularly persevered in and a Thomas's boot must, for some time at all events, be worn.

DR. J. T. C. CONRY'S DEFENCE FUND.

To the Editors of THE LANCET.

SIRS,—I thank you for the insertion of my letter in your issue of March 26th, 1904, and also for the annotation. My co-signatories have nominated Mr. Walter L. Roberts of 79, Cambridge-gardens, North Kensington, to act with me in the matter, and Mr. E. Canny Ryall of 30, Harley-street, W., and Mr. Albert Stephen Hayman of 45, Welbeck-street, Cavendish-square, W., have most kindly volunteered their advice and assistance and have expressed their willingness to receive subscriptions. We shall feel indebted to you if you will publish in your columns a list of contributions. The list of those who have subscribed up to this date is given below. I am, Sirs, yours faithfully,

EDWIN T. ENSOR.

162, Ladbroke-grove, North Kensington, W., April 5th, 1904.

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AN IMMENSE TRACT OF LAND WITHOUT MEDICAL MEN.

THE *Eastern Review* (Russian) says of the unsatisfactory state of affairs from the medical point of view in the Verchoyansk district, which is more than twice the size of France, that there are only one medical man, one accoucheur, and three field medical officers, of whom one lives at Zuluna, 1000 versts from the town of Verchoyansk, and two belong to the Verchoyansk syphilis infirmary, attached to which is a dispensary where the most necessary medicines are simply not stocked. The medical staff was changed lately but without improvement in the situation. The only patients received into the infirmary were those who could work. To the patients the ultimatum was recently presented, work or leave, and nearly all left—and it was winter.

NOTE ON THE VALUE OF GARLIC AS A TREATMENT FOR TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—Dr. Giulio Cavazzani's able article on the action of garlic as a prophylactic in cases of tuberculous infection, which appeared in THE LANCET of Jan. 9th, p. 90, and a further communication on the same subject by Dr. W. C. Minchin of Kells in *your issue* of Feb. 13th, p. 481, draw attention to a subject worthy of the closest consideration by medical men and experimental investigation by pathologists.

For some years past, as opportunity presented itself, I have been working out the influence exerted by garlic on such different forms of tuberculosis as have presented themselves for treatment in the military hospitals to which I have been attached. The garlic treatment was first brought to my notice owing to a relative of mine becoming infected with tuberculosis of the lungs whose sputum at the time swarmed with Koch's bacilli; this patient had a cavity in the left apex of the size of a walnut and also several consolidated patches in the lower lobe. He has been under continuous treatment with garlic for the past three years and has had his disease undoubtedly arrested as has been proved by repeated physical and bacteriological examinations. The treatment carried out by Dr. Minchin in his case I have adopted in my own cases in the army and have met with unqualified success, in so far that the disease has been temporarily arrested in all early cases and in several chronic fibroid cases which I have seen in consultation in private practice. I do not claim that each case has been cured, as tuberculosis of the lung may apparently appear cured while in [illegible] country, and were it not for the arduous strain of military [illegible] might have resumed their previous occupation in this country. I have also tried the external application of garlic crushed in a [illegible] applied as a poultice to tuberculous ulcers with most [illegible] results and strongly recommend its trial. It has a powerful germicidal action and when mixed with powdered [illegible] the power of cleansing and healing the most [illegible] On my arrival in India I was much interested to find garlic was used by the natives of this country and that it [illegible] been used for generations pa[illegible] for all forms of skin disease, [illegible] purating sores. They apply it [illegible] wood ash, and leave it on o[illegible] tion occurs. They also use it i[illegible] of dyspepsia and gastric catarrh and I am informed with [illegible] may add that in my cases of tuberculosis of the lungs I have [illegible] the expressed juice of the fresh plant mixed with a little water in [illegible] or two drachm doses taken before bed-time and first thing [illegible] morning internally, to have given the best results, and in bad cases [illegible] have used the expressed juice of the fresh plant alone (without [illegible] tion) on a sponge in a zinc inhaler (Burney Yeo's pattern) at [illegible] and also at intervals during the daytime, as well as [illegible] administration of the diluted juice. In no case have I found [illegible] when taken internally, to affect digestion, and after the first [illegible] my patients did not object to it, [illegible] improved their appetites and relieved [illegible]

I am, Sirs, yours faith[illegible]

E. BLAKE KNOX, M.D. Dub.,

Captain Royal Army Medical Corps, late Assistant [illegible]
Pathology and Bacteriology, Trinity College, [illegible]

Simla, March 8th, 1904.

THE MORPHIA HABIT.

To the Editors of THE LANCET.

SIRS,—Can any reader of THE LANCET recommend from [illegible] knowledge a comfortable and well-managed [illegible] England where the morphia habit is successfully treated? [illegible] no object. Bracing air, good cuisine, and plenty of [illegible] essential. I am, Sirs, yours faithfully,

[illegible] J.

March 31st, 1904.

CHLORIDE OF ZINC IN GONORRHŒA.

SURGEON writes: "Can any reader kindly name any book [illegible] as to the use of chloride of [illegible] other information the fol[illegible] for its use? Should it be [illegible] gnosed? What stre[illegible]h [illegible] how long to be ret[illegible]d in urethra each time, and should it [illegible] time of injectio[illegible] [illegible]ly long time to the external mucou[illegible] strength of the lotion varied? If so, [illegible] and the indications for discontinuing [illegible] or weeks is it usually applied?"

◆

M.B. will not find Dr. Maudsley's well-known book to [illegible] information which he seeks. The Transactions of the [illegible] Research Society, Modern Spiritualism, a History and a [illegible] by Mr. F. Podmore, the work by the late F. W. H. Myers [illegible] Personality after Death, the late Dr. F. G. Lee's book "[illegible] the Unseen," and Mrs. Crowe's "Night Side of Nature" migh[illegible] consulted.

Research is working at the subject of the reducing [illegible] creatinine and uric acid on Fehling's solution and would [illegible] to know of any works of reference dealing with it.

M.D.—The address of the British Syphon Manufacturing [illegible] 2, Gresham-buildings, Basinghall-street, E.C. The works [illegible] Barnsbury, N.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 7th,

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks
April 1	29·72	W.	0·03	103	53	41	42	46	
" 2	30·16	S W.	...	103	57	41	41	44	
" 3	30·00	W.	0 04	102	56	43	42	45	
" 4	29 99	W.	0 06	92	52	41	41	45	
" 5	30 05	S W	0 09	68	56	45	45	47	
" 6	29 77	W.	0 12	106	59	45	51	53	
" 7	29 80	W.	...	86	53	41	43	47	

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (11th).—*London* (2 P.M.), *St. Bartholomew's* (1.30 P.M., St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2 30 P.M.), Middlesex [illegible] M.), Chelsea (2 P.M.), Samaritan [illegible] 2 P.M.), Soho-square (2 P.M.), Ro[illegible] Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9 30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (12th).—London (2 P[illegible] Thomas's (3.30 P.M.), Guy's [illegible] minster (2 P.M.), West Lo[illegible] (2 P.M.), *St. George's* (1 P[illegible] (2.30 P.M.), Cancer (2 P.M.), [illegible] (9 30 A.M.), Royal Ear (3 P.[illegible] Throat, Golden square (9.3[illegible] (2 P.M.).

W[illegible] St. Bartholomew's (1.30 P.M.), University College [illegible] (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (14th)—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. [illegible] (9.30 A.M.), Guy's (1.30 P.M.).

FRI[illegible] Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (16th)—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.). Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

[illegible]

SOCIETIES.

MONDAY (11th).—MEDICAL SOCIETY OF LONDON (11, Chandos street, Cavendish square, W.).—8 30 P.M. Clinical Cases.

[illegible] —ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, [illegible] Dis- [illegible] nich [illegible] ntal [illegible] ayo [illegible] ncil [illegible] on's [illegible] W. [illegible] be [illegible] and [illegible] lical [illegible]).— [illegible] lect [illegible] to Mental Disease (opened by Dr. R. Jones, Claybury).

[illegible] ND CLIMATOLOGICAL [illegible] M. Discussion on [illegible]

FRIDAY (15th).—EPIDEMIOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8 P.M. Council Meeting. 8 30 P.M. *Meeting.*

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (11, Chandos-[illegible] shown by [illegible], Dr. A. [illegible] Papers [illegible]

LECTURES, ADDRESSES, DEMONSTRATIONS, &C.

MONDAY (11th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. *Dr. E G. Little: Clinique.* (Skin). 5.15 P M. Dr. G. E. Herman: The Induction of Premature Labour

TUESDAY (12th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON (Pall Mall East).—5 P.M. Dr. G. Oliver: Recent Studies on the Tissue Lymph Circulation. (Oliver-Sharpey Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. L. Williams: Clinique. (Medical.) 5.15 P.M. Dr. T C. Fox: Ringworm.

WEDNESDAY (13th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Berry: Clinique. (Surgical.) 5.15 P.M. Dr. H. Tilley: Nasal Discharges—their Diagnosis and Treatment.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Dr. R. P. Brooks: Methods for the Estimation of Refraction.

THURSDAY (14th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON (Pall Mall East).—5 P.M. Dr. G. Oliver: Recent Studies on the [illegible] (Oliver Sharpey Lecture)

[illegible] POLYCLINIC (22, Chenies-street, [illegible] Clinique. (Surgical.) 5.15 P.M. [illegible] in Women.

FRIDAY (15th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. E. Waggett: Clinique. (Ear).

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, [illegible] addresses of [illegible]

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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During the week marked copies of the following newspapers have been received: *Reading Mercury and Oxford Gazette, Liverpool Daily Post, Scotsman, Aberdeen Free Press, Aberdeen Free Press (Weekly), Buxton Advertiser, Boston Independent, Westminster Gazette, Hertfordshire Mercury, Literary Digest (New York), Windsor and Eton Express, Standard, Cardiff News, South Wales Daily News, Surrey Advertiser, Coventry Herald, Birmingham Daily Mail, Mining Journal, Local Government Chronicle, Ipswich Times, &c.*

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The Arris and Gale Lectures
ON
THE NEUROLOGY OF VISION.

Delivered before the Royal College of Surgeons of England on March 16th and 18th, 1904,

BY J. HERBERT PARSONS, B.S., D.Sc. LOND., F.R.C.S. ENG.,

CURATOR, ROYAL LONDON OPHTHALMIC HOSPITAL; LECTURER ON PHYSIOLOGICAL OPTICS, UNIVERSITY COLLEGE, LONDON.

LECTURE I.

Delivered on March 16th.

THE AFFERENT VISUAL PATHS.

MR. PRESIDENT AND GENTLEMEN,—The nerves which deal with the special senses are specially differentiated sensory nerves. In the process of differentiation, however, the analogies which they present to the ordinary spinal sensory nerves are greatly obscured and may be easily overlooked. Just as the segmental arrangement of the central nervous system is most manifest in the cord, becomes obscured in the medulla oblongata, and is scarcely appreciable in the higher parts of the brain, so the cranial nerves assume that increased complexity which is characteristic of the evolutionary process wherever it occurs. Considering first the mechanism of transmission and transmutation of an ordinary sensory impulse we find that the physical stimulus is received by an end organ and is there transformed into a nervous impulse. This is carried by a nerve fibre along the sensory nerve and the dorsal spinal root to the cord. It travels up in the posterior columns of the cord to the nucleus gracilis or the nucleus cuneatus as the case may be. The whole of this course is along the processes of a single cell or neuron, which has been called the neuron of the first order. The impulse is taken up in the nucleus gracilis or nucleus cuneatus by a second cell and is carried along the nucleo-thalamic tract or mesial fillet to the opposite optic thalamus; other fibres, especially those derived from the nucleus cuneatus, pass to the superior colliculus or corpus quadrigeminum. These cells in the nuclei gracilis and cuneatus are the neurons of the second order. A third cell, the neuron of the third order, situated in the thalamus or colliculus, carries on the impulse to the cortex cerebri. Here the nervous impulse is transformed into a psychic

pical.

the impulse in some physical
e are aware, no preparation of
fall upon the sentient surface.
rves with the exception of the
xtent, the auditory nerve. In
the former case, with which we are immediately concerned, the whole eye, with the exception of the retina, is a complicated mechanism for preparing the physical force, light, so that it may produce specific and complex sensations. It is well, therefore, to emphasise the fact that in dealing with visual sensations the stimuli themselves are composite, and for all we know each component may be provided with its own transmitting apparatus.

At the outset of our comparison of the anatomical structures for the transmission of visual and common sensations we are met with difficulty. The so called optic nerve is in no sense comparable with an ordinary sensory nerve. Morphologically and physiologically it is part of the brain. Careful investigation shows that the true optic nerve, corresponding with the sensory neuron of the first order, must be sought in the retina itself. Even so the analogy is not absolutely complete, for the dorsal root ganglion cell, which forms the first neuron, emigrates at an early stage of development from the neural crest and loses its connexion with the cord only to regain it at a later stage. The retina, on the other hand, develops entirely in the invaginated primary optic vesicle.

The morphology of the rods and cones.—If we seek the analogues of the successive sensory neurons in the optic system we are met with further difficulties. Histological investigations of the retina have shown that the conducting elements may be divided into three orders: (1) the rods and cones, with their nuclei, which form the main mass of the outer nuclear layer, and their processes which contribute to the outer reticular layer; (2) the rod and cone bipolars, which form the main mass of the inner nuclear layer with their axons, which contribute to the inner reticular layer; and (3) the ganglion cells, the axons of which form the nerve fibre layer, and the main mass of the so called optic nerve. We shall see later that the ganglion cells and their processes behave exactly like the second order of sensory neurons, a fact which affords further evidence that the optic nerve belongs essentially to the central nervous system. The neurons of the first order therefore must be either the rods and cones or the bipolars. In the former case an extra neuron is intercalated in the visual afferent path; in the latter no such assumption is necessary, but it remains to explain the nature of the rods and cones. There can be no doubt that the second view is the simpler and more probable. If we adopt it the rods and cones will be epithelial ependymal cells corresponding with Merkel's *Tastzellen* or touch cells and the epithelial cells of end organs, with the neuro-epithelial cells of taste-buds, the epithelium of the organ of Corti, &c. The olfactory nerve will prove the sole exception to such a scheme, the sensory neurons of the first order being here situated actually upon the surface like the sensory cells of some invertebrata.

If we consider the position of the retinal pigment epithelium and the rods and cones from an embryological standpoint it will be seen that they correspond with the lining of the primary optic vesicle—i.e., with a part of the central neural canal. This is itself an invagination from the surface epiblast, and its lining epithelium therefore will correspond with the superficial epithelium of the body. In the neural canal these cells become ciliated ependymal cells, so that their condition in the retina is merely a specific differentiation. Evidence in favour of the ependymal nature of the rods and cones has been brought forward by Krause. This tends to show that the outer limbs are really coiled up cilia. Verhoeff, working with me in the laboratory at Moorfields, supports and extends this theory by further observations. If the rods and cones are ependymal cells we might reasonably expect to find the pigment epithelium also showing traces of the same origin. By bleaching and special staining methods—e.g., Mallory's phosphotungstic acid hæmatoxylin—a membrane, resembling the external limiting membrane, can be made out surrounding the internal ends of the pigmented epithelial cells. The appearance in transverse sections is that of a delicate line running along near the inner margins of the cells. The latter project beyond it in the form of processes of variable length, showing that the line does not represent the inner contour of the cells. Black dots occur at regular intervals along the line, each occurring at the line of junction of two cells. On careful focussing it can be seen that the line is not always at the same level, evidently passing sometimes behind and sometimes in front of the cells. Hence it is difficult to photograph the membrane. In oblique sections the true structure is made more apparent, the membrane appearing not as a straight line but as a series of hexagonal loops which are fused together at the lines of contact so as to form a screen into the openings of which the pigment cells project. The little dots are the points of junction of the loops—i.e., the sections of the lines of contact.

The following considerations are in favour of this structure being a true fenestrated membrane. In the first place, it does not correspond in position with the margins of the cells; secondly, with phosphotungstic acid hæmatoxylin followed by acid fuchsin it stains blue, whereas the cells stain pink or not at all and show no vertical blue lines between them; thirdly, in certain places where two neighbouring cells have shrunken apart it remains intact; fourthly, it can be frequently seen projecting beyond a fragmented part of the pigment layer; and, fifthly horizontal hexagonal loops may sometimes be seen even in unbleached specimens, the cells having fallen out. The membrane is not simply the cement substance or neurokeratin envelope which lies between the cells. This does not stain by the methods used, but on careful focussing a bright line or space can be made out between the cells. Staining reactions tend to show that

No. 4207.

Usher and Dean suggest that fat may be removed from the degenerated nerve and carried by lymphatics and deposited in the opposite nerve. This is disproved by its absence in other parts of the nervous system, in spite of the innumerable researches carried out by the Marchi method. We are forced to conclude that the degeneration is a genuine one and, if so, what is the nature of the fibres involved? It is not probable, as Usher and Dean point out, that they are concerned in the pupillary reflexes, as these remain absolutely unimpaired. They must belong to some form of inter-retinal fibres—a reversion, in a sense, to the much-disputed inter retinal tract (commissura arcuata anterior of Hannover, vordere Bogencommissur of Stilling). Ramon y Cajal has demonstrated by the methylene blue method in rabbits a division of the optic fibres and Kölliker discovered an isolated example in a human fœtus. Bernheimer was struck by the variety in size of the fibres in the chiasma, so that it appears in many places as if the larger fibres divided. It is not improbable that the degenerated fibres in the nerve of the uninjured side are collaterals and that they may be distributed to physiologically corresponding parts of the opposite retina, possibly inducing chemical changes in the visual substances or movements in the cells and so afferent impulses which subserve a modified type of binocular vision. These fibres would therefore be centrifugal fibres. That fibres which are undoubtedly centrifugal occur in the optic tracts and nerves was first proved by the Golgi method by Ramon y Cajal and has been confirmed since by other methods (van Gehuchten, Held, Kölliker, and von Monakow) They arise in the external geniculate body, the superior colliculus, and probably in the pulvinar of the optic thalamus. They end by arborisation in the inner reticular layer. Their functions can only be conjectured and are possibly those already suggested for the inter-retinal collaterals. In all of my experiments there was some degeneration in both tracts. This may be explained partly by the diffuse injury which probably always results from the lesion and which is manifested by diffuse degeneration in the nerve. I do not think that this accounts for it entirely. There are apparently more fibres degenerated in the tracts than in the nerve and we are here more powerfully forced to the conclusion that division of the fibres occurs. Most of the experiments were temporal lesions, with a view of obtaining, if possible, a pure degeneration in the homolateral tract. In these cases the degeneration in the contralateral tract usually showed smaller black globules, as if less myelin was present. Probably these were finer fibres—in fact, collaterals.

The basal visual centres and the neurons of the third order.—The optic tract runs round the cerebral peduncle and divides posteriorly into two branches—a lateral and a mesial. The lateral root contains the visual fibres and ends in the lateral geniculate body; the mesial joins the mesial geniculate body and consists of fibres which are not connected with vision.

The lateral geniculate body, in which the great majority of the visual fibres end in man, consists of alternating layers of white and grey matter. The grey matter contains the cell bodies and dendrons of the optic neurons of the third order. The white matter consists of the axons of the neurons of the second and third orders—i.e., the ends of the fibres from the optic tract and the beginnings of the fibres from the geniculate body to the cortex cerebri. The latter pass out laterally into an area situated on the outer side of the external geniculate body, known as Wernicke's field. Here they are joined by similar fibres from the superior colliculus and pulvinar, the latter being ventral to those derived from the geniculate body. They all turn round the caudate nucleus and enter the optic radiation of Gratiolet. This forms a large sagittal bundle which passes backwards and upwards, outside the posterior horn of the lateral ventricle, to the occipital lobe. The fibres from the lateral geniculate body tend towards the neighbourhood of the calcarine fissure. They are well seen in Weigert sections of the brain of the newly born child, the other fibres being unstained, owing to their medullary sheaths not having yet developed (Flechsig). Flechsig thinks that the fibres from the geniculate body end exclusively in the calcarine fissure and represent the fibres from the macula. Other fibres from the optic tract pass into the pulvinar of the optic thalamus, which very much resembles the external geniculate body in histological appearance. The cells here, around which the fibres arborise, are also optic neurons of the third order. We have already referred to the relation of their axons—dorsal t those derived from the geniculate body. Their ultimat distribution is probably less localised, extending over a larg area of the occipital lobe. The last group of fibres from th optic tract pass to the superior colliculus or corpu quadrigeminum. Although this has a complicated structur in man it is a mere rudiment as compared with its cond tion in the lower animals. Without going into the details c its structure in man it may be said that it consists c alternate layers of white and grey matter, the actual surfac being covered by a thin layer of white fibres. The functio of these is unknown; they do not degenerate after remov of the eye. The principal optic fibres enter the middle whit zone, which is separated from the superficial white layer b the superficial grey layer or cappa cinerea (Tartuferi). The terminal arborisations are around the cells in the superfici and also in the deeper grey matter. It is noteworthy th the deeper fibres pass to the region in which the fibres fro the lateral fillet end. These ganglion cells of the superi colliculus are also optic neurons of the third order. A fe of their axons pass to join the optic radiation, though this is doubted by some. Most of them pass down and bend round the grey matter surrounding the aqueduct of Sylvius, decussate with those from the opposite side beneath the third nuclei and the posterior longitudinal bundle, finally entering the posterior longitudinal bundle as they pass downwards towards the medulla. In their course they give off collaterals which pass to the opposite superior colliculus to the third, fourth, and sixth and probably to other nuclei. It is certain, at any rate, that they enter into intimate relation with the nuclei which govern the eye muscles, a fact which accounts for the mechanism of the eye muscle reflexes.

The effects of experimental destruction of the corpora quadrigemina are important. Most of the earlier observers—Flourens, Longet, McKendrick, Bechterew, Ferrier, and others—found a constant relation between the anterior lobes and the visual sense. The loss of vision following destruction depended upon the amount of decussation at the chiasma. In animals with total decussation—any below the rabbit, including the guinea-pig, birds, and fish—removal of one optic lobe caused blindness of the opposite eye. In animals with binocular vision heteronymous hemianopsia occurred, as Bechterew showed upon dogs; bilateral destruction produced complete blindness. More recent experiments on Testudo palustris (Fano) and birds (Stephani) show that the blindness is not complete. Nothnagel and Eisenlohr, from pathological data in man, found no interference with vision which could be ascribed to the corpora quadrigemina, and the later experiments of Ferrier and Turner contradict the earlier observation of Ferrier that complete blindness follows destruction of both superior colliculi in the monkey.

Confining our attention to primates, histological evidence all points to the dorsal and superficial layers as being most intimately connected with the visual afferent system, whilst the deeper layers are concerned with the ocular motor nuclei. Stimulation of the superior colliculus in monkeys causes, amongst other phenomena, widening of the palpebral fissures, elevation of the eyebrows, and conjugate deviation of the eyes to the opposite side, accompanied by a similar movement of the head and neck. These results may be attributed to spread of the current to the subjacent motor nuclei, but this is contra-indicated by the different effects obtained from the superior as compared with the inferior colliculi. Ablation causes temporary deviation of the eyes to the same side, lasting only a few hours. No ptosis or ophthalmoplegia follows as long as the lesion is not sufficiently deep to interfere with the third nuclei. The anatomical relations involve the removal of one occipital lobe, with consequent hemianopsia. Apart from this there are no visual effects which can be ascribed to the corpora quadrigemina.

We are forced to conclude that the superior colliculi are relatively unimportant as regards visual functions in primates, though they still probably retain some importance in the coördination of the ocular movements, acting principally as a reflex centre, receiving afferent impulses from the retinæ, the cortex, the acoustic-vestibular system, and the spinal sensory system through the fillet and cerebellum. These functions are too complex and too easily replaced vicariously to be elucidated by the coarse methods of experiment. As the size and importance of the mesencephalic visual nuclei diminish in ascending the animal scale, so the size and importance of the diencephalic nuclei—the lateral geniculate body and the pulvinar of the optic thalamus, both of which must be regarded as nuclei of the diencephalon—increase. The pulvinar is large only in primates. Excitation of the thalamus produces very little result: ablation results in visual defects. A very important pathological observation was made by Hughlings Jackson in 1875. There was localised softening of the posterior part of the right optic thalamus; the visual defect consisted in left hemianopsia. Ferrier and Turner and Lo Monaco from experimental lesions found contra-lateral hemianopsia plus amblyopia of the whole field.

We are now in a position to realise the parallelism which exists between the nuclei under consideration and those belonging to the afferent tracts of common sensibility. The ganglion cell layer is found to correspond with the nuclei gracilis and cuneatus, whilst the termination of the optic tract in the superior colliculus and thalamus (lateral geniculate body and pulvinar) corresponds with the terminations of the nucleo-thalamic (mesial fillet) tract in the mesencephalon and diencephalon respectively.

Ramon y Cajal divides the optic path from these lower centres to the occipital cortex in two parts—a superficial and a deep. The superficial path, which is the less important, arises in the superficial layers of the lateral geniculate body and possibly from the stratum zonale of the thalamus. It curves towards the middle line, passing into the "central optic path" (Ramon y Cajal) of the cerebral peduncle. The deep path arises from the deep cells of the lateral geniculate body as well as from the stratum zonale and enters the central optic path on its mesial border. Some of the axons entering the central optic path undergo bifurcation, one branch ascending with the main bundle into the corpus striatum, the other descending towards the tegmentum. Ramon y Cajal suggests that the descending branches may represent a reflex path between the visual centres and the motor nuclei for the eyes, head, and neck. Ramon y Cajal succeeded in following the axons of the central optic path throughout their entire course from their entrance into the corpus striatum to their termination in the occipital lobe in the newly born mouse. He found that they were distributed to those areas of the cortex in which the white stripe of Gennari is best developed. This agrees with the embryological results obtained by Flechsig.

The cerebral visual centres.—Since the early part of last century it has been known that the cortex cerebri in the neighbourhood of the calcarine fissure possesses a characteristic structure owing to the existence in the centre of the grey matter of a white line which is easily visible to the naked eye. This has been variously termed the line of Gennari, of Vicq d'Azyr, or of Baillarger, after the original investigators. Since the earlier descriptions of Meynert, Krause, and Betz this region of the cortex has received special attention from Leonova, Hammarberg, Schlapp, Cajal, and most recently and most exhaustively from Bolton. According to the last-named author the calcarine or visuo-sensory cortex may be divided into the following layers: (1) outer layer of nerve fibres; (2) layer of small pyramidal cells; (3*a*) outer layer of granules containing pyramids; (3*b*) middle layer of nerve fibres or line of Gennari, containing the solitary cells of Meynert; (3*c*) inner layer of granules; (4) inner layer of nerve fibres containing the solitary cells of Meynert; and (5) layer of polymorphic cells. In the neighbouring visuo-psychic cortex the layers are: (1) outer layer of nerve fibres; (2) layer of small and large pyramids; (3) layer of granules containing pyramids; (4) inner layer of nerve fibres; and (5) layer of polymorphic cells. The third layer is therefore split up in the calcarine region by the intercalation of white fibres which undoubtedly represent the terminations of the tecto-pallial fibres.

I put before you illustrations showing the distribution of the visuo-sensory area in a previously healthy man, aged 55 years, who died from right lobar pneumonia. The results were worked out by Bolton with enormous labour and care by means of serial sections and micrometer measurements. The area occupies the whole of the body of the calcarine fissure extending above to the parallel cuneal sulcus and below to the collateral fissure. It occupies the posterior part of the calcarine fissure, extending round the pole to the outer surface of the hemisphere to a considerable extent, being surrounded at its postero-external extremity by well-defined sulci. Anteriorly it extends along the lower lip of the stem of the calcarine fissure almost to its anterior extremity. Bolton examined five other occipital lobes from various cases, one of which was a case of anophthalmia. He concludes from this research that the specific area is approximately pear-shaped wit

thick end at the pole of the

tribution it occupies: (1) the

including the anterior and posterior annectants, and extending upwards to the parallel cuneal sulcus and downwards to the collateral fissure; (2) the posterior part of the calcarine fissure extending to the polar sulci surrounding its extremities; and (3) the inferior lip of the stem of the calcarine fissure (including the superficial surface and lower lip of the cuneal annectant) nearly to its anterior extremity, just posterior to which the area tails off to a sharp point. The area is much decreased in extent, but not in distribution, in cases of old-standing optic atrophy. In anophthalmia it is much contracted as regards both extent and distribution. It then occupies the usual position in the stem of the calcarine fissure but only extends backwards as far as the posterior cuneo-lingual annectant and it is confined to a portion of the inferior lip of the fissure and to the cortex between this and the collateral sulcus.

At the junction of the area of special lamination with the surrounding cortex the line of Gennari suddenly ceases. In the area itself the line is decreased nearly 50 per cent. in thickness in old-standing optic atrophy and the outer granule layer more than 10 per cent. On the other hand, in the cortex surrounding the area referred to old-standing optic atrophy causes no modification of the lamination. In anophthalmia the combined outer granule layer and line of Gennari are narrowed down to two-thirds of the normal thickness, the other layers of the cortex being approximately unchanged. This amount of narrowing is the same as that found in cases of old-standing optic atrophy. Hence it may be reasonably concluded that the area thus localised is the primary visual region of the cortex cerebri and that the part of this area to which afferent visual impulses primarily pass is the region of the line of Gennari. Bolton thinks that the area can probably be described as the cortical projection of the corresponding halves of both retinæ. In this projection the part above the calcarine fissure represents the upper corresponding quadrants and the part below the lower corresponding quadrants of both retinæ.

Ferrier first described the occipital lobes in various animals as being excitable and giving rise to movements of the eyes to the opposite side. In experiments with Yeo he found that destruction of the angular gyri in monkeys produced loss of vision of the opposite eye. This result has since been quite disproved by Schäfer and Sanger Brown and others, the explanation of Ferrier's results being probably the injury of the underlying fibres in the corona radiata passing from the occipital lobes. H. Munk first showed that removal of the occipital lobe alone in

dogs and monkeys by partial extirpations. He came to the conclusion that in the dog the upper part of the retina corresponds with the anterior part of the visual area, the lower with the posterior, the mesial or internal with the mesial or internal, and the lateral with the lateral. Central vision was most represented at the posterior pole. Schäfer and Sanger Brown came to the conclusion that in the monkey central vision is represented in the neighbourhood of the anterior part of the calcarine fissure. Schäfer considers that in the monkey and in man the whole of the visual area of one hemisphere is connected with the corresponding halves of both retinæ, that the upper zone of the visual area of one hemisphere is connected with the upper zone of the corresponding lateral halves of both retinæ, similarly for the lower zones, and that the focal point of the visual area, which is placed on the anterior part of the mesial surface of the occipital lobe, is connected with rather more than the corresponding halves of both maculæ. Pathological observations confirm these statements for the most part. Lesions of the occipital lobe produce hemianopsia without affecting the pupil reflexes. The fovea almost invariably escapes. Lesions of the mesial surface near the calcarine fissure produce the most serious disturbance for their size. Von Monakow limits the visual area to the cuneus, the lingual lobule, and the occipital gyri; all parts of the macula are represented in both hemispheres and over the whole visual cortex. According to Henschen the visual centre is confined to the neighbourhood of the calcarine fissure, the upper lip being connected with the upper quadrant of the retina, the lower with the lower quadrant, and the macula with the anterior part of the area, each macula being represented on both sides.

As far as anatomical evidence goes it seems certain that most of the fibres from the lateral geniculate body end in the region of the calcarine fissure. According to Henschen all the visual fibres of the optic tract end in the external geniculate body, whence new fibres are carried to the calcarine fissure. Flechsig, too, finds the termination of the fibres of Gratiolet's radiation in the mesial surface of the occipital lobe and a small area close to the longitudinal fissure. On the other hand, von Monakow and others trace the thalamo-occipital fibres to the whole of the occipital cortex and possibly to the posterior part of the parietal lobe; those from the external geniculate body pass principally to the cuneus and lingual lobule. The idea that the macular region is represented only in the anterior part of the calcarine fissure is opposed by some pathological observations, so that Förster and Sachs consider the posterior part of the fissure the more probable. This view is similarly negatived by other cases, so that it seems probable that the whole length of the calcarine fissure is concerned in representation of the macula (Barker). Von Monakow assumes a wide distribution of the macular fibres in the external geniculate body, so that almost any portion of the occipital cortex is capable of receiving macular impulses. This view is opposed by cases of localised bilateral lesions of the occipital lobes, causing complete blindness, though in some of these there has been double hemianopsia with partial escape of central vision.

The Hunterian Lectures

ON

FRACTURES OF THE SKULL.

Delivered before the Royal College of Surgeons of England on Feb. 29th and March 2nd and 4th, 1904,

BY LOUIS BATHE RAWLING, M.B. CANTAB., F.R.C.S. ENG.,

SENIOR DEMONSTRATOR OF ANATOMY, ST. BARTHOLOMEW'S HOSPITAL.

LECTURE II.[1]

Delivered on March 2nd.

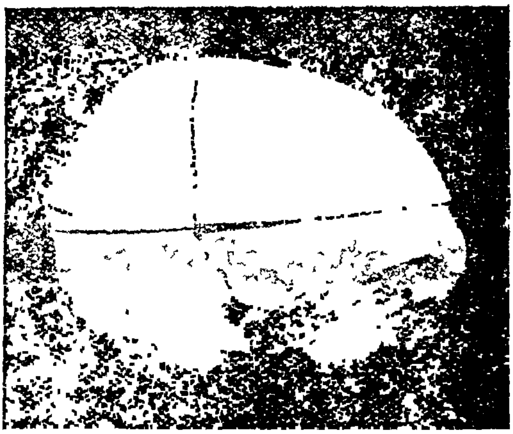
HÆMORRHAGES.

MR. PRESIDENT AND GENTLEMEN,—The various hæmorrhages that may result in skull fractures may be first classified into two main groups: (1) external hæmorrhages and (2) internal hæmorrhages. The first of the two groups may be subdivided into those hæmorrhages which result from basic fractures and those which are secondary to a fracture of the vault. The various extravasations into the tissues of the scalp would be included in the second subdivison, but as such hæmorrhages present but few points of new interest I do not propose, therefore, to discuss them further.

1. *External Hæmorrhages in Basic Fractures.*

Hæmorrhage from the ear.—The great majority of fractures which involve the middle fossa of the skull originate laterally at the external auditory meatus and pass inwards from that region towards the sphenoidal sinus. Both the roof and floor of the external auditory meatus may be involved, but the fracture is generally most marked along the roof. From this region the fracture passes towards the anterior and internal angle of the middle ear, the membrane undergoing a variable degree of destruction in the path of the fracture. The degree of membrane laceration corresponds to the severity of the fracture and the exact nature of the forces producing the fracture. For instance, if the fracture extends from the vault downwards to the base (Figs. 9 and 10) the membrane is generally torn in its upper and anterior part only, whilst if the fracture results from a direct blow on the auricular region the osseous injury is more extensive and the degree of laceration is added to by the forcible in-driving of air, whilst in the most severe cases the drum destruction is complete. The malleus and the incus undergo varying dislocations, but the stapes rarely undergoes any change in position. The blood which escapes from the ear will be seen to be derived from the lacerated cuticle lining the roof of the external meatus and also from a deeper region. Hæmorrhage is sometimes so profuse that one is quite unable to determine the exact source, but in favourable cases an otoscopic examination will reveal that the blood comes from the anterior and upper region of the tympanum, not so much from the torn drum itself but welling up fast through the gap in the drum. Post-mortem examination in such cases shows that the middle ear is full of blood derived from those torn tympanic vessels which, supplying the mucous lining and bony walls of the middle ear, lie in the path of the fracture.

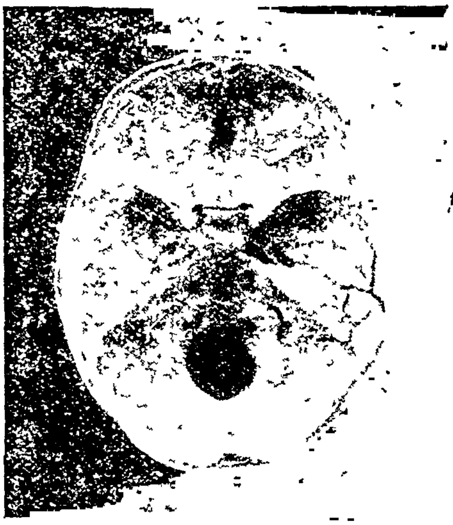
FIG. 9.



A fracture extending downwards from the vault to the base and involving the ear. The vault has been sawn through horizontally.

The amount of blood lost varies greatly. The escape may be profuse and may be continued for hours and even days, whilst in other cases there may be merely sufficient extravasation to clot and to dry up in the external meatus. I have had the opportunity of seeing several cases that throw light on the main causes which influence the amount of blood lost. The first case which drew my attention to the subject was as follows. A man was admitted with a wound on the right side of the head, the result of a fall, and with profuse hæmorrhage from the right ear, which lasted till death ensued, 14 hours later. The patient presented no symptoms pointing to extradural hæmorrhage, yet at the

FIG. 10.



Internal view of skull shown in Fig. 9. An extensive fracture of the middle fossa is present.

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[1] Lecture I. was published in THE LANCET of April 9th, p. 973.

post-mortem examination a very extensive hæmorrhage from ound, whilst the tegmen the blood having a free ear and so externally through the lacerated membrana tympani. On going into the question, in subsequent cases, I observed (1) that hæmorrhage from the middle meningeal artery is very much more common than is generally supposed to be the case, the slighter forms yielding no clinical symptoms; and (2) that the fissures running across the tegmen tympani are usually of such a nature that blood can be forced through them into the middle ear.

It should also be pointed out that the extradural extravasation exercises a great mechanical pressure, and that as the extravasation increases so in direct ratio does the pressure exercised by it on the surrounding structures also increase. Relief, therefore, takes place in such cases by the passage of blood into the middle ear and through the torn membrana tympani. I regard, therefore, profuse and continuous hæmorrhage from the ear as very suggestive of an accompanying extradural hæmorrhage and although it is, perhaps, too much to advocate trephination over the artery in all such cases yet I am strongly of the opinion that such a method is advisable when the general conditions are grave, even in the complete absence of the typical symptoms of middle *meningeal hæmorrhage. It is hardly necessary to add that* the closure of the external meatus with a plug of gauze kept in position with wool and bandage is the worst possible treatment, and I have seen, at any rate, two cases where such methods quickly resulted in an increase of compression symptoms and in accelerated death. Both these cases presented on later examination all the features I have alluded to. The application of a plug in the meatus may, perhaps, be used for diagnostic purposes, the patient being carefully watched and any alteration in the symptoms pointing to pressure over the motor area promptly treated by trephination.

It will be of interest to narrate briefly a somewhat similar *case reported by Chassaignac.*[2] *A man after falling down* an area had continuous hæmorrhage from the ear lasting for three days. He kept to his bed but on the third day, feeling otherwise well, he got up and walked briskly to consult a "wise woman." On returning he complained of fatigue and headache, the hæmorrhage now having ceased. He became delirious and died. The examination showed an extensive *fracture of the petrous bone with laceration of the lateral* sinus and a great extravasation from a ruptured middle meningeal artery. The blood poured out had escaped freely for three days, the passage had then become blocked, and death resulted. In stating, therefore, that free hæmorrhage from the ear suggests strongly an extradural hæmorrhage from the middle meningeal artery it should be added that the blood may be derived from a lacerated venous sinus, this latter condition being, however, much more rare than the former.

Hæmorrhage from the ear does not, of course, necessarily imply the existence of a basic fracture. The membrane alone may be ruptured as the result of a blow on the ear. The resultant hæmorrhage is, however, seldom profuse and the absence of any further symptoms will soon clear up the diagnosis. From my own experience, however, I think that too much stress is laid on the fact that hæmorrhage from the ear results from other causes than a basic fracture and I regard this symptom, when secondary to a blow on the head, as practically diagnostic of the particular fracture of the *middle fossa to which I have alluded. In some few cases* hæmorrhage occurs from both ears, usually as the result of a bilateral compression, the fracture running from one external auditory meatus to the other, involving both tympanic cavities and the body of the sphenoid in the middle line. In these cases also the fracture frequently extends on either side up on to the vault in such a manner that the skull is practically *divided into two parts, merely* united by the soft structures. The prognosis in these cases is necessarily grave but the marvellous vitality of young adults enables them to recover even in such adverse circumstances.

Hæmorrhage into the nasal *cavity and into the naso-* or both of these cavities is ms in fractures of the base, for it occurs in nearly all fractures involving either anterior or middle fossæ. The post-mortem lesions found in these cases are comminuted fractures of the cribriform plate of the ethmoid and of the sphenoidal body.

I have already pointed out that most anterior fossa fractures traverse the cribriform plate of the ethmoid, a fairly free hæmorrhage resulting from lacerated ethmoidal arteries, whilst the very great majority of fractures of the middle fossa tend to pass through the sphenoidal body. Now this sphenoidal body, which is in reality one of the weakest of the basic areas, consists of a mere shell of body inclosing the air sinus and bounded laterally by the cavernous sinus, on the outer side of which the internal carotid artery runs. The liability of this region to injury is so marked that although a fracture passing along the anterior border of the petrous bone may tail off before reaching this region, yet in many cases the conducted forces suffice to bring about an extensive fracture on reaching the sphenoidal body. These fractures are generally comminuted, both roof and floor of the sinus being equally damaged in such a manner that a probe may be passed from the cranial cavity into the naso-pharynx below. The comminuted sinus wall punctures or tears the cavernous sinus, profuse hæmorrhage resulting, whilst in the most severe cases the internal carotid artery itself may be completely torn across. In the only two cases that I have seen where the carotid artery was torn blood poured into the naso-*pharynx, gushed from the mouth in streams, and death*

The results produced both from actual nd from pressure on the nerves supplying the muscles; (2) subconjunctival hæmorrhage; (3) palpebral and peri-palpebral hæmorrhage; and (4) proptosis. The muscular paralyses will be alluded to under "nerve implication"; the other symptoms need, however, further reference.

Subconjunctival hæmorrhage.—Hæmorrhage beneath the conjunctiva nearly always makes its appearance at the outer canthus of the eye, progressing inwards towards the corneoscleral margin. *In the more marked cases the extravasation* may completely surround the cornea, bulging forwards so as almost completely to obliterate the field of vision. Even in these cases, however, the hæmorrhage is most extensive at the outer canthus. When combined with some degree of proptosis, the probable fracture present is one which involves the region of the sphenoidal fissure, with implication of the *anterior part of the cavernous sinus. When no proptosis is* present the fracture is commonly due to a blow in the temporal region involving the outer orbital wall.

Palpebral and peri palpebral hæmorrhage.—Hæmorrhage into the eyelids and into the loose connective tissue surrounding the lids is seen in most cases of anterior fossa fractures. It frequently coexists with subconjunctival hæmorrhage but the two are not necessarily present together. It differs from subconjunctival hæmorrhage in its site of early origin, for palpebral hæmorrhage nearly always begins at the inner angle of the eye, progressing outwards into the tissues of the upper and lower lids and into the surrounding regions. The extravasated blood may be wholly anterior to the tarsal and ligamentous structures of the lids, in which case the fracture usually involves the perpendicular plate of the frontal bone only. More commonly, the fracture extends along the orbital roof, perhaps involving the sphenoidal sinus, in which case palpebral hæmorrhage, subconjunctival hæmorrhage, and proptosis may all three be present together.

Proptosis.—The time at which proptosis first becomes evident and the degree to which it progresses are both very variable. One can, however, tabulate these cases roughly into three main groups and from them draw certain conclusions as to the probable nature of the injury present.

1. Proptosis severe, appearing almost at once, and progressive.	1. A severe fracture in the region of the sphenoidal fissure and cavernous sinus with
2. Proptosis moderate and appearing after a few hours.	2. A fracture involving the orbital walls, the extravasated blood being derived from lacerated ophthalmic vessels.
3. Proptosis appearing days or weeks after the injury and usually steadily progressive.	3. A fracture involving the region of the cavernous sinus with injury to the internal carotid artery and with the formation of a fistulous communication between the sinus and the artery.

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[2] Plaies de la Tête, 1842.

I have alluded several times to the sphenoidal fissure as a region which, when involved, may result in fairly extensive hæmorrhage. I should remind you, perhaps, that the orbital branch of the middle meningeal artery runs forwards to the orbit at the outer angle of the fissure and that this vessel is commonly injured in all fractures involving this region, adding, therefore, to the blood extravasation which results from fractures involving this region.

Hæmorrhage into the mastoid and occipital regions.—In fractures of the posterior fossa the blood poured out has but little chance of making itself evident owing to the dense mass of muscles and fasciæ which overlie that fossa. The resistance offered by these structures tends to confine the extravasated blood to the cerebellar fossæ, adding consequently to the already grave prognosis of fractures in this region. Sometimes careful palpation will detect a "doughy" or "boggy" condition of the tissues and ecchymosis may appear later from the extravasation of blood upwards on to the vault and downwards into the neck. A peculiar ecchymotic patch is frequently seen, appearing first in front of the apex of the mastoid process and travelling upwards in a curved direction, concavity forwards, following the outline of the external ear. This ecchymosis is said to result from the tracking of blood upwards along the course of the posterior auricular artery. In all the cases that I have seen this condition was associated with a separation along the occipito-mastoid suture and although this suture and the line of the hæmorrhage do not quite coincide there must, I think, be some connexion between the two. Before passing on to the subject of intracranial hæmorrhages I wish to return to the subject of

"Orbital aneurysm."—The first complete account of this complication was given by Rivington in 1875.[3] I have collected 20 further cases, in all of which the history and other symptoms strongly indicated the previous existence of a basic fracture. 16 of these cases were males and four were females. The average age of the males was 22 years and that of the females was 33½ years. The injury consisted of blows or falls on the head in 18 cases and of punctured wounds of the orbit in two cases.

I will pass over most of the more important subjective and objective symptoms, confining myself mainly to the question of treatment. In discussing this, however, it is necessary to pick out one or two of the more important symptoms so as to obtain some record as to the way they are affected in the various methods adopted. Proptosis is usually the first symptom to appear and many patients come for advice complaining of nothing more than some prominence of the eyeball, combined usually "with noises in the head," compared to the whirring of machinery, the buzzing of bees, or the thud of a steam-hammer. This proptosis generally appears during the second month, though occasionally its onset is much earlier, and in one case was not noticed till nearly a year after the accident. The eyeball is dislocated downwards and outwards, the main pulsating tumour occupying the upper and inner angle of the orbit. All the main symptoms were diminished by compression of the common carotid of the affected side and the symptoms steadily increased in most cases when no treatment was adopted, the globe being pushed further and further out of its socket, even on to the cheek. The cornea sloughed and the eye was completely destroyed. Repeated and profuse hæmorrhage will ultimately lead in these cases to a fatal result. In some few cases the symptoms remained quiescent, whilst in others expectant treatment resulted in marked improvement. The treatment adopted in these 20 cases was as follows. 1. In 12 cases the common carotid was tied with a primary ligature in six cases and with a secondary ligature after failure of other methods in six cases. The result was great improvement in all. 2 In four cases no treatment was adopted beyond rest, &c., combined with the administration of sedatives and of iodide of potassium in large doses, with the result that two improved in their general condition, one remained *in statu quo*, and the fourth case was unable to be traced. 3 In ten cases digital or instrumental pressure on the common carotid was tried first, with the result that three showed marked improvement, one remained *in statu quo*, whilst in the other cases, either on account of the pain produced or from failure to obtain any satisfactory result, the common carotid was ligatured, in each case with an immediate successful result. The actual method of compression adopted varied in the different cases; in some a continuous mechanical pressure was used by means of an instrument, whilst in others an intermittent digital method was tried. In one case continuous pressure was adopted for one month and in another intermittent pressure was used for ten weeks, and in each case the result was a complete failure to produce a successful result. In the 12 recorded cases where the common carotid was ligatured the result obtained was an immediate success, the main aneurysmal symptoms rapidly disappeared, the pulsation ceased, the proptosis diminished, and the patients were later able to return to their former occupation. In one case only, however, was there a complete return to the normal, for in all the others some permanent defect in vision remained, due mainly to the previous stretching of the parts, and in two cases the operation was not carried out sufficiently early to prevent some sloughing of the cornea. The noises in the ear, also, though much diminished, occasionally remained permanently.

The conclusions to be drawn from these cases, according to the method adopted, are as follows: 1. By means of rest, &c., the progress of the disease may be arrested and marked improvement may result. 2 Compression, digital or instrumental, intermittent or continuous, is painful, tedious, and uncertain as to its result. 3. Ligature of the common carotid will almost certainly greatly improve the local conditions and will probably effect a cure, and the earlier the ligation is performed the greater is the chance of reducing to a minimum the subsequent corneal sloughing, &c. No cerebral disturbances need be feared as a result of tying the common carotid unless as a result of the original injury some laceration of the same side of the brain be present. In such cases it is best to accustom the brain to its future condition by some "preparatory" form of treatment as could be brought about by occasional intermittent pressure before the more radical treatment.

Post-mortem evidence of the lesion present.—Three of Rivington's cases showed a direct communication between the internal carotid artery and the cavernous sinus. In the 20 subsequent cases which I have collected an examination was only held in one and in this case the artery communicated with the sinus by two rounded holes through which the arterial blood was pumped into the cavernous sinus. A united fracture of the petrous bone ran inwards towards the sinus.

The basic fracture peculiar to these cases.—I have previously pointed out that in basic fractures, wherever the injury may be received, the body of the sphenoid, forming one of the weakest of the basic areas, is especially liable to injury, and I shall show later two specimens where the internal carotid artery was lacerated in this region. The exact line of the fracture is not stated in the majority of the recorded cases, but putting all the facts together it appears probable that when orbital aneurysm results from a blow on the head the most common fracture producing such a result will be one which travels along the anterior border of the petrous bone to the cavernous sinus, injuring the internal carotid artery as it runs forwards along the outer part of the cavernous sinus.

2. *Internal Hæmorrhages.*

According to the relation of the extravasated blood to the meninges and cerebrum these hæmorrhages may be classified in the following groups: (1) extradural; (2) intradural; (3) cortical; and (4) intraventricular.

Extradural hæmorrhage may be arterial or venous, in the former case the blood being derived almost exclusively from the middle meningeal artery. A purely venous extradural hæmorrhage is occasionally seen in connexion with fractures of the posterior fossa, in those rare cases where the lateral sinus is mainly torn on its outer aspect. The extravasated blood is unable to find any means of escape owing to the dense mass of muscles attached to the occipital bone, and as the dura mater is in this region but loosely applied an extensive extradural clot results. The middle meningeal artery and its numerous branches are necessarily very liable to injury in all fractures involving the temporal region and the middle fossa of the skull, the anterior branch of the artery being especially liable to such injury. The anterior branch may be torn in the temporal region and so secured with comparative ease, whilst in other cases the main artery, or one of its branches, may be cut across low down in the basic fossa by a fracture travelling obliquely across the middle fossa. In these cases no ordinary trephination will suffice to reach the bleeding point. In the great majority of cases the vessel is lacerated on the same side as that on which the injury was received, but occasionally the hæmorrhage occurs on the opposite side and is not necessarily associated with a corresponding basic fracture. Such cases are almost confined to late life, when the arteries are atheromatous. English records three cases, all of which were fatal, where both vessels were injured.

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[3] Transactions of the Royal Medical and Chirurgical Society, vol. lviii.

Uncomplicated middle meningeal hæmorrhage is rare and the coexistence of a fracture of base or vault, with the addition of brain laceration, renders a correct and early diagnosis exceedingly difficult and often impossible. I have previously pointed out that the pressure effects depend to a large extent on the presence or absence of a safety valve such as is afforded by the existence of a comminuted fracture of the tegmen tympani, allowing of the escape of blood into the middle ear and so externally through the gaps of a lacerated drum. A safety valve is also provided in those cases where the meningeal hæmorrhage is associated with a comminuted fracture of the temporal fossa walls, in which case the extravasated blood escapes into the temporal muscle, leading to swelling, ecchymosis, and even pulsation in that region. Compression of this temporal hæmatoma results in an increase of the general compression symptoms and also occasionally leads to twitchings, &c., of the muscles of the opposite side of the face and body. The amount of blood extravasated varied in the different cases from one drachm to several ounces, the largest coagulum being four and a half [illegible] The clot, partly fluic[illegible], except on the dura [illegible] the clot leaving the dura mater rough, fibrinous, and discoloured. The dura mater is firmly adherent along the upper border of the temporal bone and also along the lesser wing of the sphenoid, whilst the intervening portion is but loosely attached to the underlying bone of the middle fossa. The blood first poured out has a comparatively easy task in lifting up this loosely applied dura mater, but though exercising an ever greater mechanical pressure as the size of the clot increases, yet it has now to meet insurmountable difficulties in front, behind, and on the inner side, with the result that the blood forces its way upwards towards the convexity of the brain.

Krönlein divides middle meningeal clots into three main varieties, according to the area of brain mainly compressed: (1) temporo-parietal (the commonest); (2) parieto-occipital (rare); and (3) parieto-frontal (very rare). The great difficulties which arise in the diagnosis of an extradural hæmorrhage are evidenced by the following group of cases. An extradural hæmorrhage, of a greater or lesser degree, was found in 30 per cent. of all cases where a post-mortem examination was held and a previous diagnosis was made in 9 per cent. of cases only. The question at once arises as to what are the most important and most suggestive features indicating the probable presence of such a hæmorrhage for the typical symptoms are generally obscured by the presence of other lesions. From my own experience I should put the suggestive symptoms in the following order, according to the frequency of occurrence: (1) the presence of a temporal hæmatoma; (2) a copious and continued hæmorrhage from the ear; (3) twitchings of the facial muscle of the opposite side and twitchings or spasticity of the muscles of the opposite arm and leg; (4) a brief lucid interval between the stages of concussion and collapse; and (5) some alteration in the pupil of the affected side, more commonly a "constricted" pupil. The dilated or Hutchinson pupil is, according to my experience, but rarely seen, except in the later stages, when its diagnostic value is of less importance as the "crisis" is passed. Hutchinson concluded that the dilated pupil was the result of direct pressure on the third nerve. Against this view two points may be urged: (1) no other symptoms pointing to pressure on the nerve are present nor are any of the accompanying nerves involved; and (2) the hæmorrhage would need to overcome almost insurmountable difficulties in order to lift up the dura mater as far as the outer wall of the cavernous sinus. Pagenstecher and H. P. Dean have also shown that localised compression on the cortical motor areas affects the pupil of the same side, producing fir[illegible] the pupil. The pupil [illegible] in origin. The temp[illegible]lse are so variable that no dependence can be placed on them.

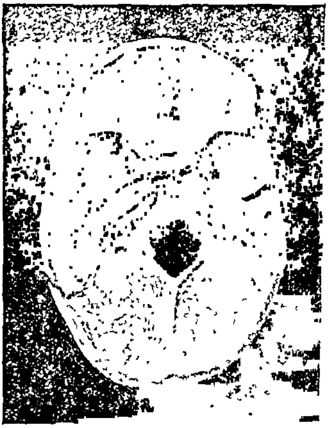
In trephining it is necessary to operate at the earliest possible moment and in doubtful cases it is better to operate and to find no hæmorrhage than to defer any radical treatment till too late. It is frequently necessary to chip away the bone towards the base, as the artery is often torn, low down in the base, soon after the bifurcation. If all local measures fail to reach the bleeding spot it will be necessary to tie the common or external carotid artery. Liddell, in the *American Journal of the Medical Sciences*, reported two cases where it became necessary to ligature the common carotid artery, the result being in each case successful. It is, however, probably advisable to tie the external carotid in preference to the common carotid artery, the brain being already compressed and probably lacerated and any further interference with its blood-supply may lead to serious early and remote cerebral changes.

Prognosis.—This is best illustrated by the 257 cases collected by Weismann. In 110 cases operated on the mortality was 27 per cent. In 147 cases not operated on the mortality was 88 per cent. In estimating the value of early surgical treatment in connexion with these statistics it must be borne in mind that the majority of the fatal cases not operated on were probably inevitably fatal, owing to the presence of other lesions of the skull and the brain. Weismann's cases would have been of greater value if they were grouped after Jacobsen's plan: (1) hopeful cases; (2) less hopeful cases; and (3) cases hopeless from the first.

Injury to the internal carotid artery.—This vessel, during its passage forwards and inwards towards the posterior clinoid process, lies behind the ordinary fracture which passes across the middle fossa, but as it passes forwards in the outer wall of the cavernous sinus towards the anterior clinoid process it crosses the line of fracture from one middle fossa to the other. Although it is loosely imbedded in the sinus wall, protected by nerves on its outer side, and situated well above the basic level, yet it is in this part of its course that it is liable to injury. I shall show you two such cases, one in which both vessels were completely torn across, a fracture passing from one middle fossa to the other with such marked separation of the anterior and posterior segments of the skull that the two parts were freely moveable, one against the other (Fig. 11), whilst in the second case a fracture, originating in the left frontal region, passed [illegible] sphenoidal region [illegible] the body of the [illegible]us and partially [illegible] artery (*Fig. 12*). Death in each case was nearly instantaneous, blood gushing from the mouth and the nose. The injury to the artery may be in other cases so slight that a fistulous communication between the artery and sinus results, with the formation of an orbital aneurysm.

Hæmorrhage from venous sinuses.—Two of the cerebral venous sinuses are placed in such a situation that they incur

FIG. 11.



An extensive fracture passing through the sphenoid from one middle fossa to the other.

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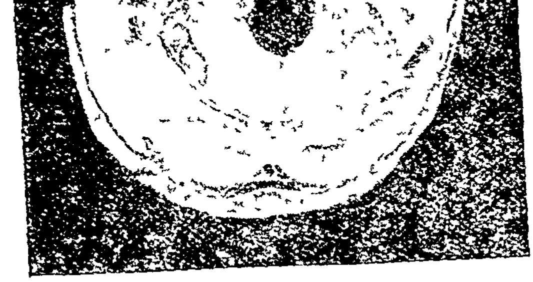

Showing rupture of the venous sinuses.

the sigmoid and the lateral sinus. This part corresponds to the occipito-mastoid suture and separation along the line of this suture is a frequent sequel to blows received in that region. The degree of separation is [illegible] great and this, combined with the dural tr suffices extensively to lacerate th

adopted varied in the different cases; in *some* a continuous mechanical pressure was used by means of an instrument, whilst in others an intermittent digital method was tried In one case continuous pressure was adopted for one month and in another intermittent pressure was used for ten weeks, and in each case the result was a complete failure to produce a successful result. In the 12 recorded cases where the common carotid was ligatured the result obtained was an immediate success, the main aneurysmal symptoms rapidly disappeared, the pulsation ceased, the proptosis diminished, and the patients were later able to return to their former occupation. In one case only, however, was there a complete return to the normal, for in all the others some permanent defect in vision *remained*, due *mainly to* the previous stretching of the parts, and in two cases the operation was not carried out sufficiently early to prevent some sloughing of the cornea. The noises in the ear, also, though much diminished, occasionally remained permanently.

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Post-mortem evidence of the lesion present.—Three of Rivington's cases showed a direct communication between the internal carotid artery and the cavernous sinus. In the 20 subsequent cases which I have collected an examination was only held in one and in this case the artery communicated with the sinus by two rounded holes through which the arterial blood was pumped into the cavernous sinus. A united fracture of the petrous bone ran inwards towards the sinus.

The basic fracture peculiar to these cases.—I have previously pointed out that in basic fractures, wherever the injury may be received, the body of the sphenoid, forming one of the weakest of the basic areas, is especially liable to injury, and I shall show later two specimens where the internal carotid artery was lacerated in this region. The exact line of the fracture is not stated in the majority of the recorded cases, but putting all the facts together it appears probable that when orbital aneurysm results from a blow on the head the most common fracture producing such a result will be one which travels along the anterior border of the

directly or indirectly along [illegible] may help in the diagnos chemical examination of the fluid may help in the diagnosis, since the two fluids differ appreciably in composition.

1. *Cerebro-spinal fluid* is rich in chlorides, contains little or no albumin, and a trace of a reducing substance allied to pyrocatechin.	2. *Fluid derived from other sources* contains chlorides, a fair amount of albumin, and no reducing substance.

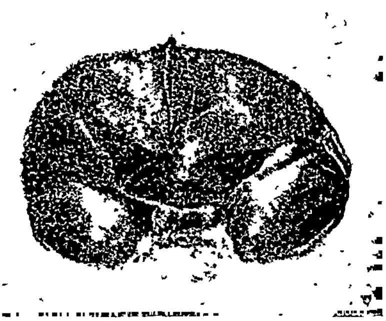
Certain factors, however, enter into the case which neutralise the advantages of a chemical analysis, for even though the fluid be *cerebro-spinal* in nature it is frequently mixed with blood, with the consequent addition of albumin, whilst if the fluid be profuse in amount the first part only contains any reducing substance, the fluid soon becoming a mere serous exudation. I have several times been able to collect a clear fluid from the ear, drop by drop, in a test-tube, and I have generally failed to demonstrate the presence of this reducing agent, though the post-mortem examination evidenced later that the fluid was derived from the subarachnoid space. The fluid is almost certainly cerebro-spinal in nature: (1) if the discharge begins within 24 hours of the accident; (2) if the discharge is colourless and profuse; and (3) if the discharge continues for some days. The time of onset, the duration, and the quantity are all, however, subject to great variation. 1. The time of onset is usually early, but cases are recorded where the discharge began weeks after the accident. 2. The duration may be from a few hours to many weeks. Sir W. Savory recorded a case where fluid escaped for one month from both ears. 3. The quantity varies from a few ounces to several pints. Sir

William MacCormac described a case in which three pints escaped in five hours.

This occasional great loss of fluid is due to the fact that as the cerebro-spinal fluid escapes the pressure in the subarachnoid space is practically reduced to zero, and since the cerebro-spinal tension and the intracranial venous pressure are equal fluid continually passes from the veins into the subarachnoid space as long as the cerebro spinal fluid escapes.

Cerebro-spinal fluid from the nose.—Blandin, of the Hôtel Dieu, first drew attention to this symptom in 1840. The gross lesion most commonly present is a comminuted fracture of the cribriform plate of the ethmoid, with laceration of the overlying dura mater and arachnoid (Fig. 14). More rarely the fluid may be derived from the cisterna basalis, the fracture involving the sphenoidal body with laceration of the overlying membranes and with comminution of both roof and floor of the sinus. Goucard and Malgaigne both describe cases where, as the result of a severe fracture of the petrous bone without injury to the membrana tympani, the fluid escaped forwards into the naso-pharynx along the Eustachian tube.

FIG. 14.



The crista galli with a fracture passing through the cribriform plate on the right side.

Cerebro-spinal fluid from the ear.—This was first recorded by van der Wiel in 1727, and more completely by M. Laugier in 1839. The source of the fluid is usually stated to be as follows: "The fracture involves the petrous bone in such a way that the arachnoid and dural sheaths round the seventh and eighth pairs of nerves are torn, allowing the cerebro-spinal fluid to escape into the middle ear, and so externally through a torn membrana tympani." The great majority of fractures which involve the petrous bone pass in front of the genu of the seventh nerve and in front of the eighth nerve and internal ear. Some further lesion is therefore necessary, and it will be found that two main varieties of fracture may lead to aural discharge of cerebro-spinal fluid. 1 A fracture of the middle fossa, with such comminution of the petrous bone that the subarachnoid space is opened up, either directly by laceration of the dura mater and arachnoid overlying the tegmen tympani or indirectly by involvement of the membranous prolongations along the seventh and eighth nerves. 2. A fracture of the posterior fossa which, on reaching the jugular foramen, cuts across the petrous bone, traversing the vestibule, and severing the facial nerve in the region of the genu. The external signs of injury and the condition of the facial muscles will generally suffice to make clear which variety of fracture is present.

Prognosis and treatment.—The discharge of cerebro-spinal fluid does not materially influence the prognosis. Large quantities of fluid may be lost without any striking effect, and though the existence of such a discharge necessarily indicates the opening-up of the subarachnoid space to the exterior, yet the danger of infection does not appear to be increased proportionately, the outflow tending, no doubt, to wash away any micro-organisms present in the external meatus. Battle records 36 cases with a mortality of 25 per cent., and another writer 11 cases with a mortality of 27 per cent., the general mortality in all cases of fractured base being estimated at 32 per cent. As regards the special treatment in these cases it is most inadvisable to syringe out the ear, as by such means a stream of fluid is driven into the middle ear and even further if the tegmen, for instance, be extensively comminuted, the danger of infection being proportionately increased. The meatus should be merely swabbed out with some strong antiseptic, a little iodoform powder lightly blown in, and absorbent protective dressings applied, the whole being maintained accurately in position by firm and efficient bandaging. Frequent changing of the dressings may be necessary when the discharge is profuse. The patient must be carefully watched in case attempts may be made to interfere with the bandages and such action prevented by tying down the hands to the side. It is important to bear this in mind as such attempts are frequently made. When the fluid escapes from the nose or into the naso-pharynx little can be done to lessen the risk of infection, and as a result meningitis is most commonly secondary to a fracture of the anterior fossa.

A CHRONIC NEUROSIS CHARACTERISED BY FREQUENT PAROXYSMS OF PAIN, SWELLING, AND HÆMORRHAGE IN VARIOUS PARTS OF THE BODY; DEATH FROM ACUTE PULMONARY TUBERCULOSIS.

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THE patient was a man, aged 28 years, who, about seven years ago, had an attack characterised by pain and swelling in both knees. The illness began at about 10 o'clock one morning while he was standing at his work and the pain grew steadily worse until it compelled him to cease working at 4 P.M. The skin over the inflamed joints pitted on pressure. Great relief was obtained on lying down, but as the pain subsided discolouration appeared. The pain extended down to the feet but the swelling was confined to the region of the knees. The swelling disappeared some 12 hours after the pain ceased. After two days in bed without special treatment the patient felt quite well again. After two months of good health the two elbows became the seat of pain, swelling, and discolouration such as had previously involved the knees. In the articular attacks swelling and pain began almost simultaneously, the discolouration only appearing after the attack had reached its height and was commencing to subside. Active or passive movement of the affected joints caused intense pain. In some attacks fluctuation was quite distinct in the joints; in others the lesion appeared to be periarticular. Similar attacks occurred in the fleshy parts of the limbs—e.g., the calves, the thighs, the forearms, and the upper arms. The lesions often affected the limbs of both sides but were not always strictly symmetrical. Sometimes the four limbs were involved simultaneously. Small, red, slightly elevated spots occasionally appeared on the legs with some itching but without pain. Moreover, local irritation, as in working with the hands or in treading on a pebble, would cause red elevated blotches to appear on the hands or feet. These blotches were surrounded by a white ring and were associated with great heat and itching. They would disappear in a day or two and leave no staining behind them. The severe attacks were sometimes associated with malaise, slight shivering, and considerable thirst, but there was no headache or vomiting. In connexion with the attacks a little blood might be passed by the bowel, but the patient never observed blood in the urine and no blood escaped from the nasal or buccal mucous membrane. About three and a half years ago a painful lesion developed in the scrotum and spread to the penis. At a later date a similar attack began in the penis and spread to the scrotum.

This condition was accompanied by great pain and discolouration. About three years ago the patient began to suffer in his chest. He thought he was always getting cold and for a long time he was never free from such symptoms. The sputum varied from time to time and might be chiefly mucous, or thick and yellow, or again might contain a large or a small amount of blood. After the chest began to suffer, the severe attacks tended to involve the soft parts of the limbs more and the joints less than formerly. The pulmonary attacks were associated with pain and cough and lasted longer than the articular attacks. The temperature in a pulmonary attack was observed to be as high as 103° F. In the last few years of the patient's life pulmonary lesions seemed to develop frequently and yet, apart from progressive shrinking of the left lung, the abnormal physical signs cleared up time after time in a remarkable manner. On one occasion, two and a half years ago, the patient was working on his knees on a carpet for one and a half hours. About an hour afterwards a red blotch as large as a florin appeared on that part of each knee on which his weight had rested and in the course of some hours more there was great swelling with pain which was described as frightful. A soft painless swelling extended down to the feet. The attack in the knees detained the patient for two days in bed and left the parts black and blue. The tongue had often been the seat of patches of discolouration but usually without pain. The first occasion, so far as is known, was about two and a half years ago. With the exception, on one occasion, of the left upper eyelid, the face was never affected. In October, 1902, the patient felt his throat sore one afternoon as if he had got cold. By 7 P.M. pain set in and this was followed after a time by a sense of suffocation. Before three o'clock on the next morning he was suffering from orthopnœa. A swelling was observed behind the left tonsil and in the posterior part of the pharynx. At 10 A.M., when the attack was subsiding, it was found that swelling was present in the region of the false vocal cords to such an extent as to prevent examination of the parts further down. There was still some puffiness in the pharynx and behind the left tonsil.

The interval between the paroxysms in this disease varied. A period of two weeks was common and the longest was about four weeks. Each attack consisted of a series of lesions, varying from three to seven in number and involving in succession the joints, the skin, the lungs, and other parts. The duration of an ordinary attack was about a fortnight. In the later years the feet sometimes perspired excessively. The palms of the hands were affected in the same way but in less degree. Necrosis of tissue was never observed.

In the course of a detailed examination carried out in October, 1902, the following data were obtained. The urine contained no albumin or sugar but tended to deposit uric acid on standing. The digestive system was in good order. The appetite was good and the bowels were regular. No abnormality was discovered in the liver, spleen, or superficial lymph glands. The apex beat of the heart was in the fifth intercostal space slightly external to the nipple line. The left border of cardiac dulness was one inch outside the nipple line. The right border was a little to the left of the left sternal margin. The upper border was at the third intercostal space. The sounds were normal. The sputum consisted chiefly of frothy mucus. Dr. D. McCrorie, bacteriologist to the Glasgow Royal Infirmary, found that neither the tubercle bacillus nor the pneumococcus was present. The patient was liable to night sweats in connexion with the pulmonary attacks as well as in the severe articular attacks. Percussion was impaired in the left front and consonating râles were heard in the same region but the vocal fremitus and the vocal resonance were not definitely altered. At the back there was very slight impairment of percussion at the left apex. Crackling sounds, suggestive of pleural friction, were heard at the middle of the left back. An occasional dry râle was heard on the right side of the chest. The size and the movements of the chest were diminished on the left side. Investigation of the functions of the cranial nerves revealed nothing of importance. The sense of smell was not so acute on the left side as on the right. The pupils were large. Hearing was fair in both ears. The tongue deviated slightly to the left when protruded but could be fully turned to the right at will. In other respects the examination yielded normal results. The fundi oculorum were healthy. The knee-jerks were exaggerated but there was no ankle clonus. The plantar reflexes were absent. The feet were somewhat cold, moist, and livid, with a sluggish circulation. The cremasteric, abdominal and epigastric reflexes were active. The nutrition of the muscles was good but the patient had lost weight. Paresis, incoördination, disturbance of any kind of sensation, delayed conduction, girdle sensation, bullæ, changes in the hair and nails, clubbing of the digits, disturbances of the bowels or bladder, and tenderness and deformity of the spine were all entirely absent. The mental faculties were likewise unimpaired.

Examination of the blood showed that the red corpuscles were normal in form and size and formed rouleaux as in health. They numbered 5,400,000 per cubic millimetre. The white corpuscles numbered 10,000 per cubic millimetre. The hæmoglobin was 75 per cent. of the normal. A bacteriological examination by Dr. McCrorie showed that the blood was sterile. On different occasions in the month of February, 1903, Dr. Hugh H. Borland determined the coagulability of the blood by means of Wright's coagulometer and obtained normal results.

In March, 1903, it was noted that during the past 11 months there had been no material change in the patient's general condition. He seemed to consider that he was not losing ground. There was now little or no expectoration and the night sweats had ceased. The signs of shrinking of the left lung, however, were rather more marked. There was distinct retraction of the left front of the chest. The left border of cardiac dulness was one and a half inches outside the nipple line and the right border was an inch to the left of the left sternal margin. Percussion was impaired over the front and side as well as the upper part of the back of the left chest. On the affected side the respiratory murmur was diminished, bronchial breathing could be heard above the clavicle, and scanty crackles, probably due to pleural friction, were detected over the back. Early in February, 1903, a large hæmorrhage occurred in the mouth, involving principally the soft palate but extending down to the pillars of the fauces on the left side. This was associated as previously with some œdema but neither the hæmorrhage nor the œdema was so great as in the previous attack in the throat. Shortly after this there was a large hæmorrhage in the left chest wall extending vertically from the angle of the scapula to the lower costal margin and extending horizontally (at its widest part) from the middle line behind to two inches in front of the mid-axillary line. These phenomena abated rapidly though minute lesions were continually appearing and disappearing. At the commencement of this attack he was admitted to the Glasgow Royal Infirmary for three weeks and during the last week of his residence and for two months thereafter he had applications of high-frequency currents for 20 minutes daily. At this period the muscular pains were sometimes very severe in the legs but the arms were seldom affected. To give a fair idea of the daily variations of the symptoms the following notes are extracted from the patient's diary: "March, 1903: 28th—Soles of both feet swollen and discoloured. Hæmorrhage into tip of right thumb and into left hand. 29th—Swelling of palm of left hand, with pain. Muscle pains severe. 30th—Hæmorrhagic spots in tongue and under right knee. Cough bad. 31st—Cough bad. Muscle pains severe. April: 1st—Pain in both knees acute; no swelling. Hæmorrhage in middle finger of left hand. 2nd—Left wrist swollen and very painful. Knees painful but not swollen." The notes of the symptoms continue in the same style until the middle of June when the troubles ceased for a few days and the patient was able to describe himself as "very well." On the 17th of that month, however, he began to suffer again from pain in the chest and hæmoptysis, and other pains and hæmorrhages soon supervened. In July he improved again and the cough ceased. On Sept. 1st hæmorrhages appeared in both feet and were attributed to the wearing of boots instead of shoes, but within a few days hæmorrhages took place not only in other parts of the lower limbs but also in the palms of the hands. After being free for some months from any very serious trouble the patient was taken ill on the night of Dec. 27th, apparently in consequence of emotional excitement brought on by seeing his father in a severe epileptic fit. When seen on the following morning he was complaining of pain in the lower part of the left chest and a pleuro-pericardial friction sound was heard in that region. He was spitting blood and his pharynx was congested and œdematous. Swelling and ecchymosis were present in the left arm and between the roots of the right thumb and forefinger. A hæmorrhage was detected at the left instep and a certain amount of pyrexia was present. On Jan. 1st, 1904, there were signs of disease at the right apex and the patient seemed dangerously ill. He improved again, but on the 3rd he was *seized with pain in his neck accompanied by* symptoms of shock and he died within an hour.

A post mortem examination was made on Jan 4th at the patient's residence by Dr. Hugh McLaren, assistant pathologist to the Glasgow Royal Infirmary. The general nutrition was fairly good. An extensive ecchymosis was present on the left forearm and upper arm, and after cutting through the skin in this region the hæmorrhage was distinctly seen underneath. A subsequent microscopical examination showed that the extravasated blood was in the interstitial tissue of the muscle as well as in the subcutaneous areolar tissue. The pericardium contained a few ounces of serum. Both ventricles of the heart were distended with blood. The aortic and pulmonic valves were competent. The heart was slightly enlarged, the mitral orifice admitting three and the tricuspid four fingers. The coronary arteries showed some fatty patches but were otherwise healthy. The cardiac muscle was healthy. The right lung was large and emphysematous. The upper lobe was consolidated and had a thick layer of recent fibrin on its surface. It was the seat of miliary tuberculosis and, in addition, contained a small cavity near its apex. The lower lobe was congested and œdematous. The left lung was shrunken and contained numerous miliary tubercles. The liver was the seat of cloudy swelling. The spleen was large and its Malpighian bodies were well marked. Hæmorrhages were present in its substance and the microscope suggested that these were partly in the Malpighian bodies and partly in other parts of the organ. The kidneys were congested and here and there the capsules were adherent. The suprarenal bodies were normal. The wall of the small *intestine was remarkably thin. Recent tuberculous lesions* were found in the bowel, chiefly in the large intestine.

The following is Professor Charles Workman's report on the brain and spinal cord:—

> The brain and spinal cord were preserved in formol and examined by me. The brain presented remarkably healthy characters and was evidently very well developed. Sections of the cord were prepared from various regions and were stained with thionin blue In the cervical region the posterior part of the columns of Goll showed apparently some increase of the neuroglia, while the anterior parts and the columns of Burdach appeared quite normal In the dorsal and l[illegible] sections all the posterior col[illegible]mns appeared quite normal. [illegible] *capillaries especially in the* [illegible]ared unduly numerous and [illegible] them considerably dilated [illegible]erous leucocytes, many of [illegible]ent probably altered blood colouring matter, and t[illegible] colour. In the cervical a[illegible] vessels might be made [illegible] The multipolar nerve cel[illegible] and showed the Nissl's bodies well stained. The pigmented area in these cells did not show so well as is usual, but this was perhaps partly due to the fact that I had hardly carried the decolouration process far enough.

It is evident that the symptoms cannot be explained by the scanty and slight changes which were recognised in the spinal cord. A peripheral nerve which was examined showed no change. Professor Workman examined tissue from the spleen and from the region of the ecchymosis, but after specially staining it for micro-organisms he was unable to discover any.

No cause can be suggested for this remarkable illness. The one fact in the family history which seems to throw light upon it is that the father is an epileptic. Neither the father nor the brother is a bleeder and the patient himself had no excessive hæmorrhage after a tooth extraction In his school days he readily took feverish colds, with cough and expectoration, but he thought they did him no harm. Venereal infection could be excluded. Between the attacks the health was good and the patient could take a considerable amount of exercise. When on holiday in summer he would gain in weight Following his occupation he had been in the East and he once spent a few days in China but he never had malaria, dysentery, or any other tropical ailment. His younger brother, aged 20 years, became ill in the middle of December last, two weeks before the end of a long voyage, with pulmonary tuberculosis, and died in March.

We have not been able to find a report of any other case exactly like the one just described, although a glance through the reports of such cases as Professor Osler has brought together in his papers[1] on the visceral manifestations of [illegible] affinities [illegible] familiar [illegible] *disorder* [illegible] leukæmia, may at once be set aside. Hæmophilia is sometimes associated with hæmorrhages into and around joints but it shows itself earlier in life, runs in families, and does not occur in frequently recurring paroxysms accompanied by severe pain. Moreover, our patient showed no abnormal tendency to bleed when blood was withdrawn for examination or after a tooth extraction. Purpura simplex takes the form of one or more crops of petechiæ, chiefly on the legs, though sometimes on the trunk. As a rule there is no constitutional disturbance and though there may be slight articular pains the actual hæmorrhagic lesions usually give rise to no subjective phenomena. Though wheals and itching (purpura urticans) are occasionally noted, these present no analogy to the severe localised and painful swellings which developed in the present case. In purpura rheumatica there are articular pains with some constitutional disturbance but the articular pains are not attributable to hæmorrhages in or around the joints, and, moreover, there are crops of petechiæ which are not painful In the present case crops of petechiæ were exceptional and large œdematous swellings, which speedily became the seat of hæmorrhage, prevailed. Moreover, purpura rheumatica does not appear in frequently recurring paroxysms involving the most diverse parts of the body as this disease did In purpura hæmorrhagica there are petechiæ as in purpura simplex but here hæmorrhage is the important and serious phenomenon; pain is not a marked feature; there are no tender, œdematous swellings; nor are there paroxysms occurring frequently, during years, with short intervals of health between them Henoch's purpura is characterised by arthritis, purpura, abdominal pain, vomiting, intestinal disturbance, *hæmorrhages from mucous membranes*, and sometimes nephritis and splenic enlargement. In the present case there were seldom petechiæ; the lesions were not specially in the joints, and if seated at the joints were periarticular as well as articular; there was rarely abdominal pain, and the lesions of visible mucous membranes were characterised by swelling much more than by hæmorrhage. Blood actually escaped only from the rectum and the respiratory organs. The whole group of cases included under the designation hæmatidrosis or bloody sweat, bleeding stigmata, and neurotic excoriations may be excluded from present consideration as being characterised by the escape on to the free surface of the skin of a sanguineous or apparently sanguineous fluid. Urticaria in its usual form, characterised by itching wheals of sudden development and transient duration, has no resemblance to the present affection, though wheals did occasionally occur, and a moderate degree of dermographism was recognised in this patient. The more persistent form of that disease, urticaria perstans, is not accompanied by severe pain. In hæmorrhagic urticaria (purpura urticans) a wheal develops in a cutaneous hæmorrhagic lesion, or the converse may be witnessed, or wheals and hæmorrhages may develop side by side In our case there were no wheals as a rule.

The disease presented certain points of resemblance to angio neurotic œdema (acute circumscribed œdema, Quincke's disease, giant urticaria, massive urticaria, &c), in which œdematous swellings develop suddenly in the skin, specially of the face, genitals, and limbs. These may be as large as the palm of the hand and by coalescing may involve extensive areas. But in our case the swellings were not always circumscribed, the visible lesions were the seat of hæmorrhage, and pain was in many of the attacks the first phenomenon In both diseases, however, the swellings of the mucous membranes may cause serious symptoms, as in the larynx, pharynx, and fauces Hæmoglobinuria has been observed in several cases of acute circumscribed œdema but hæmorrhage, either in the skin or from a mucous membrane, though it has been reported, appears to be very exceptional.

The absence in the well-marked attacks of itching, erythema, vesiculation, and desquamation distinguishes the present disease from what Ramsay Smith has described as general angio-neurotic œdema.[2]

The facts of the case just recorded suggest that the disease is a neurosis allied on the one hand to angio-neurotic œdema, though, on the other hand, presenting points of resemblance to a disease which is as likely as not of infectious origin—namely, the purpuric type of erythema. In rare cases of tabes dorsalis small or even considerable subcutaneous hæmorrhages may follow paroxysms of lightning pains, so that hæmorrhage may certainly be due to nervous disturbance. Moreover, in urticaria, into which the neurotic element enters largely, there may be exudation not only of serum but also of corpuscles. It is to be noted that our patient was the subject of factitious urticaria. We may add that Professor Workman, as a result of his anatomical examination of the case, is disposed to accept the view which we adopted after careful clinical investigation and to regard the hæmorrhages as neurotic rather than infectious in their origin.

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[1] American Journal of the Medical Sciences, 1895, vol. cx., pp 629-646; British Journal of Dermatology, 1900 [illegible], xii., pp 227-245; American Journal of the Medical [illegible] vol. cxxvii., pp 1-23

[2] Angio [illegible]

It should be mentioned that during life numerous remedies were employed for the cure or relief of the disease or its most urgent symptoms but none of them exerted any very noticeable influence. The drugs included antipyrin, ergot, opium, bromide of potassium, iodide of potassium, iron, arsenic, and calcium chloride. Counter irritation in the form of a seton at the back of the neck appeared to do almost as much good as any internal remedy.

Glasgow.

BRACHIAL NEURITIS.[1]

BY CHARLES W. BUCKLEY, M.D. LOND.

THE scanty attention which this subject has received in modern text-books of medicine is remarkable and the references to it in current medical literature are few and far between, although it is as well defined as sciatica and quite as painful and disabling. The same difficulty arises as in sciatica in distinguishing between neuritis and neuralgia, but I wish as far as possible to confine my remarks to the former. It is certainly becoming more common, as is the case with many other affections of the nervous system, but whether this is to be accounted for by a progressive increase in the vulnerability of the nervous structures which appears to be a feature of modern life is a question which I shall not attempt to discuss. The causes are very numerous but the prominent symptom in every case is pain, sometimes sudden in onset, but more often slight and occasional at first and only felt on making certain movements, notably those of raising the arm, but it increases and becomes more continuous with paroxysmal exacerbations; it is dull and varying in character and appears to be greater than in most forms of neuritis. It may be referred to the scapula, especially over the area of the suprascapular nerve, the shoulder-joint, or wrist, with or without the hand, according to the nerves chiefly affected. The form arising from injury is perhaps the commonest and has received the most attention, and I therefore propose to deal with it first and afterwards to point out in what respects those arising from other causes differ from it. This form commonly results from a fall broken by catching at some object, thus throwing the weight of the body suddenly upon the structures at the shoulder joint. The results vary according to the extent of the injury and the nervous symptoms frequently do not show themselves at once but come on gradually, perhaps two or three weeks afterwards when the other symptoms are disappearing. There is marked tenderness over the affected nerves and wasting and paralysis appear in varying degrees, but the reaction of degeneration is rarely present in its complete form though some modification of the electrical reaction is common. In all forms there is some limitation of movement, due more often to pain than to paralysis, and in severe cases passive movement is also limited by changes in and around the joint, in which crackling and grating may be perceived. The cause of these changes has been the subject of much discussion. Barwell[2] points out that in some hysterical subjects crackling, which arises in the subacromial bursa, may normally be perceived on slight movement. Damage to this bursa is very likely to arise in such an accident as I have described, or may arise secondarily from trophic causes, and the crackling may be due to this cause alone, but in severe cases the joint also shares in the trophic effects and synovitis or arthritis results. Jarjavay has demonstrated that if the bursa is torn or otherwise injured it is quite capable in itself of giving rise to coarse crackling and pain, and hence immobility.[3] Duplay, in the only account of a necropsy which appears to be recorded,[4] describes the following changes: (1) chronic subacromial bursitis and subdeltoid cellulitis with obliteration of the bursa and formation of adhesions between the deltoid and the humerus; (2) chronic inflammation of the capsule leading to thickening; (3) periarticular cellulitis internal to the joint leading to formation of fibrous tissue; (4) congestion of the ulnar and internal cutaneous nerves; and (5) atrophy of the deltoid. The circumflex nerve was not examined, but the author assumes that pain on pressure is due to inflammation of the nerve the result of compression and traction by adhesions. There was also a dislocation of the humerus and it seems probable that a good deal may have been attributable to this, for it is difficult to see how such extensive damage could result from a simple strain or bruise of the shoulder, even making the most liberal allowance for trophic effects, but the account throws a good deal of light on the pathology of the symptoms commonly accompanying the severer forms of neuritis. Duplay in illustration quotes five cases of neuritis from simple contusion with similar symptoms and compares them. Certainly very slight injuries may cause synovitis or a nerve lesion with far-reaching effects. Berne supports the view that peri-arthritis is the chief lesion[5] and Vietor puts forward the theory that the shoulder changes are trophic effects from injury to the circumflex nerve, quoting Weir Mitchell in support who says: "Any form of nerve lesion is capable of developing in the joints inflammatory conditions, usually subacute, and which so precisely resemble rheumatoid arthritis that no clinical skill can distinguish between the two."[6] Bowlby differs somewhat from this and says that he has not seen cases of joint injury so severe as Weir Mitchell describes from nerve lesions, but that arthritic lesions of a less severe and more chronic kind are among the most common results of nerve injury.[7]

The evidence I have quoted seems to me sufficient to prove that the effect of the neuritis upon the joint may be very serious and even permanent, although such is not often the case in non-traumatic forms, but cases presenting joint lesions closely resembling those of rheumatoid arthritis are by no means uncommon, and I have dwelt upon this question of trophic joint changes thus fully because I believe that many cases are regarded as rheumatic simply because the joint is affected and the question of injury is overlooked. Simon has recently reported a series of cases of traumatic origin[8] and asserts that some violence is always necessary to the development of brachial neuritis; but in this I cannot agree with him and the analogy of sciatica should be sufficient evidence to the contrary. It must be admitted, however, that sufficient attention may not have been paid in the past to any history of injury, however slight, for the position of the plexus renders it more liable to injury than is the sciatic nerve. I think there is no doubt, however, that the traumatic cases are the most severe of all. The neuritis, as has been mentioned, is sometimes a late result of the injury, and this may mislead as to the cause. Vietor[9] reports a case due to a fall broken by catching at the handle of a door, which showed at the onset pain, weakness of the deltoid, and limited movement; these symptoms improved, but four weeks later the patient suddenly became worse with most intense pain and all the symptoms of a severe neuritis. This late onset was also clearly shown in a case of my own, and equally well by a series published recently by Distin.[10]

Apart from injury gout is undoubtedly the most prominent etiological factor and in many cases the only discoverable cause, while in others it acts merely as a predisposing condition. In men the neuritis may be accompanied by any of the ordinary manifestations of gout, and in women irregular forms are common accompaniments, while in either sex it may be the only symptom and diagnosed as gouty in the light of the family history. Trophic symptoms are rarely marked in this form and the chronic enlargement of the finger-joints commonly present in cases arising late in life are a manifestation of the gouty diathesis rather than a result of the neuritis. The acute forms both in this and the following group are probably in most cases at the outset acute inflammations of the fibrous structures of the muscles recently described by Gowers,[11] and for which he suggests the term "fibrositis." In these cases, which arise commonly after a chill, the onset is sudden with generalised pain and tenderness of the shoulder muscles and the whole arm may be involved so that the patient cannot bear to move in any direction, there are slight pyrexia and loss of appetite, and this acute stage may last for a week or more. The mischief spreads from the muscles to the sheaths of the nerves and often to other fibrous structures in the vicinity, and when the acute condition subsides a chronic neuritis is often left. This course was strikingly evident in one case of my own but I have not often met with it, since cases sent to Buxton for treatment have usually reached the chronic stage or have been chronic from the commencement.

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[1] A paper read before the Medical Society of London on Feb. 22nd, 1904.

[2] Diseases of Joints.

[3] Gazette Hebdomadaire, 1867.

[4] Archives Générales de Médecine, 1872.

[5] L'Union Médicale, 1897.

[6] Injuries of Nerves, Philadelphia, 1872.

[7] THE LANCET, vol. i., p. 1021, 1887.

[8] Brit. Med. Jour., 1903, vol. ii.

[9] L'Union Médicale, 1897.

[10] Brit. Med. Jour., 1904, vol. i.

Many cases are termed rheumatic, though probably true rheumatism rarely plays any part in their causation. They often arise from a chill, especially in a gouty subject, and in the majority of cases I am inclined to believe have their origin in a general fibrositis and are acute at the onset like the form I have already described. In two of my cases there were cardiac symptoms; in the first, a case commencing as an acute fibrositis, there was a loud systolic murmur when the patient first came under my observation, a month after the onset, but this, together with the accompanying dilatation, showed marked improvement under treatment and had almost disappeared when he left Buxton a month later. The second case showed slight irregularity with weakness of both sounds but the patient was 69 years of age and had had an attack of influenza during the course of the neuritis, so that *it is not probable that the cardiac condition was due to* rheumatism. With the cases of this type may also be included those occurring in coal-miners, which Charlés has recently described, though there seems in these to be also a possibility of strain as a cause.[12] Many cases occur in women at the menopause, some of which appear to be gouty, while others belong to the class of neuritis occurring in pregnancy and the puerperium, as described by Turney in an exhaustive paper upon the subject.[13] He attributes them to toxæmia and finds that when the neuritis is limited to the arm the median and ulnar nerves suffer the most, otherwise the posterior interosseous is chiefly affected. This differs somewhat from the distribution in other forms, the circumflex being affected by far the most frequently in my experience. The pain is often very severe and wasting may go on to an extreme degree, while, on the other hand, cases occur in which the extent of the neuritis is very limited and the symptoms are slight.

Reflex irritation appears to be responsible, in part at any rate, for a certain number of cases, of which those due to aneurysm are the most important. With this exception they do not call for special mention, but a case which came under my notice, diagnosed as rheumatic, though without very clear evidence, was interesting. There was a lipoma situated in the scapular region from which the pain radiated and it was much worse if the tumour was lain upon or the muscles in relation to it were called into play, the other symptoms being of the usual type. As the improvement was but slow I advised its removal and this was done as soon as the patient returned home. The pain disappeared as the wound healed and the arm is now quite well except for an occasional sensation of coldness and numbness. In most cases, however, a certain degree of psychic concentration of the pain is present and neuralgia often persists as a habit after the removal of the nerve lesion which originally started it. In another case of a lipoma in the same region treatment was sought because of neuralgic pains which, starting from the tumour, radiated down the arm as far as the fingers.

One of my cases was interesting in that it followed an attack of lead poisoning, appearing some six months after the lead was detected. There were none of the usual symptoms of lead neuritis and the case did not differ from the common type, but there was a well-marked lead line with a considerable degree of saturnine cachexia, and the patient was rather emaciated. There were a gouty family history and a few doubtful symptoms of irregular gout. Menstruation was regular and normal, whereas the great majority of cases in women occur after menstrual life has ceased.

To summarise, the prominent symptoms are pain, varying in degree but often very severe when at its height; tenderness of the affected nerve trunks, and of certain cutaneous areas related to them; weakness of certain muscles and limitation of movement, due partly to this and partly to changes in the subacromial bursa, or in and around the joint; trophic changes, rarely severe; and sensory symptoms such as anæsthesia and hyperæsthesia, which are often very slight but often persist after the other symptoms have disappeared. It is certainly open to discussion whether the joint changes when present are in all cases trophic or whether they may not have been primary, the mischief subsequently extending to the fibrous structures in the neighbourhood, which would account for [illegible] cated, but, on [illegible] the shoulder- [illegible] ould probably suffer secondarily to a greater or less extent. Or the fibrous structures of the joint, muscles, and nerves may all be affected at once in an acute attack of fibrositis, with only partial recovery of the joint owing to the trophic influences of the damaged nerves. In my opinion, however, the trophic origin is by far the most common and the joint is more frequently affected in the traumatic cases than in other forms, though this may be partly the result of injury to the joint itself independent of the nerves.

The diagnosis may be difficult; all nerve pains in the left brachial region have, as Gowers has pointed out, a tendency to resemble anginal pain and to be accompanied with cardiac distress; aneurysm is a possible source of error and tumours of the cervical spine or of the bones of the shoulder may by *pressure on the nerve closely simulate neuritis or cause* neuralgia, while lesions of the cervical cord must not be forgotten. Time will not permit me to discuss the differential diagnosis but the influence of movement, the presence or absence of tenderness, and, in some cases, the use of the Roentgen rays are important aids.

As to the prognosis, the duration is probably never less than three or four months and may extend over a year or more. The older the patient the more chronic the case is likely to be, while much depends on the degree of rest which the parts obtain. Relapses occasionally occur and recovery is often incomplete, the limb remaining weak, with occasional tingling pains or numbness, while there are frequently adhesions left in the shoulder-joint after a severe attack.

With regard to treatment, in cases commencing acutely, whether as part of a general fibrositis or as a simple neuritis, rest in bed is necessary at first with purgation and treatment suitable to the general condition; colchicum and alkalies may be useful in gouty subjects or salicylates if the case is of rheumatic origin. In the acute cases I have found aspirin with or without phenacetin of much value and mesotan for external application is often very useful. Poultices and hot applications generally give relief to the pain and where they fail ice is sometimes of use. I have found the coal-tar analgesics when given in regular and sufficient doses more generally useful than opium or its derivatives for the relief of pain, and in this the majority of recent writers agree, but in the most severe cases morphine becomes necessary. When the acute stage is past, rest to the affected limb is still, as in those cases chronic from the first, of the utmost importance; this can usually be secured by the use of a sling but it is sometimes better to bandage the affected limb to the side. In the chronic cases of gouty origin alkalies and iodide of potassium are sometimes of value and chloride of ammonium may be tried but otherwise drugs, with the exception of analgesics, are of little use and, considering the long duration of the majority of cases, other measures for the relief of pain are desirable whenever possible. I have found the greatest benefit in this respect from the free use of blisters along the affected nerve trunks or over the tender points, while subsequently, or in cases in which the pain is less severe, galvanism has an anodyne effect and both undoubtedly exert a beneficial effect upon the general course of the disease. Other forms of electricity are of much less value, being, as Lewis Jones ("Medical Electricity") has pointed out, chiefly of use in those cases in which neuralgia persists as a habit after the disappearance of the nerve lesion which *originally* caused it. Faradism and the sinusoidal current are, however, of use in the treatment of the wasted [illegible] and some authorities have found high frequency currents benefit. Massage, in my own opinion, must never be used as long as the nerves are acutely inflamed; later it is of value for the removal of the inflammatory effusion in the nerve trunks and especially in traumatic cases with effusion into and around the joints when it may often be advantageously combined with radiant heat, but if it causes any marked pain I am strongly of opinion that it does more harm than good. In the rheumatic and gouty cases a course of treatment at Bath or Buxton is of great benefit and the majority of cases find relief from the mineral baths, vapour baths, and hot douches which are a feature of the treatment at both places. The diet and digestion often call for attention and tonic treatment by drugs and change of air is generally desirable in view of the debilitating effect of the long-continued pain. In choosing a place to which the patient may be sent it is important to remember that the sea does not suit many cases and a bracing inland climate is more generally beneficial, though a clay soil should be avoided if possible. The combination of such a climate with the advantages of balneological treatment renders Buxton especially suitable for these cases. As is usually the case in such chronic and obstinate conditions, the number of remedies that have been suggested is legion but I have only advocated those which I have personally found beneficial.

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[11] Ibid. [12] Ibid.

[13] St. Thomas's Hospital Reports, vol. xxv.

Buxton.

INTRACRANIAL RESECTION OF THE SECOND DIVISION OF THE FIFTH NERVE FOR EPILEPTIFORM NEURALGIA.[1]

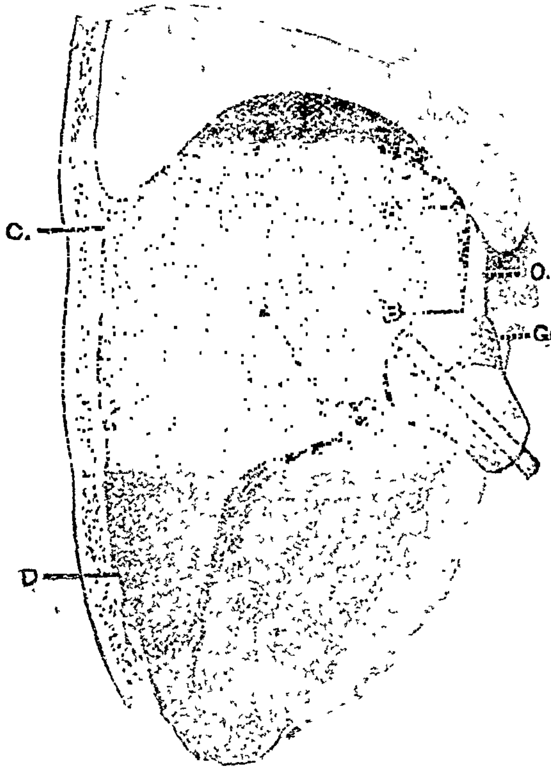
By J. HUTCHINSON, JUN., F.R.C.S. ENG.,
SURGEON TO THE LONDON HOSPITAL.

SOME three years ago, in a paper on excision of the Gasserian ganglion, I advanced the proposal "that the so-called excision of Meckel's ganglion (always a very difficult and uncertain proceeding involving disfigurement of the face) should be given up in favour of intracranial division of the superior maxillary trunk just above the foramen rotundum."[2] The recommendation was based on the following considerations:—

1. The more central the operation, the nearer to the brain, the more certain is the prospect of permanent cure. In almost every case of peripheral operation, including removal of Meckel's ganglion, the neuralgia has returned after an interval of a few months or years.
2. The surgeon who works through the walls of the antrum to the pterygo-maxillary fossa is greatly hampered by the depth of the wound and by hæmorrhage from the internal maxillary artery. He may be successful in defining the trunk of the superior maxillary nerve in the upper part of the fossa, but he is very likely to fail.
3. A depressed scar in the middle of the cheek is much more disfiguring than one hidden by the scalp in the temporal region.

In the middle fossa of the skull the whole of the superior maxillary trunk, before it has given off any branches, can be exposed. Here it can be not only divided but a considerable portion of it can be excised so that there will be no chance of subsequent union. The amount of the nerve available at this point for excision varies somewhat in different subjects, but from one-third to half an inch can be resected. The accompanying figure will make this plain. The trunk should be divided just at the foramen rotundum and again where it leaves the Gasserian ganglion, as shown at A B Cases in which such an operation is justified are not numerous and it was only about a year ago that one presented itself to me.

A ship's officer, nearly 60 years old but of fine constitution, had suffered for several years from intense pain in the right cheek and the upper jaw. The neuralgia was typically epileptiform, the attacks becoming more and more frequent during the last four years. He had had a number of teeth removed without the slightest relief and medicines were equally unavailing. He struggled on with his duties on board a Cape liner and about Christmas, 1902, he consulted Sir Frederick Treves with regard to operative measures who kindly sent him to me with a note suggesting the removal of Meckel's ganglion and the infra-orbital nerve. The distribution of the neuralgia was always the same and the parts were very tender, though during an attack some relief was obtained by the patient violently grasping the tissues of the cheek. The lower eyelid, both sides of the cheek, the palate, and the gums on the right side formed the area involved. Lacrymation and congestion of the right eye were frequent. It might be suggested that exposure on deck to wind and wet was a predisposing cause of the neuralgia but the attacks were equally severe when he was on land and they occurred both by day and night. He had the aspect of great suffering and depression.



Intracranial resection of the superior maxillary nerve. A B, Portion of nerve to be excised. C D, Wall of temporal fossa cut away in the operation. O D, Ophthalmic division. G, Gasserian ganglion.

My friend Mr. T. Crisp English assisted me at the operation, which was performed with the patient fixed in a dentist's chair in order to lessen the trouble from venous hæmorrhage. A horseshoe flap was turned down from the temporal region, having its base at the zygoma, the flap including part of the temporal muscle and the pericranium. With a large trephine and cutting forceps the subjacent bone was removed and the dura mater was exposed. As in the operation for removal of the Gasserian ganglion the dura mater and the temporo-sphenoidal lobe were then carefully pushed upwards and inwards, making for the foramen rotundum as the landmark. (In this respect the two operations differ, as in dealing with the Gasserian ganglion the foramina spinosum and ovale are first sought for.) Considerable difficulty was met with owing to the thin and fragile character of the dura mater and some cerebro-spinal fluid escaped. Ultimately the trunk of the superior maxillary division and part of the Gasserian ganglion were thoroughly exposed, a broad spatula of soft metal being used to retract the dura mater and the brain. The whole of the nerve was then removed, a small drain was subsequently inserted, and the flap was sutured in position. None of the bone removed was replaced. Primary healing followed and no complication of any sort occurred. The patient returned a month later to his duties and has made regular ocean voyages ever since.

I have waited 12 months before reporting the case in order to ascertain that the relief is permanent and I am glad to state that he has not had the slightest recurrence. The anæsthesia is most marked over the cheek and the right superior maxillary bone; it involves also the soft palate and

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[1] A paper read at a meeting of the Clinical Society of London on March 11th, 1904.

[2] Transactions of the Medical Society of London, vol. xxiii.

has practically filled up, and there is, of course, no paralysis of masticatory muscles on that side such as follows removal of the Gasserian ganglion. I am confident that no recurrence is likely to take place.

It would be erroneous to suppose that the operation is an easy one: the depth of the nerve trunk (three centimetres or more from the wall of the temporal fossa) and the troublesome oozing in a narrow space where it is essential to see and to define a nerve-trunk of small size prevent this. But having had the opportunity of assisting my colleague Sir Frederick Treves in several operations on Meckel's ganglion I can safely assert that the intracranial route is at least as easy as the facial one and without any doubt it affords the more certain access.

It will be remembered that the superior maxillary nerve immediately on entering the pterygo-maxillary fossa gives descending branches to the palate and bone with internal branches to the cavity of the nose. It is easy to follow up and to remove the infra-orbital nerve from in front but it is very difficult to remove the trunk and all its branches in the fossa. Moreover, even if this is accomplished the evidence is strong that recurrence of the neuralgia is only a matter of time. In Sir Frederick Treves's five cases it recurred within 12 months in two, a third patient died (from cancer) within six months of the operation, and in the remaining cases recurrence was observed in two and three years respectively. Mr. T. F. Chavasse collected 22 cases of what is often termed Carnochan's operation; in only three was the relief stated to be lasting. With regard to operations on the Gasserian ganglion properly carried out (this may be emphasised without going into details here) the evidence is conclusive that the neuralgia is permanently cured.

There are other methods of approaching the superior maxillary trunk which I venture to think compare most unfavourably with the temporal route. In Professor Lücke's operation the masseter muscle is divided, the zygoma is cut through, and an extensive scar is left on the side of the face. The zygoma may not unite again and movements of the lower jaw may be much interfered with. Nussbaum and Billroth employed osteoplastic resection of the upper jaw, while Kocher and others used methods involving a temporary resection of the outer orbital wall. Not one of these methods or their modifications afford access to the trunk where it comes off from the Gasserian ganglion. In Sir Frederick Treves's words: "These various measures are all needlessly severe and involve wounds of great and unnecessary magnitude."

It is well known that in cases of epileptiform neuralgia of the fifth nerve one, two, or three divisions of the nerve may be involved. In some patients the pain is mainly limited to one division, usually the inferior or the superior maxillary, with radiations into the ophthalmic branches or even the cervical plexus. Experience has shown that a thorough operation on the central part primarily involved will almost always cure the lesser and more widely distributed neuralgia. Supposing the inferior maxillary division to be alone or mainly affected it is open to question whether an intracranial removal of the lower part of the ganglion and inferior maxillary trunk would not be preferable to the elaborate operation usually performed below the foramen ovale. The conditions here are not so favourable, however, as exist in the superior maxillary trunk where about half an inch of the nerve can be exposed and removed. Codivilla, an Italian surgeon, has, however, performed it twice with success, his first case being in 1897. When both second and third divisions are mainly involved I am sure that removal of the lower half of the ganglion, leaving the ophthalmic division intact, is the best operation. As a series of cases has shown, going back from two to seven years, no recurrence of neuralgia need be feared in the ophthalmic part that has been left intact. But where the superior maxillary division alone is concerned the operation described may be advocated in preference either to Carnochan's method or the more complete operation on the Gasserian ganglion itself.

(Note.—After the foregoing paper was read at the meeting of the Clinical Society Mr. Stanley Boyd related a case in which he had—about the same time as myself—performed intracranial resection of the second division of the fifth nerve for epileptiform neuralgia limited to that distribution. The result had been complete relief for about a year, at the end of which time slight neuralgia was again reported, though its localisation was uncertain.)

Cavendish square, W.

NOTES ON A CASE OF MYELOPATHIC ALBUMOSURIA.

BY R. CATHCART BRUCE, M.D. EDIN.,
KENNETH F. LUND, B.A. CANTAB., M.B. LOND.,
AND
P. PERCIVAL WHITCOMBE, M.B. LOND., M.R.C.S. ENG.

CASES of myelopathic albumosuria are sufficiently rare to justify our reporting in full the following one which first came under our care in December, 1902.

On Dec. 30th the patient, a female, aged 51 years, was crouching down before the fire when "she turned faint, felt something give way in her thigh, and fell over on the floor." On examination it was found that she had sustained a simple fracture of the left femur at the junction of the middle and lower thirds with an unusual and peculiarly dry grating crepitus. The fracture was put up in the usual way and at the end of two months was firmly united with about one inch of shortening and a large amount of callus. A week after the setting of the fracture, in January, 1903, as the nurse was raising the patient in bed with one arm under the left axilla she felt a distinct crack and it was found that the left clavicle had become fractured near the acromial end. This fracture never united and a false joint formed with a swelling of the size of a hen's egg and semi-fluctuating in character over the seat of fracture. Three months later the patient was well enough to be removed to the country and while entering a carriage experienced a sharp pain in the left side of her chest. On arriving home she was put to bed, where a medical man found that she was suffering acute pain in the chest wall, with a temperature of 105° F. The diagnosis given to the relatives was "pleurisy," but, as the necropsy revealed, the condition was more probably due to a spontaneous fracture of the rib owing to muscular exertion. During July and August the patient was suffering from marked and increasing anæmia, emaciation, and lassitude. Attacks of vomiting and diarrhœa were frequent in spite of care in diet. The quantity vomited was considerable, amounting to from one to four pints, and consisted of partially digested food which was never blood stained. The attacks occurred suddenly, without pain or effort or previous nausea. The loose motions were extremely offensive. On Sept. 13th the patient when in bed fractured her left humerus at the junction of the lower and middle thirds when endeavouring to reach something lying beneath her. This fracture did not unite as she rapidly became weaker and wandering in her speech, finally passing into a kind of stupor, until the evening of Sept. 27th, when she died.

Previous history.—When about 13 years of age the patient was laid up for a period of two years with lateral curvature of the spine which became permanent. There was no Pott's curvature or disease of the vertebral bodies. She never had any other serious illness. For the last 20 years, owing to a change in her circumstances and straitened means, she had partaken of a very spare diet, with little meat and much bread and tea. During this time she was employed as a journalist and though energetic and active did a great deal of literary work at her desk. In February, 1902, she fell in the street suddenly and without apparent cause. In her own words, she "felt giddy and fell on her right hip"; she was picked up and went home in a cab and except for feeling somewhat shaken was none the worse after two days in bed.

General symptoms.—When first seen the patient, who was always small and of a spare habit, presented the appearance of anæmia and general debility. She complained at various times of pains in the chest, the back, the right side, and the left hip. They were often severe, neuralgic in character, and nothing seemed to relieve them. They varied in intensity and situation and it is noteworthy that she never complained of any of the pains after the fracture of the left arm. During the eight months she was under observation her weakness increased and became at last extreme, with marked anæmia and emaciation. No enlargement of the bones was perceptible at any time during the illness. During the last month or six weeks the temperature was generally above normal, of hectic type, varying from 99° to 102° in an irregular manner, the pulse-rate being correspondingly quickened.

Family history.—There was nothing remarkable in the family history, as the patient's parents and grandparents lived to old age and her brothers and sisters are all healthy.

Examination of the urine.—It occurred to one of us (K. F. L.), who recalled a case recorded by Dr. T. R. Bradshaw of Liverpool, that this was an instance of albumosuria, as the following analysis of the urine proves. It was pale straw in colour, at times syrupy in consistence, and forming an abundant and persistent froth on shaking; the odour was peculiarly aromatic, which was also perceptible latterly in the patient's breath. It had a specific gravity of 1019–1022 and varied in amount from 80 to 120 ounces in the 24 hours. The reaction was neutral or faintly acid. On heating in a test tube a precipitate formed which dissolved on boiling. When treated with cold concentrated nitric acid a dense curdy precipitate formed, which entirely dissolved on boiling and reprecipitated on cooling. When treated with cold concentrated hydrochloric acid a precipitate formed sometimes slowly, sometimes at once, which dissolved on boiling and reprecipitated on cooling. With a few drops of acetic acid and the addition of potassæ ferro-cyanide (10 per cent. solution) a turbidity appeared, but only on standing for some time. This precipitate (and that obtained by heating) was soluble in caustic soda or caustic potash. This solution reacted to nitric acid in the same manner as the specimen of urine before the addition of caustic soda or other reagent. The amount of precipitate present was considerable, the dense precipitate formed after addition of picric acid or nitric acid occupying four-fifths of the column of urine after standing for 24 hours. A few oxalate crystals were occasionally present. The urea was estimated as 4·15 grains per ounce. Sugar was absent but the specimens always gave the biuret reaction. In this connexion we may note that Dr. Bradshaw says:[1] "Contrary to what is generally taught I am convinced that the biuret reaction affords no indication by which we may distinguish between globulins and albumins on the one hand and albumoses and peptones on the other." A specimen of the urine was sent to Dr. Bradshaw who very kindly confirmed the tests and reported that "the proteid in the urine sent to him coagulated at 58° C. and almost entirely dissolved on boiling; but that on the other hand the precipitate with concentrated hydrochloric acid was much less dense than usual."

Necropsy.—A complete post-mortem examination was not permitted but a partial examination was made 24 hours after death. Cadaveric rigidity had not then set in and there were no post-mortem ecchymoses. The abdominal wall already showed signs of commencing decomposition. The sternum and rib cartilages, the left clavicle, and portions of the left humerus were removed. The lungs and heart appeared pale but normal. There was no fluid in the pleural cavities and no sign of recent or old-standing pleurisy. There was thickening of one of the ribs on the left side which suggested recent fracture. After removal of the fractured portion of the humerus about six ounces of a pale pink blood-stained fluid, imparting a gluey or soapy feeling to the touch, filled the cavity thus made and was reserved for examination. It apparently escaped from the sawn ends of the humerus.

Pathological report.—The tumours consisted of a round cell growth, richly supplied with blood-vessels, the connective tissue sheaths of which could be readily seen. The cells of the mass consisted of a nucleus nearly of the size of a red blood corpuscle, deeply stained by hæmatoxylin and showed only a small mass of protoplasm. The protoplasm so far as we were able to say was agranular, and Mann's stain, when used both by the long and short method, did not show anything that we were able to recognise similar to the "red bodies" described by Muir. Practically the mass had the greatest resemblance to a round-cell sarcoma. The microscopical appearance closely resembled that described by Bradshaw and Warrington in 1899 but differed in certain points from that described by Parkes Weber with Muir's report.

Dr. Bradshaw kindly examined the fluid taken from the arm after sawing through the bone and reported that he looked chiefly for indications of the presence of the Bence Jones albumose. He says: "It is very difficult to detect it when mixed with a large amount of other proteids. I found (*a*) that some coagulation takes place on heating a watery extract of this material to about 60° C.; (*b*) that the watery extract (or solution) gives a well-marked albumose reaction on boiling with nitric acid; and (*c*) that when the solution is boiled with a little acetic acid and sodium chloride and filtered hot the filtrate becomes slightly turbid on cooling. These reactions, as far as they go, suggest the presence of albumose. I have, however, found a slight coagulation at 60° C. on heating a solution of normal bone marrow." We can only say that the analysis, particularly test (*b*), suggests the presence of albumose or some closely allied body.

Treatment.—We have said nothing as regards treatment because we discovered nothing that had any power to arrest the course of the disease. Treatment of any sort has so far proved ineffectual and we have not been able to discover any suggestion as to the course to pursue in such cases. Hæmoglobin, liquid peptonoids, iron, phosphates, &c., were all tried in rotation with equally unsatisfactory results. The vomiting generally ceased spontaneously and seemed to be due to dilatation of the stomach owing to inertia, as no pain, tumour, or tenderness was present. The diarrhœa, which, as we remarked before, was accompanied by peculiarly offensive motions, was checked by pilula plumbi cum opio with salol in cachets.

Remarks.—The points of resemblance to other cases recorded, apart from the condition of the urine, are: 1. The fragility of the bones. 2. The extreme anæmia and lassitude. 3. The pains of neuralgic character, varying in intensity and situation, aggravated by movement, and accompanied by local tenderness. 4. The presence of a semi-fluctuating tumour over the acromial end of the clavicle in connexion with the false joint. The peculiarities of the case are: 1. The fractures occurring solely on the left side. 2. The occurrence of the disease in the long bones, humerus and femur; no disease in cranial bones. 3. The absence of any prominences on the bones. 4. The sharp grating crepitus of the fractures resembling that produced by old dried museum specimens. 5. The fact that a firm union took place in one of the fractured bones—viz., the femur, although infiltrated with disease of a malignant nature. 6. The female sex of the patient. Most recorded cases have been in males.

ON THE TREATMENT OF CANCER WITH RADIUM BROMIDE.

BY H. G. PLIMMER, M.R.C.S. ENG., F.L.S.

IN November last Lord Iveagh generously placed at my disposal some radium bromide, with the request that I would investigate its effects upon cancer. The staff of the Cancer Hospital allowed me to make use of the following cases, so that I was enabled to follow the effects of the action of radium more or less completely on 17 cases which I have tabulated in a form giving a general view of the cases and the extent of the treatment. The amount of radium bromide used for these cases was 30 milligrammes and it was inclosed in a vulcanite capsule covered with talc. It was made by the Braunschweig Chinin Fabrik.

It will be noticed that this series of cases consists entirely of carcinoma, many of the cases being in a very advanced condition. The diagnosis was confirmed in all of them either by the examination of the primary growth or by the excision of a nodule. The individual exposures varied from 40 minutes to five minutes; and the capsule containing the radium was placed directly on the nodules or lumps, the only thing intervening between the radium and the skin being the talc top of the capsule. I left the cases for a month after the exposures and then examined them to see in what condition they were. The effects in all the cases were negative, either no change or an increase in the size of the nodules. Cases 3, 14, and 17 were all about to slough when they came for treatment, and there is nothing whatever to indicate that the sloughing was in any way hastened by the treatment. The effect on the skin varied in the different cases; an exposure of ten minutes was generally sufficient

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[1] Transactions of the Pathological Society of London, vol. li., p. 143.

TABLE OF CASES OF CANCER TREATED WITH RADIUM BROMIDE.

No.	Sex.	Age.	Nature of cancer.	Total time of application of radium.	Between dates of—	Longest and shortest time of application.	Skin.	Remarks.
1	F.	53	Three nodules on the right chest, secondary to cancer of the breast.	20 minutes.	Nov. 17th and 27th.	5 minutes.	Reddened.	The patient died on Dec. 31st. A nodule was removed on Nov. 25th to see what effect had been produced.
2	F.	42	Two nodules on the left chest, secondary to cancer of the breast.	10 minutes.	On Nov. 17th.	5 minutes to each nodule.	,,	Nodules have ulcerated and the patient is considerably worse.
3	M.	40	Sloughing epithelioma of the lip.	10 minutes.	Nov. 18th and 20th.	5 minutes.	Broke down two days after the last application.	This was a raised nodule in a diffuse epithelioma of the lip which was soft at the time of application.
4	F.	28	Multiple nodules on the chest, secondary to cancer of the breast, and a gland above the clavicle.	2 hours 50 minutes to nodules and 45 minutes to gland.	Nov. 19th and Jan. 25th.	30 minutes; 5 minutes.	Blistered and scabbed.	The gland at first seemed softer but did not diminish in size. A nodule was removed for diagnosis.
5	F.	40	Ulcerated contracting scirrhus of the breast.	25 minutes.	Nov. 19th and Dec. 22nd.	5 minutes.	Reddened.	The patient died on Jan. 23rd.
6	F.	44	Recurrent growth of the breast in and about the scar.	11 hours 55 minutes.	Nov. 23rd and Feb. 9th.	30 minutes; 5 minutes.	Blistered and scabbed.	The nodules increased rapidly in size.
7	F.	44	Gland deep in the axilla.	36 minutes.	Nov. 24th and Dec. 18th.	8 minutes, 5 minutes.	Reddened.	No change.
8	F.	80	Moveable lump in the right breast about three inches by two inches.	14 hours 25 minutes.	Nov. 24th and Feb. 10th.	40 minutes; 5 minutes.	Blistered and scabbed, at first blackish in colour, later white and scaly.	This patient showed no sign of improvement in the primary growth and an axillary gland enlarged to a good size during treatment.
9	F.	64	Diffuse mass of secondary ulcerated cancer in the right axilla.	1 hour 30 minutes.	Nov. 24th and Dec. 19th.	5 minutes.	Very thin and red before treatment.	The patient died on Jan. 11th.
10	F.	54	Cicatrix adherent to the ribs, with small nodules in it.	3 hours 45 minutes	Nov. 28th and Feb 1st.	30 minutes; 5 minutes.	Blistered early.	No change.
11	F.	53	Diffuse mass of secondary cancer in the right axilla.	2 hours 35 minutes.	Dec. 1st and 19th.	10 minutes; 5 minutes.	Very red and angry before treatment.	The patient thought she could move her arm better but there was no change in the growth.
12	F.	63	Small nodules beneath the skin between a cicatrix and the clavicle on right chest.	1 hour 20 minutes.	Dec. 7th and Jan. 27th.	5 minutes.	Blistered and scabbed.	No change.
13	F.	60	Secondary growth in the axilla and gland above the clavicle.	3 hours 15 minutes.	Dec. 10th and Feb. 4th.	15 minutes; 5 minutes.	,,	The patient thought she could move the arm better but no change in the growth was effected.
14	M.	53	Fungating mass below the jaw, secondary to epithelioma of the lip.	15 minutes.	On Dec. 17th.	15 minutes.	Sloughing.	The mass sloughed out a few days after.
15	F.	52	Two very small subcutaneous secondary nodules near cicatrix of the breast.	3 hours 10 minutes.	Jan. 13th and Feb. 10th.	40 minutes; 30 minutes.	Blistered.	There was no change in the nodules and a new one appeared during treatment.
16	F.	60	Secondary glands in the axilla.	1 hour 30 minutes.	Jan. 18th and 25th.	30 minutes.	,,	No change.
17	F.	48	Large mass of secondary growth over the sternum, about to slough.	1 hour 10 minutes.	Jan. 21st and 22nd.	40 minutes; 30 minutes.	Reddened.	The growth began to slough.

to produce blistering, and then scabbing, and under the scabs there was found a very slowly-healing ulcerated surface. The radium had apparently no effect with regard either to causing or to relieving pain and the irritation of the blisters was slight.

From three of the above patients who died some nodules which had been treated were excised and subjected to a careful microscopical examination. In all these cases no change was found either in the cancer cells or in the fibrous tissue and none were degenerated. There appeared to be an increase in the amount of the subcutaneous round-celled exudation which was greater in amount in those nodules which had been more recently treated, but the irritation of the skin would sufficiently account for this. On the other hand, Dr. Apolant, writing from Professor Ehrlich's laboratory, records[1] some very satisfactory and striking results obtained by treating very rapidly growing nodules of inoculated cancer in mice with radium. The nodules decreased remarkably in size, but it was apparently difficult to get rid of the last bit of the nodule, probably on account of fibrous changes. These results are much the same as those obtained by Professor Exner in Vienna in a case of melanotic sarcoma with multiple rapidly growing nodules in the skin. It appears as if the emanations from radium can only act upon young and rapidly growing cells and that older cells, especially if surrounded by fibrous tissue, are less and less easily affected, and if there be an excess of fibrous tissue the cells are not at all affected.

Lister Institute of Preventive Medicine, S.W.

GENERAL LYING-IN HOSPITAL, YORK-ROAD, LAMBETH, LONDON, S E.—An entertainment will be given in the small Queen's Hall, Langham-place, London, W., on the evening of Thursday, May 26th, the proceeds of which will be devoted to defray the cost of the new dining room for midwives and nurses and the new sitting room for nurses now in course of construction at the hospital. The entertainment will cc
bazaar will also
Friday, July 8th,
to provide funds
and nurses in con...
be handed to a ladies' committee which is now being formed to assist convalescent patients requiring the benefit of a short rest in the country.

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[1] Deutsche Medicinische Wochenschrift.

THE SITE OF REFERRED PAIN IN VISCERAL DISEASE FROM AN EMBRYOLOGICAL STANDPOINT.[1]

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FROM the clinical experience of many observers, and from a consideration of anatomy morbid and otherwise, the pains and hyperæsthesias arising from the various viscera in morbid states have been located in various regions of the parietes. I propose to approach the subject of the location of pains referred from the viscera from an embryological standpoint, and consider that many phenomena at present clinically obscure are thus elucidated.

That a viscus unilateral in origin and development has a unilateral nerve-supply is axiomatic—e.g., the ureter. It is *just as clear that viscera bilateral in origin*, formed by fusion of lateral structures, retain in each half their lateral innervation—e.g., the uterus. If one considers the history of some viscera hereafter referred to as median in origin, bilaterally symmetrical halves with bilaterally symmetrical nervous rudiments are traceable; a median diverticulum from such an organ will partake equally of the right and left halves and of their right and left innervation; for example, the foregut and common bile-duct. Given that the organs retain throughout their development their primitive or embryonic nervous connexions, I suggest as a working hypothesis: 1. That viscera lateral in origin and development if they give rise to pain or hyperæsthesia at all refer this to their own side of the body wall. 2. That viscera bilateral in origin but asymmetrically developed refer their pains and hyperæsthesias predominantly to that side of the body from which the predominant element, be it right or left, is derived. 3. That viscera *median* in origin give rise to pains and hyperæsthesias on both sides of the midline in states affecting both sides of the viscus, or if affected on one side on that side, near the midline, to which the half of the viscus in which the lesion is situated originally belonged. 4. That viscera lateral and bilateral in origin and developing symmetrically give rise to pain on either or both sides according to the situation of the lesion or other morbid state. Viscera illustrating these origins, the referred pain of which is discussed below, are: (1) ureters, testicles, ovaries, Fallopian tubes, and the aortic arch except the ascending portion; (2) ascending aorta and heart; (3) trachea, œsophagus, stomach, duodenum, bile-ducts, small intestine, appendix, large intestine, rectum, and bladder; and (4) uterus.

I will not go over ground already well covered by many observers but simply state their findings that these structures are themselves entirely insensitive to pain, and will first discuss the pains referred from the diseased aortic arch because pains whose seat is most varied afford most interest, whose cause is least known need most elucidation, and whose explanation if acceptable will give greatest support to the hypothesis.

The embryology of the aortic arch subdivides itself into that of the ascending aorta and that of the remainder. The transverse portion beyond the innominate artery and the descending arch have normal origin in entirely left-sided structures—the vessels of the left visceral arches, and according to hypothesis should have their pains referred entirely to the left side of the body. The ascending aorta has a complicated development from the bulbus arteriosus which in its turn has a simple development as being the upper portion of a tube formed by the fusion of two symmetrically placed right and left ventral vessels. Could we but estimate how much of the ascending aorta is formed from the right element of the bulb and how much from the left, we might suggest what proportion of the referred pains of acute and chronic aortitis in this situation ought to be felt on either side of the body.

The septum superius has origin from above downward, from between the fourth and fifth left branchial vessels where it is situated antero-posteriorly; at the level at which the semilunar valves *will later be developed, the plane of the* septum cutting the bulbus arteriosus into ascending aorta behind and pulmonary artery in front is transverse. The anterior border of this septum, in fact, has passed spirally from left to right through 90°. The bulbus arteriosus is the portion of the fused ventral vessels which most retains its primitive position, being anchored as it were above by the paired vessels passing to the branchial arches. Thus we can estimate that of the right and left elements forming the bulbus arteriosus more of the right element has been cut off in the longitudinal division which takes place to form the ascending aorta than of the left, especially just below the level of the innominate artery, while at the point of divergence of aorta and pulmonary artery the right and left primitive elements take equal share in aorta formation.

By hypothesis, therefore, pain and hyperæsthesia arising from aortitis, acute or chronic, just above the aortic ring should be referred to right and left of the midline; arteritis higher in the ascending aorta should give pain and hyperæsthesia mostly to the right. As we have seen, the arch beyond the innominate artery should give rise to entirely *left-sided* pain. The common form of arteritis, however, and its effects are not usually circumscribed but are found in lessening degree from the aortic ring onwards, the inflammation being started by a cause acting equally throughout the whole aorta but confirmed by the systolic shock and pressure felt in diminuendo along the artery. Seldom will atheroma be found limited to the neighbourhood of the aortic ring, yet more seldom in patches more remote while the ring remains free.

What is angina pectoris? Angina is a pain felt in the parietes, referred there from a centre in the cord irritated by afferent impulses passing along one or more visceral nerves of the first, second, third, fourth, and fifth dorsal, and perhaps some lower cervical segments. Whence do these afferent visceral nerves acquire the impulses which render their centres irritable? I quote the Regius Professor of the University of Cambridge, whose Cavendish lecture on Disease of the Ascending Aorta has so broadened the horizon in the etiology of angina pectoris. He says: "We may guess that the relation of the fibrous tissue to the nervous tissue of and about the ascending aorta may be the determining factor of pain in inflammation, acute or chronic, of these parts." So we have impulses starting in and about the ascending aorta going to the right and left segments of the cord, impulses from the transverse and descending arch (I have said that aortitis is rarely limited) irritating left-sided portions of the cord, and all that is wanting is a stimulus to start the explosion which is to run along the prepared train and give rise to the sensations so well known.

Burney Yeo in his "Manual of Medical Treatment" inclines to the view that heightened blood pressure is a result rather than a cause of anginal pain, but we can easily imagine that a slight rise of pressure—due to emotion, for instance—is a cause of sufficient afferent stimulus to initiate katabolism of nerve substance already rendered unstable, and that the effect of the resultant pain thus initiated may be a still further rise of blood pressure to the establishment of a vicious circle. However this may be, angina is felt in the right- and left-sided distribution suggested by our hypothesis, radiating more often to the left in accordance with the preponderating left embryonic origin of the seat of the causative lesion, most frequent, persistent, and intense in a bilateral sphere about the junction of the corpus and manubrium sterni, just as the origin of the first part of the ascending aorta is most active in mischief and is bilateral in origin, often radiating to the right even as the upper part of the ascending aorta has a preponderant right-sided origin. So much for the pain of angina. Burney Yeo in his "Manual of Medical Treatment" gives pictures showing hyperæsthetic spots in[2] "aortic disease." I suggest that these pictures represent the hyperæsthesias of an aortitis in which disease of the aortic ring is an incident: indeed, so-called aortic disease and aortitis are in many cases inseparable etiologically and combined clinically. If the brunt of the disease has fallen on the aortic ring and its immediate environment, we should by hypothesis expect pains and hyperæsthesias referred to either side of the midline.[3]

As to the left location of pains and hyperæsthesias which clinically with certainty may be traced to morbid conditions of the heart, we find that, as for the anterior end of the fusion of the ventral vessels which forms the heart, the paired visceral arches form an anchor and are a guide to its constitution, so for the posterior end the paired umbilical and vitelline veins mark off the primitive right and left portions of the common auricular chamber. This chamber opens by an aperture, slit-like and transverse, into the ventricle: of this aperture the walls of the left end are derived from the left element and those of the right end from the right element. Later this orifice becomes divided by the ventricular septum into left and right portions, the left forming the mitral orifice, the right the tricuspid orifice. At this point we have the original left and right elements preserved in their original relation. The brunt of the commoner morbid states of the heart, by reason of the higher pressure within the left ventricle in systole, falls on the left side; in particular is the wall of the left auriculo-ventricular orifice affected and we have seen that this can be traced to be a primitive left structure. By hypothesis, therefore, pain and hyperæsthesia of mitral disease should in all cases be referred to the left side of the body wall.

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[1] Thesis for the degree of M.D.

[2] Burney Yeo: Manual of Medical Treatment, part ii., chapter v., Fig. 14.

[3] Figs. 13 and 14, loc. cit.

Clinically this is found to be the case. I may refer to an excellent diagram of left sided hyperæsthetic spots in a case [illegible] Yeo's "Manual of Medical [illegible] nany of these spots depicted [illegible] rent visceral nerves from the [illegible] the septa of the common ventricular chamber of the fœtal heart develop in such a way as by no means to separate the original right and left elements, I am unable to suggest in what proportion the elements are embodied in either ventricle or to suggest that some of the spots may be due to myocarditis of the left element; nor does the morbid anatomy of mitral disease, except in a later stage, permit one to consider in its connexion tracts of the heart wall remote from that originally left-sided structure the wall of the mitral orifice. As I have said, the common auricular chamber preserves the right and left positions of its constituent elements, and though the auricular septa do not seem exactly to re-divide those elements, yet, broadly speaking, the left auricle is formed from the left primitive vessel and the right from the corresponding right vessel; but as painful morbid conditions affecting the auricles alone are unknown the only use we can make of this fact here is the demonstration how the right and left position of the original elements in the auriculo-ventricular canal is preserved and may be traced.

The alimentary tract from pharynx to rectum has origin as a straight tube in the middle line bilaterally innervated. The œsophagus should therefore have its pains referred bilaterally near the middle line. The pains of stenosis of all kinds and of ulcerations are felt in the situation indicated, both sides of the viscus being usually affected; the higher the lesion the higher is the pain located in a line from the neck to the lower end of the corpus sterni. The swallowing of hot food or of a large or angular bolus is an everyday experience and the pain arising from it is felt to travel downwards, being especially acute at the lowest portion of the region mentioned which I believe corresponds with the cardiac sphincter of the stomach. I emphasise the point that these pains though median are bilaterally so in view of some conclusions to which the hypothesis has led with regard to unilateral median pains and hyperæsthesias in ulceration of the stomach.

James Mackenzie has shown that for morbid states in the stomach and small intestine the resultant hyperæsthesias are located near the midline, and especially has he demonstrated that the higher in the abdomen the hyperæsthesia the higher in the alimentary canal is the causative lesion. For instance, in a case of gastric ulcer in which the hyperæsthesia is located in the upper part of the epigastrium he finds the lesion at the cardiac end of the stomach, making his incision well to the left of the middle line; with hyperæsthesia low down in the epigastrium he searches with success the pyloric or duodenal region. From a consideration of the segmental condition of the fœtus in the vermis stage of development this seems quite what might be expected.

Now in cases of gastric ulcer resultant hyperæsthesia is often wonderfully circumscribed, as, indeed, is the lesion; a five-shilling piece or even a half-crown will cover the hyperæsthetic area at some stage in the history of the disease. Embryologically the anterior wall of the stomach is a left-sided structure and it is supplied by nerves from the left portion of the cord; by hypothesis, therefore, ulcers on the anterior wall should give rise to hyperæsthesias to the left of the midline. The commonest situation of a gastric ulcer is the lesser curvature where right and left nerves meet; this should give rise to hyperæsthesia bilaterally median. The proportion of ulcers on the left (or anterior) wall to those on the right (or posterior) is 69 to 235, and on the lesser curvature to the greater 288 to 27 (numbers taken from 793 cases collected by Welch and quoted by Osler). Of those ulcers situated on the lesser curvature it is no fanciful supposition, considering the numbers given, that there would be a preponderance of the right embryonic element in the lesion. So, taking gastric ulcer as a whole, one would expect from the hypothesis that the maximum hyperæsthesia and pain would be just to the right of the median line. The hypothesis suggests that a marked left median hyperæsthesia or seat of maximum pain is a localising symptom of lesion in the anterior wall of the stomach and that marked right median pain would point to a lesion on the posterior wall; and that were the median third of the epigastric region divided into nine equal areas the seat of an ulcer might in many cases be accurately located before operation, thus—*hyperæsthesia in upper right area, lesion cardiac and posterior; hyperæsthesia in lower left area, lesion pyloric and anterior, &c.*

Gastralgias without lesion have a situation in the epigastric area as vague as is their pathology and the hyperæsthesias and pains of cancer and chronic gastritis as diffuse as is their causative lesion, though a marked right or left hyperæsthesia or pain should by hypothesis locate the lesion on the posterior or anterior wall respectively.

To trace embryologically the hyperæsthesias and pains arising from the viscera will prove impossible without considering *those arising from affection of the peritoneum.* What has been said of the hyperæsthesias referred from gastric lesion applies to cases without peritonitis as a complication, a condition often existing in cases of gastric ulcer. The peritoneum, parietal and visceral, arises with the same left- and right-sided symmetry and innervation as does the gut. It will at once be seen that embryologically speaking the posterior wall of the stomach is in contact with right peritoneum, visceral and parietal—the lesser omental sac wall; and the anterior wall of the stomach is in contact with left peritoneum, visceral and parietal. Even extensive peritonitis therefore in stomach lesions will not affect the embryological orientation of the hyperæsthesia, though this will be spread laterally in area somewhat. In this connexion I may mention a case, of which I have lately heard, of peritonitis in the lesser omental sac from perforated ulcer on the posterior wall of the stomach; as by hypothesis it should be the hyperæsthesia was noticeably right-sided, though in the course of development the lesser omental sac is thrown to the left of the median line.

What has been said of stomach ulceration applies to duodenal ulceration, though here in a small viscus right and left sides are not so easily distinguished and even a small lesion is liable to invade both sides of the tube and give rise to bilaterally median pain. The posterior wall is right embryonically. As a matter of fact, duodenal ulceration is usually on the posterior wall and the referred pain to the right of the median line; this is as it should be by our hypothesis.

Lesions of the small intestine or temporary abnormal conditions of this part of the bowel usually affect its whole circumference. [illegible] should therefore be [illegible] Mackenzie gi[illegible] tion of intestine pains those arising from dietetic error. The descent in level of the pain in the abdominal wall is felt *pari passu* with the descent of the offending matter. With pain in the epigastrium relief by vomiting is possible, with pain in the umbilical area the hopeless feeling of "having to go through with it" is experienced; when the pain descends in the hypogastrium rejection per anum becomes a recognised possibility and eventually imperative. The pain throughout the attack is bilateral about the median line, though in intenser paroxysms, as is the case with all these gut pains, the pain extends into lateral regions and vertically. Meckel's diverticulum gives us an embryonic point which should correlate the small intestine save the last 43 inches with abdominal parietes above the umbilicus. The small intestine in its latter three feet and over is developed below the communication of the primitive gut with the yelk sac and its corresponding parietes will be situated below the umbilicus. On embryological grounds therefore we should look for any hyperæsthesia due to typhoid ulceration in a bilateral region below the umbilicus. I have demonstrated clinically that in the second and third week of typhoid fever in some cases there is a bilateral region of hyperæsthesia well localised in the lower half of the umbilical region. The large bowel would seem to take an inordinate share of the parietes for the manifestation of its grievances as compared with the small—nearly the whole of the skin and musculature about the midline below the umbilicus; but, as marked off by the outgrowth of the cæcum in the early fœtus, it will be seen to have nearly equal importance as to length with the future small intestine.

The intenser pains arising in connexion with these structures median in origin radiate into lateral regions, as also they do with less intensity in a vertical direction. Now if the lateral skin regions corresponding embryologically with the large intestines are those which cover the legs and the corresponding muscles are leg muscles, embryology would lead us to suppose that just as the abdominal muscles are thrown into tonic spasm and the abdominal skin in lateral as well as median regions rendered hyperæsthetic at the height of small intestine colic, so their homologues of lumbar and sacral innervation, the muscles and skin of the legs would be affected by radiation in intense colic of the large intestine. These pains in the legs—cramps—are often associated with abdominal pains and diarrhœa. I have lately carefully observed a case in which aching pain arising from internal piles—structures in themselves painless unless they have invaded the junction of proctodeum and hind-gut—was felt in the cutaneous distribution of the second, third, and fourth sacral nerves bilaterally.

Grave interest attaches to the embryology of the diverticula of fore and hind gut, in that it affords an explanation of the site of their pains and separates these pains from those due to complications in a way that cannot fail to have practical bearing. Surveying the embryology of the diverticula as a whole the trachea is a median diverticulum; since it quickly develops a right and left bronchus with their right and left innervation I need not insist on the right- and left-sidedness of this median tube. The common bile-duct arises from the fore gut anteriorly as if drawn out in continuity with a right and a left bile-duct around which the liver originates; this stamps the median bilateral nature of this duct. The typhlon is unpaired throughout, from its first appearance to its adult vestigial state, as is also the pancreatic duct, but the latter originates from exactly the opposite face of the gut to the bile-duct. I read the origin of these ducts in the light of the also unpaired cavity of the allantois which gives rise to the obviously median and bilateral bladder and in the light of that apparently cardinal law of origin of organs which applies alike to the begonia leaf and to the human liver—bilateral symmetry. Whether the cystic duct and the gall-bladder—diverticula of a diverticulum—are also median and bilateral in origin, embryology does not say, but on the basis already used I incline to the belief that these are indeed median and bilateral in origin.

A complication of the simple state of the origins of the bile and pancreatic ducts occurs in their further development in that these eventually open by a common aperture into the intestine, though originally on opposite faces of that tube. Taking the typhlon first in its pathological states the usual incitement to colic in the gut acts on this piece of developmental and structural gut, giving rise to pain and tenderness of a nature that should, and does, appeal to the laity as "stomach ache" and that in a site in the parietes depending on the origin of the typhlon. We have seen that the typhlon is median and bilateral in origin and it is developed below the site of Meckel's diverticulum where such exists. Therefore by hypothesis its pains and hyperæsthesias should be bilateral about the midline and situated below the umbilicus.

A colic arising in the umbilical area below the umbilicus of the nature of "stomach ache" is precisely the clinical phase of an attack of appendicular colic; if the conditions which lead to such an attack, which are just those which cause inflammation of the appendix, do not produce this latter result the phenomena are liable to lead to misdiagnosis and to the summary dismissal of the case to that group of uninteresting etiology yclept "stomach aches." In my own short experience I have met with two such cases where repetition of the attack and subsequent inflammation of the appendix and spread of inflammation to the peritoneum gave the clue to that diagnosis which I in similar cases now hold in view from the first. This pain of appendicular colic is rarely absent in cases of appendicitis. The cases without colic are dangerous, as perityphlitis is apt to occur without the danger signal of bilaterally median pain below the umbilicus, though if sought for I think a bilateral hyperæsthetic area would be found in this situation. The reason for right-sided pain and hyperæsthesia arising in connexion with appendicitis lies in the shifting of the peritoneal attachment of the cæcum and appendix with that of the ascending colon to the right, bringing the appendix into close relation with structures of right-sided origin and innervation, to wit, the peritoneum and subjacent tissues of that side; for appendicitis so-called is not appendicitis only nor chiefly. Treves, in his "System of Surgery," significantly speaks of perityphlitis, leaving appendicitis proper out of consideration as merged clinically in its own effects. However, in most first attacks, at the onset of each recurrent attack, and in some slight cases throughout bilateral median pain due to the appendix proper is the rule and is entirely in accord with the embryology of the viscus in which the attack originates. C. W. Mansell Moullin considers the initial pain of appendicitis to be due to the peristalsis of the appendix dragging on its mesenteric attachment.

Mackenzie cites a case of resection of bowel for umbilical hernia, without general anæsthesia, in which the upper end of the severed bowel contracted more than once whilst lying on a hot cloth; at each contraction the pain of colic was felt by the patient who referred this pain to the parietes. The circumstance would seem to preclude traction on the mesenteric attachment. It is true that the gut wall has no sensory nerves, but it is far less hypothetical to suppose that afferent nerves (not sensory), which it certainly does possess, give rise to referred pain, than to attempt to ascribe the pains of contracting gut throughout the length of the intestine to traction on the mesenteric attachment to the body wall. Mansell Moullin says[4]: "I have known even the slight pull caused by placing a ligature around a protruding portion of the colon bring on an attack of colic"—this as an instance of pain caused by a drag on the mesenteric attachment. It is my opinion that the ligature produced a spasmodic contraction of the bowel which gave rise to its own referred pain. It is beside the subject to query the same writer's view of the significance of McBurney's point and of a similar point posterior in situation.

Morbid states of the common bile-duct, since the duct is median and bilateral in origin and developed above the seat of Meckel's diverticulum, may be expected to give rise to bilaterally median pains and hyperæsthesia above the umbilicus. In cases of gall-stone colic we have an analogy with cases of appendicular colic, and the median pain in the upper region of the umbilical area is never wanting, but gall-stone colic being generally an incident in a long-standing cholelithiasis, which in its turn may be but the result of morbid states of the hepatic apparatus, often gives rise not only to its own pain but to right sided pains to which further reference will be made. I have myself met with two marked cases of gall-stone colic in which because of entire absence of right-sided pain gastritis was diagnosed, and the diagnosis was changed only by the course of subsequent attacks. A recognition of the fact that the common and cystic ducts are median in origin and bilaterally innervated, and should in accordance with the hypothesis give rise to pain bilaterally about the median line above the umbilicus, will concentrate the attention of the clinician in such cases on the exact area of the pain and of its maximum intensity and through this on that piece of gut which is the true offender.

The explanation of the right lateral pains coupled with gall-stone colic recorded in the greater part of the older literature of the subject, especially in text-books, and inextricably confused with the median bilateral pain, is that those are effects of complications, effects of morbid states induced in structures largely right-sided in origin either prior to the first attack of colic or often as a result of the first attack. After one or two attacks of obstruction and resultant inflammation have set up peritonitis about the duct, or in active cholecystitis or cholangitis at the time of an attack, pain would be referred to right regions of the body wall supplied by nerves from centres irritated by splanchnic afferent impulses passing from right lateral areas of peritoneum and subjacent tissue.

By hypothesis the pains and hyperæsthesias arising from the pancreatic duct should be bilaterally median above the umbilicus and in the umbilical area. This is not at variance with clinical experience. The hyperæsthesia of tracheitis, commonly known as "rawness in the chest," bilateral about the midline from the larynx to the level of third rib cartilages, is a matter of common experience. The pains arising from the bladder affections are mostly connected either with active spasmodic contraction or with passive resistance to over-distension; both sides of the bladder are generally concerned and its pains are bilaterally median as they should be in accordance with the bilaterally median origin of the allantois. It has more than once been hinted *that where peritoneum is involved in a morbid state of a* viscus referred hyperæsthesia is located in the right or left situation corresponding to the origin of that part of the peritoneum. This statement is not affected by the controversial point as to the direct sensibility of parietal peritoneum.

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[4] THE LANCET, August 22nd, 1903, p. 514.

Of structures unilateral in origin I have little to say in support of my hypothesis: the clinical evidence is too clear to need discussion. The referred pain of ureteral colic is markedly lateral; that of the testis on which pressure is exerted no less so in the groin of its own side. The only viscus lateral and bilateral in origin and symmetrically developed, for discussion, is that resulting from the fusion of those originally lateral structures, the *Müllerian ducts*.

The pains of labour referred from the contracting uterus to the abdomen and back are well known. I will only draw attention to the fact that they are bilateral in order to emphasise that though bilateral they are not bilaterally median, as are the pains due to structures which I have designated median in origin. The halves of the uterus give rise to lateral pains, which, indeed, may fuse in the midline; the halves of the intestine give rise to pains about the midline which in their intensity may radiate into lateral regions. As to the pains and muscular contractions in the legs which so frequently appear in the course of labour these, which are homologous with the cramps of the legs in severe colic of the large intestine, are reflex pains set up in structures of the same segmental innervation as that of the Müllerian ducts. It seems inconceivable that so clumsy and dangerous a condition of affairs would have been perpetuated evolutionally were pressure on nerve roots in the pelvis the cause of these common cramps.

It is within the scope of this essay to speculate on those *comparatively infrequent cases where the* pain of stone in the pelvis of the kidney on the one side is felt on the opposite side and why, as I have observed, a patient may be operated on for appendicitis when only a ruptured left Fallopian tube is found to account for the pain felt on the right side. Is the pain felt in these cases really due to the lesion found? I would suggest that in such cases were fuller search made some structure in close relation in origin and development with the fellow to that in which the lesion exists may itself be found to be in a morbid state, giving rise to no pain but throwing the cord of its own side into an irritated condition by constant afferent impulses, a condition which if interfered with by an impulse transferred across the cord might readily give rise to pain. So correlated in origin and innervation are ureters, testicles, ovaries, spermatic cords, and Fallopian tubes. For instance, the right Fallopian tube being in a morbid state and a stone irritating the pelvis of the left kidney sufficient impulse might be transferred across the cord to explode a right sided irritability due to the Fallopian tube to the overshadowing of the pain due to the *stone on its own side*.

As my thesis has developed itself two points of interest have come into view. The one is that, leaving out cases in which peritoneum has been involved in the lesion and has complicated the pains, the pains due to structures referred to as median are distributed in the regions of the anterior cutaneous nerves in their maximum intensity and are often confined to those regions, while originally lateral structures give rise to referred pain in lateral cutaneous branches of the segmental nerves or their homologues. The same median and lateral distribution of referred pain when felt in the dorsal regions is observed. Viscera originating in the lateral mass have their afferent nerve fibres in close relation in the cord with those of lateral cutaneous branches; while median structures developed beneath the splanchnopleure have their afferent fibres correlated more closely in the central nervous web with anterior fibres of the segmental nerves. As to the significance of this I can only put forward the protective theory of the origin of pain as suggested by James Mackenzie, but if the protective theory of the origin of pain be correct it were obviously better had viscera median in origin preserved their state of the vermis stage of development median and unconvoluted and that lateral organs had never changed their position relatively to the body wall.

The parietal peritoneum with its uncomplicated orientation, be it sensitive or insensitive to direct stimulation, is only a partial corrective to the disturbance that has taken place between the relations of the visceral seat of lesion and the seat of resultant sensation in the body wall since the vermis stage of evolution. As I have shown in dealing with the medley of pains referred to the umbilical region, in that *specially protective sense of leading to a rapid diagnosis* the peritoneum often gives its lead all too late in the disease.

The other point is that, as regards pains, I have perforce dealt throughout with structures into the composition of which unstriped muscle tissue largely enters and that pain as opposed to hyperæsthesia is generally noticeable when that tissue is carrying out its function strenuously, either whilst in an abnormal condition or with an unusual incentive. The connexion between the working of the muscle and the production of the pain is very obvious in cases where such a cause as a pull on a mesenteric attachment is out of the question; it is on the ground of the generality of this element of muscular stress or strain in visceral pain that I *reject as unnecessary* a *cause referred to one viscus* which will not apply to an[illegible] I [illegible] that the origins of [illegible] inherent in the nerv[illegible] stress or strain.

To conclude on the main subject matter. My postulate on the preservation by viscera of their embryonic nervous connexions is far from unreasonable or indefensible and my hypothesis, save where it offers suggestions to the clinician, is amply borne out by clinical facts. There appears to be a good case, when searching for hyperæsthesia, when questioning as to pain and when drawing conclusions, etiological or diagnostic, from the sensory phenomena of morbid visceral states, for the utility of taking hints from embryology on the lines laid down.

Gravesend.

ON SO-CALLED INTRA-UTERINE CRETINISM AND ITS SUPPOSED IDENTITY WITH ENDEMIC AND SPORADIC CRETINISM.

BY DR. MED. H. BAYON,
ASSISTANT PHYSICIAN AT THE CLINIQUE FOR MENTAL DISEASES, WÜRZBURG.

THE object of my present communication is to show that up to the present time there is no conclusive proof for the occurrence of intra-uterine cretinism and that the cases which on different occasions have been published under this title[1] are to be reckoned as appertaining to the fœtal bone disease generally known as chondrodystrophia fœtalis or so called congenital rickets. I base my conclusions on microscopical sections of the bones of cases of chondrodystrophia fœtalis and cretinism which are to be found in the museums of the Pathological Institute and Clinique for Mental Diseases here, as also on slides which were kindly supplied to me through Professor Langhans of Berne (Switzerland) and on the results of the experiments of Hofmeister.[2]

Dr. J. W. Ballantyne had occasion at the seventieth annual meeting of the British Medical Association to point to the bewildering confusion which is caused by a too numerous nomenclature in fœtal bone diseases, especially where most of the terms employed are simply synonymous. What, since the appearance of Kaufmann's monograph in 1892, now generally carries the name of chondrodystrophia fœtalis has been called or described as achondroplasia, chondromalacic micromelia, fœtal rickets, so-called fœtal rickets, intra-uterine rickets, micromelic rickets, annular rickets, chondritis fœtalis, pseudo-chondritis, osteogenesis imperfecta, congenital or intra-uterine cretinism, cretinoid dysplasia, osteoporosis, osteopsathyrosis, periosteal dysplasia with osteopsathyrosis, and defective enchondral ossification. Ballantyne has adopted the nomenclature which Kaufmann made use of and makes accordingly a distinction between the following subdivisions of chondrodystrophia fœtalis—viz.: (1) hyperplastica; (2) hypoplastica; and (3) chondromalacica. The typical appearances of these three different diseases have been sufficiently clearly given by Kaufmann and Ballantyne.[3] I will therefore without delay settle the question which I have undertaken to explain.

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[1] THE LANCET, Feb. 9th, 1884, p. 252; Brit. Med. Jour., Sept. 12th, 1896, p. 620; Barlow, Transactions of the Pathological Society of London, 1881.

[2] Beiträge zur Klinischen Chirurgie, 1894, Band xi., S. 441.

Since Virchow first described a specimen of chondrodystrophia fœtalis hypoplastica and came to the conclusion that it was a "new-born cretin,"[4] there has been the utmost difficulty in separating this disease from cretinism, especially as nobody dared to question Virchow's authority on the subject—in fact, the greater part of the following cases were described as "cretinism" and some authors went even so far as to refuse to acknowledge undoubted cretins as such when they did not present the features of Virchow's famous "neugeborne cretin." Having had by lucky chance the very identical specimen of Virchow in my possession I proceeded to make slides of the epiphyses and found on examination, as I expected, at the junction with the diaphysis a layer of connective tissue continuous with the periosteum. This was sufficient to stamp the case as chondrodystrophia fœtalis hypoplastica. In the bones of cretins one never finds such a fibrous cap over the end of the diaphysis; the bones of cretins have only this peculiarity—viz., that their ossification takes place exceedingly slowly, exactly as with infantile myxœdema and infantile dwarfs—i.e., dwarfs whose puberty is greatly retarded. In one of my previous papers I was able to give the radiographs of the hand of a patient, aged 12 years, suffering from infantile myxœdema in whom the ossification corresponded to the conditions of a child scarcely three years of age. In the museum of the clinique here there is the skeleton of a cretin who was 32 years old and whose pelvis is separable into the three parts (pars sacralis, iliaca, et pubica) which begin to be united at the age of six years. Even microscopically there is no great difference to be found between the bones of children whose real age corresponds to the apparent age of the cretins. The identity, from an etiological point of view, of sporadic and endemic cretinism and myxœdema has long ago been settled through Semon and Kocher, and if this fact has not had the unanimous agreement of all authors it is simply owing to the opinion that the small stature of endemic cretins was due to their cartilages becoming too soon ossified. The x rays have now shown the contrary to be the case, so that nowadays no serious objection can be brought forward to shake Semon and Kocher's theory. Cretins, sporadic and endemic, are nothing more or less than undeveloped children with the typical puffiness and intense apathy of myxœdema. On the other hand, cases of chondrodystrophia fœtalis, if they happen to grow up, which, though rarely, does sometimes occur, are as regards mental faculties perfectly normal and on a par with their surroundings and differ from other people only in this—viz., that their legs and arms are very short and stunted.[5] This shortness is simply caused through the above-mentioned strip of fibrous matter pushing itself between the diaphysis and the epiphysis and thereby putting a stop to further growth of the bone shafts. These points would be already sufficient to make a relation between cretinism and chondrodystrophia improbable. To this must be added that though up to the present time one has always found unquestionable pathologic changes in the thyroid gland of all cases of cretinism which have been carefully anatomically examined, this has never been so in the case of chondrodystrophia fœtalis.

I must now mention the experiments of Hofmeister, as they have often enough aroused the opinion that chondrodystrophia and cretinism bear some relation to each other. Hofmeister performed thyroidectomy on several rabbits of various ages and found that in the diaphysis of the operated animals the cartilage cells, instead of being arrayed in regular rows as usual, were apparently thrown about in the field of view. As this is also to be seen in chondrodystrophia fœtalis he came to the conclusion that this disease after all was only one dependent on loss of function of thyroid gland—i.e., cretinism. To this point the following objection must be raised, that the typical layer of connective tissue, continuous with the periosteum, never appeared at the junction of the diaphysis and epiphysis in any of the animals upon which he experimented, and that, moreover, a certain degree of "désarroi" does appear in the rows of the cartilage cells in all diseases of the bones without being typical for any one of them.

In conclusion, from all we know up to the present time of the function of the thyroid gland we must deduce that its loss brings on (1) general arrested development and (2) myxœdema. Both of these symptoms are wanting in chondrodystrophia fœtalis, in which disease we find simply short arms and legs, probably following inflammation of the cartilages during intra-uterine life. None of this is to be found in cretinism, therefore the two diseases are distinct units.[6]

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF PNEUMOTHORAX WITH RAPID RECOVERY.

BY EDWARD FRANCIS COGHLAN, M.R.C.S. ENG.,
L.R.C.P. LOND.,
RESIDENT MEDICAL OFFICER TO THE CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.

THE following case, owing to the unusual course it ran, seems to me to be worthy of record.

The patient, who was a man, aged 38 years, was admitted to the City of London Hospital for Diseases of the Chest on Oct. 21st, 1903, suffering from difficulty in breathing. The history he gave was as follows. He had been attending as an out-patient at the hospital since 1897 for cough, expectoration, and occasional hæmoptysis, but with the exception of one interval during which he had been an in-patient at the hospital he had been able to follow his occupation as a clerk. Until some ten days before admission he had been in his usual health, but about that time the cough returned and there was also a little blood-stained expectoration. On Oct. 17th, after a violent fit of coughing, he noticed himself becoming short of breath and about the same time he felt a "tapping sensation" behind the sternum and also heard a noise inside his chest on the left side which he compared to the sound of a pot boiling. On the 18th he felt the dyspnœa becoming worse and on the 19th it was so bad that he could not go to his work, although he attempted to walk there. He then sent for a medical man who advised him to seek treatment at the hospital.

At the time of admission his general strength was fairly good and, though he complained of dyspnœa and could not lie on his left side, he was not suffering from much distress. On examination of his chest some impairment of movement was observed on both sides, but while the right side showed some power of expansion, on the left side there was merely an elevation of the thoracic wall when he breathed deeply, no definite expansion being present. On palpation of the left chest behind vocal fremitus could be made out from the apex to the base over an area of three or four fingers' breadth parallel to the spine; over this area the percussion note was found to be impaired, the breath sounds were somewhat harsh, and vocal resonance was present. On palpating and auscultating over the remainder of the left chest it was found that vocal fremitus, vocal resonance, and breath sounds rapidly diminished and were soon lost as the examination was made at a short and then at a moderate distance from the areas of diminished resonance, but on percussion over this portion of the left chest the note was hyper-resonant. On examination of the heart the apex beat was not palpable; no area of cardiac dulness could be mapped out (being replaced by a hyper-resonant note) and the heart sounds were very faintly audible to the right of the sternum. On the right side there were signs of consolidation of the apex in front and doubtful cavity signs behind. The interpretation of the physical signs on the left side was as follows. The presence of breath sounds, of vocal resonance, and of fremitus in the dull areas mentioned above showed the presence of lung in those areas; their absence over the hyper-resonant area suggested the absence of lung in that area. In other words the left lung was in a state

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[3] Brit. Med. Jour., Sept. 27th, 1902, p. 951.

[4] Gesammelte Abhandlungen, p. 975, Fig. 36.

[5] It will interest the readers of Dickens's works to be informed that Miss Mowcher in "David Copperfield" is a typical case of adult chondrodystrophia hypoplastica.

[6] I also believe that the "Cretinism in Calves," which Seligmann describes in the Journal of Physiology, 1903, vol. xxix., is only chondrodystrophia fœtalis after all.

air to cause a cavity; there

ve reached the pleura from without, consequently it must have done so from within. There was nothing to suggest that an air-containing viscus in the abdomen had opened into the pleura but there was evidence of lung disease, so it seemed that the free air had escaped from the lung into the pleura and so caused the collapse of the lung—in other words, the case was one of pneumothorax. An x-ray examination made by Dr. Hugh Walsham showed the left lung to be collapsed against the spine and also showed transmitted pulsation, and a transparent area corresponding to the air free in the pleural cavity could be made out. Dr. Walsham also took an x-ray photograph which showed (1) the displacement of the heart and mediastinum to the right side and (2) the line of collapsed lung and the transparent area extending from the apex to one of the lower ribs. The diagnosis of pneumothorax was therefore confirmed.

The patient was kept in bed and his symptoms rapidly changed for the better, so that he was able to leave the hospital much improved after a stay of six weeks. A week after admission another x ray photograph was taken[1] and it showed *a return of the heart to almost, but not quite* (as could be demonstrated by percussion), its normal position; it also showed the re-expanded lung with tuberculous infiltration and a small cavity at the extreme apex. The breath sounds, the vocal resonance, and the vocal fremitus could also be made out all over the left thorax, proving therefore that the lung had expanded. In addition to the above it was noted that in the upper quarter front and back the vocal resonance and the vocal fremitus were more marked than normal and there was prolongation of expiration with some medium sized râles showing that this part was already infected. On the right side there was not any change of importance to note.

The following points in the case are worthy of special attention.

1. It is interesting to note the comparatively small amount of distress that the patient had. This might be explained in two ways: either the opening in the pleura was valvular and allowed small quantities only of air to escape at a time or else the pneumothorax was only an incomplete one.

2. *It is also interesting to note the* extreme rapidity of recovery, the patient's mediastinum having regained nearly its normal position at the end of the week. This observation was verified by Dr. Harrington Sainsbury and Dr. Walsham.

3. Another point of interest is that there was no evidence of fluid, for there was never any splashing nor could any fluid be made out by means of the x rays.

4. The case illustrates how important it is in the diagnosis of chest disease to recognise the dislocation of the various thoracic viscera. The diagnosis in this instance largely rested on that fact. The bell sound was entirely absent throughout the case.

I have to thank Dr. Sainsbury for permission to publish the case and also Dr. Walsham for the x-ray photographs.

A CASE OF FRACTURE OF THE SKULL BY CONTRE-COUP; RECOVERY.

BY ANGUS E. KENNEDY, M.R.C.S. ENG., L.R.C.P. LOND.

GENUINE fracture by contre coup is rare and recovery after it is so rare that the following case seems worth putting on record.

In the early part of 1903 a boy, aged 12 years, at Cleggan in Co. Galway was kicked by a horse over the right coronal suture; a compound depressed fracture resulted and the orbital plate of his right frontal bone was torn from the orbital margin and its sharp edge could be felt below the upper eyelid under the protruding conjunctiva. Two months after the accident he was brought to London by the kindness of Sister Katherine and I saw him. His cerebral functions were at that time perfect so far as could be discovered. On the vertex there was a depression with a stellate scar. His upper right eyelid bulged and pulsation could be seen through it. Below the lid the protruding conjunctiva could be seen and the sharp orbital plate could be felt under it and could be moved up and down. The globe lay over the lower lid disorganised but intact and was almost hidden by the conjunctiva. I carefully excised the globe and the protruding conjunctiva, but did not expose the actual edge of the orbital plate, as I saw no way of fixing it or of preventing subsequent hernia cerebri.

The result is very good; the upper lid has sunk back and the pulsation is no longer visible through it though it can be felt; the brain seems to occupy the whole orbit and the appearance is like that of a boy with exaggerated ptosis.

Plaistow, E.

A NOTE ON THE TREATMENT OF SCIATICA.

BY ARTHUR H. BOSTOCK, L.R.C.P. LOND., M.R.C.S. ENG.

WHILE house physician at St. Bartholomew's Hospital I was much struck with the number of cases of sciatica which were not amenable to ordinary methods of treatment and the object of this note is to recommend the use of a remedy to which I have now given a thorough trial. It *has been of most use in the cases of true neuralgia, which in* my experience are the commonest, but it has not acted quite so well in the cases associated with a rheumatic diathesis. The dru

prepare

Chemica

for dispo

House,

five to 20 grains and I find that this substance so given has no depressing action on the heart, neither does it expose the patients to the risks incurred in the use of such analgesics as opium and morphia. When a case is in the acute stage the patient should be placed in the recumbent position and poultices should be applied locally. A commencement should be made with phenalgin in a dose of ten grains, repeated every three hours. After the first 24 hours, if the drug is acting, I reduce it to ten grains (four tablets) three times a day and next day to three tablets (seven and a half grains) three times a day. I then leave a few tablets with the patient to take a dose of ten grains should the pain show a tendency to recur. In my experience doses consisting of less than three tablets (seven and a half grains) are of no use at all.

Chichester.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

QUEEN'S HOSPITAL, BIRMINGHAM.

A CASE OF AN UNCOMMON FORM OF SPINA BIFIDA.

(Under the care of Mr. W. BILLINGTON.)

FOR the notes of the case we are indebted to Mr. Frederic Barker, house physician.

who has

under the care of Mr. Billington, for the purpose of having a small tumour removed from the upper dorsal region of the back in the middle line. The lump, almost sessile but narrowing slightly to form a short stalk, was regarded as a nævolipoma; it was covered with wrinkled skin and was soft and doughy, not fluctuating, and of about the size of a walnut. Within the stalk a cord could be felt running forwards between the first and second dorsal spines. No interval could be felt in the laminæ of the adjacent vertebræ. The condition seemed to be one of spina bifida occulta, in which peculiarities of the skin, such as moles, wrinklings, hairs, &c., are common. On the day following admission the temperature went up to 103° F. Operation was out of the question; the high temperature continued and there were physical signs of broncho-pneumonia, to which the patient succumbed four days after admission into hospital.

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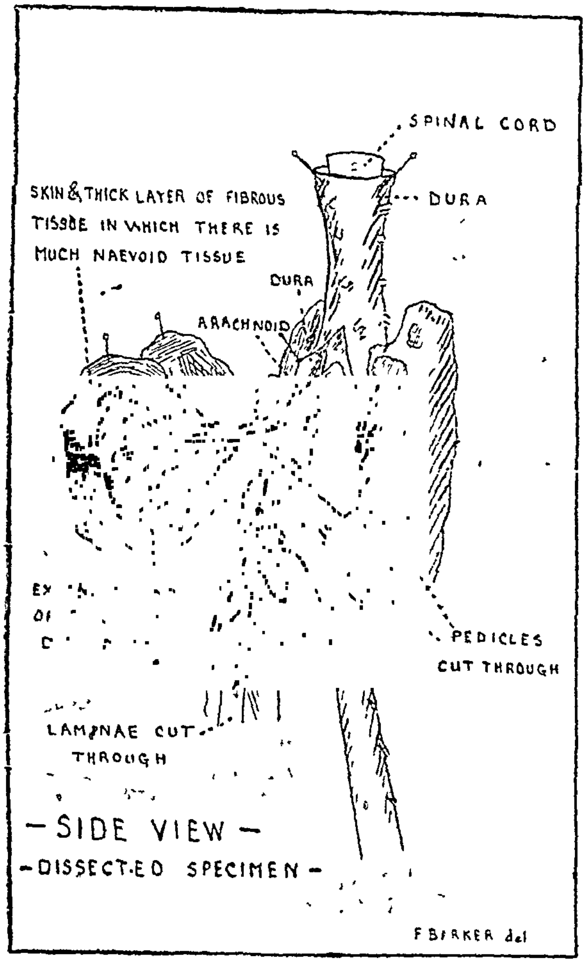
[1] The paper was accompanied by two admirable skiagrams which if reproduced would have occupied a considerable space. They quite corresponded with the description of them given by the author.—ED L.



The illustration represents a side view of the spinal cord and tumour with their connexions dissected out. It was found that the cord within the stalk consisted of a narrow offshoot from the dorsum of the cord, together with prolongations of the meningeal coverings. The central nerve element of the stalk was widest vertically near the cord; it sprang from the columns of Goll and lay over the postero-median groove. Emerging between the spines of the first and second dorsal vertebræ the dura mater widened out in the tumour to form a cystic structure with irregular translucent looking walls, on which the arachnoid and the central part of the stalk lost themselves. The superficial part of the tumour was one-quarter of an inch in thickness and was made up of skin and fibrous tissue in which there was also nævoid tissue. The laminæ of the first and second dorsal vertebræ were both somewhat deficient in osseous growth. The cartilaginous spine of the upper vertebra was large and both were slightly bifid towards the stalk, though there was no complete median hiatus. The narrow central slip from the cord has not been further dissected; probably it contains very little true nerve tissue. The arrangement of the posterior roots was not altered. The specimen was looked upon as a meningo myelocele, though, as Dr. Stanley Barnes (who performed the necropsy) suggested, imagining the narrow nerve stalk to contain a potential canal connecting the external cyst with the central canal of the spinal cord the condition must be regarded as a modified syringo-myelocele, itself an extremely rare phenomenon.

Remarks by Mr. BARKER.—It is interesting to compare the above with a case described by Mr. H. H. Clutton.[1] The sac in that case, which was clinically like a simple meningocele, was found to contain nerve tissue, dura mater, and arachnoid. Mr. S. G. Shattock, who reported on the post-mortem specimen, said that the protrusion consisted "not only of the spinal membranes, but of the cord extruded by a dilatation of the central canal." He termed it a meningo-myelocele. Comparison can also be made with Specimen 22 referred to by the Clinical Society's committee on Spina Bifida.[2] The present specimen, which is now in the Pathological Museum of the University of Birmingham, is uncommon also in its position. Out of 236 cases described by the Clinical Society's committee only 14 (or 5·9 per cent.) were noted in the dorsal part of the spine. Of the 125 pathological specimens only 7·2 per cent. were in this situation. Cases occurring in the dorsal, and especially the upper dorsal, spine are all the more interesting when we consider that the medullary folds of the embryo first join in this region. During life there were no symptoms or deformities which could be ascribed to the tumour or to its connexions. I am indebted to Mr. Billington for permission to publish these notes.

LEEDS GENERAL INFIRMARY.

A CASE IN WHICH A GALL-STONE WAS REMOVED FROM THE GALL BLADDER; SUBSEQUENT DEVELOPMENT OF MALIGNANT DISEASE OF THE GALL-BLADDER; DEATH FROM SUPPURATIVE CHOLANGITIS.

(Under the care of Mr. R. LAWFORD KNAGGS.)

A SPARE woman, aged 69 years, who looked, and expressed herself as being, very healthy, was admitted into the Leeds General Infirmary on Sept. 8th, 1902. She had never had any trouble with her digestion or her bowels except some slight diarrhœa two years previously. Seven weeks before admission she felt pain in the right hip which "let her down" when she walked. The pain gradually mounted higher till it was felt over the lower ribs and a medical man discovered a tumour in the right loin. She had never been jaundiced or had any attack of severe abdominal pain and she had lost no flesh. She had a goitre of long duration which caused no trouble. On examination a smooth, rounded swelling was found in the right lumbar region. It was evidently attached to the liver and was regarded as a distended gall-bladder which from its mobility was free from adhesions. A tender spot was always to be found on pressure at a point midway between the umbilicus and the tip of the ninth rib and a gall-stone impacted in the cystic duct was diagnosed. The urine was normal.

On Sept. 11th the patient was anæsthetised and an incision was made over the gall-bladder. This, much elongated and distended to the size of a fist, was drawn out of the wound and a quantity of foul-smelling fluid with some pus was evacuated by the aspirator. A single stone was felt in the cystic duct and was squeezed back into the gall-bladder and removed. It was of about the size of a nutmeg, oval and not faceted. The gall-bladder was very long and supple and not noticeably thickened. No suspicion of anything abnormal was raised by the examination of the cystic and common ducts which was made in the routine manner. An india-rubber tube to carry away the bile was now fixed in the gall-bladder which was then attached to the aponeurosis, but owing to its length its terminal portion was allowed to lie above the aponeurosis and between the lips of the incision through the soft parts. From this circumstance the fistulous opening failed to close in the ordinary way but the amount of bile that came from it steadily diminished and became so trivial that it proved to be no discomfort to the patient. Consequently no thought of doing anything to close it was entertained. The following report upon the fluid removed from the gall-bladder was made by Dr. J. A. C. Forsyth: "On agar there was an active growth in five hours. At the end of three days culture examined. Foul odour noticed on withdrawing plug from tube. Film preparations show bacillus coli communis in pure culture."

The patient left the hospital on Oct. 19th. She was seen from time to time as an out-patient and except for the fistulous opening discharging a very little bile she was quite well. About the end of 1903 she came complaining of pain in the right hypochondrium. She stated that the fistula had closed and that th [illegible] had ceased. Some [illegible] cicatrix of the fistula [illegible] to the redundant por [illegible] allowed to remain in [illegible] two or three weeks she continued to attend as an out-patient but the pain then became so continuous and so distressing that she was glad to consent to the fistula being re-established. During this time she lost flesh. She was re-admitted on Jan. 23rd, 1904. The urine was normal. On [illegible] was made [illegible] he mucous [illegible] e quantity of mucus with some purulent dregs escaped but no stone could be felt with a probe. The intense pain was relieved by the operation but the patient did not seem to recover her spirits. On Jan. 28th she had a rigor and the temperature rose to 105° F. She had another rigor on the 29th (the temperature being 102°) and on Feb. 4th the temperature rose to 103° and gradually fell but with these exceptions the temperature kept about the normal throughout. The pulse varied from 72 to 100 but it averaged from 80 to 90. Two or three days after the first rigor jaundice was first noticed and marked tenderness on pressure was present in the middle line above the umbilicus. The jaundice increased and was evidently due to obstruction. The left lobe of the liver enlarged and reached almost to the umbilicus and all over it was very tender. There was also much pain in the right hypochondrium and round the right lower ribs. The mucus coming from the gall-bladder became *bile-stained*. The patient complained of feeling very ill and was listless and often drowsy. Albumin appeared in the urine and there was œdema of the legs and abdominal wall. Gradually she passed into a semi-conscious state, petechial spots and vesicles appeared over the body, and she died on Feb. 17th.

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[1] Transactions of the Clinical Society of London, vol. xix.

[2] Ibid., vol. xviii.

[illegible] er, examined the blood on [illegible] "Red cells, 4,800,000 per [illegible] 0,000 per cubic millimetre. The neutrophile leucocytes predominate. This result is quite in accordance with the blood fluid in cases of malignant disease."

Necropsy.—At the post-mortem examination the liver was somewhat enlarged. On laying open the gall-bladder through the fistulous opening it was found to be the seat of malignant disease. Its walls were infiltrated with growth to the thickness of nearly half an inch and the growth extended to, and involved, the cystic duct, practically occluding it. Neither the hepatic duct nor the common bile-duct was affected but the growth involving the cystic duct had pressed upon, and partially obstructed, the commencement of the common duct. Above this stricture the ducts were much dilated and were the seat of suppurative cholangitis. The surface of the liver showed numerous cystic elevations due to the dilated terminal ducts and on section the dilated bile-ducts were found to be filled with pus. A small secondary nodule of growth was present in the left lobe near its anterior margin. No gall-stones were found. The pancreas was normal. The kidneys were small and slightly granular. As regards the chest, there were some adhesions in both pleural cavities and both lungs were the seat of chronic bronchitis. The thyroid gland was the subject of fibro-cystic enlargement. The other organs were normal. Microscopic examination of the growth showed it to be a columnar carcinoma.

Remarks by Mr. Lawford Knaggs.—It cannot be certainly affirmed that the malignant disease had not commenced when the first operation was performed, but it was quite unrecognisable by the finger or by sight, and the presumption consequently is that it was of later origin. There were two sources of irritation present if the temporary use of a drainage-tube be disregarded: one, a gall-stone, which was removed presumably before the commencement of the growth, and the other the bacillus coli communis. It is probable that this latter source of irritation was never thoroughly eradicated from the gall-bladder or its glandular recesses, for when the fistula closed owing to the blocking of the cystic duct by the growth the mucus which collected soon became mixed with pus. Unfortunately no cultures were made from the gall-bladder contents at the second operation so that this point cannot be placed absolutely beyond doubt. The case, however, is of considerable interest from its bearing upon the etiology of carcinoma of the gall-bladder.

SEAMEN'S HOSPITAL, LAS PALMAS, CANARY ISLANDS.

A CASE OF ENTERECTOMY FOR GANGRENOUS HERNIA.

(Under the care of Dr. J. Cleasby Taylor and Dr. Rafael Gonzalez y Hernandez.)

The patient who was a Norwegian, aged 18 years, was a sailor on board a Norwegian steamer and was admitted into the Las Palmas Seamen's Hospital on Oct. 20th, 1903. He had been troubled with a right inguinal hernia for five years, though latterly it had shown no sign. On the morning of admission a swelling appeared in the scrotum, accompanied by pain and vomiting. On examination a right inguinal hernia was diagnosed. Attempts to return the mass having been already made and the parts having become very tender ice was applied and an enema was given, this latter producing two movements of the bowels. As there was no vomiting, distension, or abdominal pain it was decided to await symptoms and the subsidence of the inflammation. During the next four days the bowels were moved four times by means of enemata, the tongue remained clean, the pulse-rate was from 56 to 60, the abdomen was flaccid, and the tumour became less swollen and tender. On Oct. 24th, after Dr. Taylor had consulted with his friend Dr. Gonzalez, a hypodermic needle was introduced and some very foul dark brown fluid was drawn off. As it was thought that there might perhaps be a decomposing hæmatocele the tumour was immediately cut down upon under chloroform, and on opening the sac six inches of bowel were found in a gangrenous condition, the fluid extracted being contained in the lumen of the bowel. The gangrenous portion was removed and the divided ends were joined together by means of ten interrupted catgut sutures, these passing through the serous and muscular coats only. The clamps being taken off peristalsis was observed on both sides of the suture, with evident passage of contents and no leakage; the crural canal was then enlarged and the intestine was returned to the abdomen, the external wound being closed in the usual way. After the operation there was neither abdominal pain nor distension, the wound healed quickly, and the patient was out of bed in three weeks. On the fourth day, after an enema, the bowels acted for the first time and regularly thereafter. The patient's highest daily recorded temperatures were as follows: on Oct. 20th, 97·6° F.; on the 21st, 100°; on the 22nd, 100·4°; on the 23rd, 98·4°; on the 24th (the day of the operation), 98·4°; on the 25th, 101°; on the 26th, 100°; on the 27th, 99°; and on the 28th, 99·2°. After this date it did not rise above 98·4°.

Remarks by Dr. Taylor and Dr. Gonzalez.—There were three points of interest in connexion with this case. 1. Notwithstanding the gangrenous condition of the bowel there was for four days no symptom indicative either of strangulation or of septic absorption. On the contrary, the condition of the man in general and of the part in particular was better. If it had not been for the fluid withdrawn by the hypodermic needle we should probably instead of operating have awaited further symptoms. 2. The operation was done with the instruments we had sterilised for the incision of the swelling, without any buttons or proper clamp, the shank handles of Thornton's T forceps being used as clamps. 3. The rise in temperature on the day after the operation was undoubtedly due to septic absorption from the divided ends of the bowel. Five-grain doses of salol every three or four hours acted well.

Gloucestershire Infirmary and Eye Institution.—The annual meeting of the governors of this institution was held on March 31st under the presidency of Colonel Curtis Hayward. The medical report stated that 1235 in-patients were admitted during 1903, compared with 1335 in 1902. The out-patients numbered 7743, against 8473 in the previous year. The financial statement showed that the receipts amounted to £7558 and that the expenditure was £7839, leaving an unfavourable balance of £281. It was stated that of the £10,600 required for the nurses' home and other improvements the sum of £7518 has been already received.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Mental Condition in Epilepsy in Relation to Prognosis.—Peptic Ulcer of the Jejunum.—Carcinoma of the Rectum.

A meeting of this society was held on April 12th, Sir R. **Douglas Powell**, the President, being in the chair.

Dr. W. **Aldren Turner** read a paper on the Mental Condition in Epilepsy in Relation to Prognosis, a full report of which was published in The Lancet of April 9th, p. 982[1]—The **President** asked if Dr. Turner was able to define in any precise way the facies epileptica and also whether he had been able to observe any pathological change characteristic of epilepsy.—Dr. **Fletcher Beach** said that since an epileptic child was uneducated the mental deterioration was more marked than it would be in the adult. He had been able to note great improvement in those epileptic children who had been educated. It was a well-known observation that the mental impairment was often greater in cases of petit mal than in cases of major epilepsy.—Dr. C. **Hubert Bond** said that at the recently started County Council Colony for Epileptics at Epsom he had had under observation cases which differed only in degree from those seen by Dr. Turner. He said that it was important to note what other members of a family might be mentally affected and especially in how close a connexion they stood with the patient. He had noted that first-born children were frequently epileptic and this he attributed to the difficult labour of the primipara. He also thought that the youth of the parent was an important factor.—Dr. **Turner** replied.

Mr. A. W. **Mayo Robson** communicated a paper on Peptic Ulcer of the Jejunum and gave a list of all the reported cases, 15 in number, his being the first, so far as he could ascertain, recorded in English literature. All the recorded cases had occurred after gastro-enterostomy, nearly all of them being after the anterior operation, and in all perforation had occurred. He gave some statistics bearing on the frequency of peptic ulcers. Out of 128 posterior gastro-enterostomies that he had personally performed there had been no instance of jejunal ulceration. Out of 29 anterior gastro-enterostomies he had had the one case he was now reporting. After some remarks on the pathology he described the symptoms and treatment of the condition. He then related his own case which had occurred three years and four months after an anterior gastro-enterostomy performed for pyloric and duodenal ulcer, the patient having been in the interval well for two years. At the operation he had excised the ulcerated portion of the jejunum and then performed Roux's operation. The patient made a good recovery and was now well.—Mr. F. C. **Wallis** asked why a peptic ulcer should be commoner in an anterior gastro enterostomy than in a posterior? —Mr. D. J. **Armour** asked whether the stenosis of the pylorus referred to in the paper was due to simple cicatrisation or whether it became closed owing to loss of function.—Mr. H. J. **Paterson** asked whether the adhesions which were present were secondary to the perforation of the ulcer.—Mr. **Mayo Robson** said that he thought that peptic ulcer was more liable to follow anterior gastro enterostomy because it was less efficient in draining the stomach than a posterior gastro-enterostomy. The adhesions which formed were the result of perigastric inflammation and these often prevented peritonitis when perforation had occurred. He had frequently found adhesions round a perforated gastric ulcer. He thought the closure of the pylorus was due entirely to cicatrisation and not to loss of function.

Dr. H. J. **Cotton** reported a case of Ulceration of the Rectum. The patient, a man, aged 44 years, who had always had a sallow complexion and never had syphilis or gonorrhœa, first began to pass blood and mucus four years ago. Two years ago he was examined and an ulcerative stricture high up in the rectum was found and was diagnosed by a surgeon as carcinoma and colotomy was advised to relieve pain. The patient declined colotomy and attended his work daily with the help of cocaine and morphine suppositories. A year later Mr. W. Arbuthnot Lane suggested incising the stricture as the ulceration had diminished but shortly afterwards high fever, diarrhœa, and tendency to delirium set in, simulating typhoid fever. No implication of the neighbouring glands could be detected. This grave condition lasted six weeks and there was evident burrowing of pus and fæces in the tissues which finally came to a head in a large ischio-rectal abscess which Mr. Lane incised. On March 19th, 1903, the patient was admitted to Guy's Hospital in a desperate condition and Mr. Lane performed colotomy in the left iliac region, although the microscopical report of a piece of ulcerated rectum was "columnar-celled carcinoma." The operation was performed in four stages: on April 1st an incision was made and the colon was stitched to the skin but not divided. To allay the suffering from the consequent obstruction and distension morphine was given till the fifth day when the bowel was divided and Paul's tube was inserted. On the eighth day the protruding loop of colon was cut through and the lower end was clamped and Paul's tube removed and on the eleventh day the clamp was removed. The patient made a steady recovery and left the hospital in six weeks and was very soon able to resume his work. He had now regained his usual weight of 14 stones, though at the time of the acute illness he weighed about 12 stones. There was still occasional discharge of mucus and blood from the anus but he had lost the intolerable pain and found no discomfort from the artificial anus for which no belt or pad was worn. Dr. Cotton submitted the following questions: 1. What was the man's complaint? 2. Was not the fact that he recovered from the blood poisoning of burrowing pus and fæces sufficiently to allow of colotomy and had now enjoyed ten months' good health, regaining his natural weight of 14 stones, inconsistent with the theory of cancer of three years' standing? 3. Did not true cancer live upon its host and produce emaciation and a cachexia in which such a serious operation would have been fatal? 4. Was the microscope at fault?—or, rather, was the microscopist at fault?—for columnar cells were the natural cells of the epithelium of the intestine. 5. Was it wise to apply the term "cancer" to diseases of low malignancy which might last for years?—The **President** said that he had seen cases with a long period of quiescence after colotomy.—Mr. **Mayo Robson** said that if inflammation was added to carcinoma of the rectum there was a great accession of symptoms and if this inflammatory condition could be relieved a very marked improvement might take place. He referred to a case of five years' duration. The lesson to be learnt from this case was that a radical operation should be performed early if the growth was limited and if it had advanced too far for this a colotomy should be performed. He referred to several cases which appeared to be undoubted cases of carcinoma and in which after a colotomy had been performed the growth entirely disappeared.—Mr. **Paterson** referred to the value of a microscopical examination and said he had seen a patient who, three and a half years after colotomy for carcinoma, was in good health.—Mr. **Wallis** said he had examined Dr. Cotton's patient and he had no doubt that he had carcinoma of the rectum. He suggested that tubercle might sometimes simulate a carcinomatous mass.—Mr. **Armour** referred to a case of a long quiescent period after colotomy.

MEDICAL SOCIETY OF LONDON.

Exhibition of Cases.

A meeting of this society was held on April 11th, Dr. F. **de Havilland Hall**, the President, being in the chair.

The **President** exhibited a case of Thoracic Aneurysm occurring in a man, aged 45 years, who was formerly in the army. In 1884 he had syphilis. He first noticed a pulsating swelling in the front of the chest two years ago. This was accompanied by slight pain in the region of the swelling and between the shoulder blades which extended down the front of the right arm, but the case was one of aortic aneurysm attended by physical signs rather than subjective symptoms. There were evidences of dilatation of the first part of the aorta associated with aortic incompetence. Tracheal tugging was well marked. The treatment of such cases was, in the President's experience, extremely unsatisfactory.

Mr. J. **Hutchinson**, jun., exhibited a case of Undescended Testis (complicating Hernia) brought down into the scrotum by means of section of all the structures of the cord except the vas deferens and its accompanying vessels.

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[1] The premature publication of Dr. Aldren Turner's paper was due to an error which we much regret.

The patient was a man, aged about 25 years. He had an inguinal hernia on the right side and the corresponding testis had never descended outside the abdomen. On operation by slitting up the inguinal canal the testis was found to be of fair size and consistence but it could not by any traction be brought below the pubes after the fascial coverings had been divided by reason of the inextensibility and shortness of the spermatic vessels. These, the anterior bundle of veins and the artery, were divided between two ligatures, taking care to leave the vas deferens and its artery. During the two months that had elapsed the testis had become somewhat harder. The patient would have beennone the worse off if the testis had been excised and Mr. Hutchinson could not recommend this method of treatment. This operation was not altogether new and it could not be regarded as successful.

Dr. H. TILLEY exhibited a case of Frontal Sinus Empyema treated by Operation. The patient was a woman, aged 50 years, who had suffered from nasal discharge for some years due to nasal polypus and recurrent hoarseness which was due apparently to inter-arytenoid pachydermia (so called). It was a noteworthy fact that the latter had disappeared after the radical cure by operation of the frontal sinus empyema.—The case was discussed by Dr. G. WILLIAM HILL and the PRESIDENT.

Dr. TILLEY also showed a case of Asthma relieved by Intranasal Operation. The patient, a man, aged 22 years, had suffered for three years from attacks of spasmodic asthma for which the usual medicinal remedies had been tried with very little relief. For 18 months he had slept in an upright position, the air being impregnated with the fumes of "asthma powders." Examination revealed well-marked moriform hypertrophy of the mucous membrane covering the inferior turbinal bones. On Sept. 21st, 1903, these were removed and there had been complete relief from the asthma since the operation. Dr. Tilley had undertaken the operation with some misgiving as to the result but the relief had been very marked. In his experience such operations for the relief of asthma were more often successful when there were greater nasal lesions than in cases where the nasal lesions were slight, which was the converse of the view held by some observers.—Mr. R. LAKE remarked that he had met with many cases in which the removal of polypi failed to cure the associated asthmatic attacks —Dr. H. A. CALEY referred to the case of a highly sensitive girl in which operation relieved the asthmatic attacks but determined the occurrence of epileptiform attacks.—Dr. HILL believed that about 50 per cent. of polypus cases were relieved of their asthma and some were quite cured, as in Dr. Tilley's case.—The PRESIDENT remarked that if the symptoms of asthma had lasted for years there was not much prospect of relief by operations for nasal stenosis, but if recent they were amenable to such treatment.

Mr. LAKE exhibited a case of Ménière's Disease after operation (previously shown before the society in February, 1904) occurring in a woman, aged 21 years. The symptoms had been vertigo, deafness, and tinnitus. Hypodermic injections of pilocarpine and many other remedies had been tried without success. The patient had her semicircular canals on the left side removed on Feb. 15th, 1904, and since the operation she had not had any further symptoms of vertigo. The malleus and incus were also removed at the time of operation, yet the voice could now be heard at a considerably increased distance (five feet as compared with two inches). Mr. Lake was unable to explain this fact. The tinnitus had persisted.—Dr. HILL commented on the extreme importance of this case, especially in view of its obvious success. Fulminating vertigo was sometimes due to reflex causes and the indiscriminate handing over of such cases to the aural surgeon was to be deprecated.—Dr. TILLEY and the PRESIDENT commented on the advantages to be derived by attacking such cases by surgical measures; these patients often terminated their lives by suicide.

Dr. WILFRED HARRIS exhibited a case of Post-diphtheritic Chronic Bulbar Paralysis in a man, aged 25 years. In 1897 he had had scarlet fever, followed by desquamation, and six weeks after recovery he had a very sore throat and could not swallow without great pain for four or five weeks. Six weeks later he noticed [illegible] al regurgitation. He had [illegible] food since and had much d[illegible]. Since the commencement [illegible], though he could do so before. Four years ago he lost his voice completely for six weeks. He had been slightly worse during the last six months and had noticed slight diplopia twice in the last six weeks, but on the whole there had been practically no variation in the symptoms since the commencement six years ago.—Dr. SIDNEY P. PHILLIPS ventured to doubt the diphtheritic nature of the throat lesion; it might be scarlatinal or septic.

Dr. CALEY exhibited a case of Abdominal Cyst, probably of pancreatic origin, occurring in a man, aged 58 years, in whom the symptoms of diabetes had existed for about four months. The patient stated that for 15 years he had been "getting stout" but he had had no pain or other abdominal discomfort. At the present time there was marked distension with special bulging anteriorly, rather more on the right side than on the left. Dr. Caley dismissed the possibility of other abdominal cystic disease such as mesenteric cyst or a localised ascites.

OBSTETRICAL SOCIETY OF LONDON.

Puerperal Eclampsia treated by Thyroid Extract.—Fibromyoma of the Uterus with Carcinoma of the Body and Fibroid Tumour of the Ovary.—Adeno myoma of the Uterus.—Torsion of the Pedicle in Hydrosalpinx and other Morbid Conditions of the Fallopian Tube.

A MEETING of this society was held on April 6th, Dr. EDWARD MALINS, the President, being in the chair.

Lieutenant-Colonel A. J. STURMER, I.M S., read a short communication on 41 cases of Puerperal Eclampsia treated by Thyroid Extract. Ten grains of thyroid extract were given in each case on admission and five grains every four hours afterwards. Morphine and saline injections were also used in many of the cases. Rupture of the membranes, followed by dilatation of the cervix and the early application of forceps or other means of assisting labour, was the usual practice adopted. Under thyroid treatment the maternal mortality was reduced to 12·2 per cent. It was claimed that the urine after the first two or three doses showed considerable increase and that by the end of 24 hours the increase was great, whereas with saline injections and morphine alone no marked improvement usually set in for 24 hours. It was remarked that most of the cases of eclampsia occurred on dull and cloudy days, when probably the skin did not act as well as usually.—Dr. G. E. HERMAN considered that increase in the urinary excretion was one of the most trustworthy indications of recovery of the patient and that as when thyroid was given the quantity of urine became quickly augmented this preparation was really beneficial.—Dr. R. BOXALL said that he had recently learnt that eclampsia was unduly prevalent in the West Indies as well as in the East. This was attributed by the local medical men to malarial influence.—Dr. H OLIPHANT NICHOLSON considered the results of treatment of cases of eclampsia and of impending eclampsia by thyroid extract as very encouraging. In severe cases he always used morphine in addition.—The PRESIDENT remarked on the difficulty of determining the value of thyroid extract treatment from a series of cases of eclampsia in which other remedies were at the same time used. He was of opinion that atmospheric conditions often exerted a potent predisposing influence in the production of cases of eclampsia.

Dr. W W H. TATE, in exhibiting a specimen of Fibromyoma of the Uterus with Carcinoma of the Body and Fibroid Tumour of the Ovary, emphasised the importance of exploring the uterus in cases of hæmorrhage persisting for years at about the time of the menopause and later, because in these cases malignant disease of the body was a very probable cause of the symptoms.—Dr. A. H. N. LEWERS and Dr. BOXALL referred to similar cases of carcinoma associated with fibro myoma which had come under their observation.—Dr. P. HORROCKS called attention to the fact that bleeding from the uterus after the climacteric in a woman known to have a fibroid tumour did not necessarily indicate malignant disease of the uterus as in this case or malignant degeneration of the fibroid. Some authorities disputed the possibility of the latter but Mr. Alban Doran and he himself had shown specimens illustrating sarcomatous changes in fibroid tumours.

Dr. TATE also showed two specimens of Diffuse Adenomyoma of the Uterus.—After remarks from Dr. STEVENS, Mr. J. BLAND-SUTTON, and Dr. F. E. TAYLOR these specimens were, on the motion of Dr. G. F. BLACKER, referred to the pathology committee.—Dr. BLACKER remarked that they were the first examples of this kind of tumour to be shown before the society. Further examination would no doubt show that the glandular downgrowths were in reality derived from the uterine mucous membrane.

Dr. R. Hamilton Bell in a paper on Torsion of the Pedicle in Hydrosalpinx and other Morbid Conditions of the Fallopian Tube, dealt first with the literature of the subject. 12 cases of this rare accident in addition to 41 collected by Cathelin were recorded. A full account was given of a case under Dr. Bell's own observation. The general problem of torsion of the abdominal viscera was discussed. It was pointed out that the particular conditions necessary to the production of this accident were much more frequently present in cases of hydrosalpinx than in other forms of tubal disease. Short notes followed on the two varieties of torsion, acute and chronic; the direction of rotation; and the results of the twist. The influence of age and pregnancy was also discussed. The paper concluded with a consideration of the more clinical aspect of the cases. The close approximation of the symptoms to those of a twisted ovarian pedicle was recognised and the fact was noted that a correct diagnosis previously to operation had never yet been made. But it should be at least suggested when the following conditions were present: a fluctuating abdominal tumour of irregular shape, not rising above the umbilicus, associated with paroxysmal attacks of pain, culminating in a very severe attack with vomiting and constipation, and if the tumour had been observed before increase of size, tenderness, and some loss of mobility. The treatment consisted of removal of the twisted tube by abdominal section and Dr. Bell thought that the other tube should be dealt with conservatively whenever possible.—Mr. Bland Sutton regarded the diagnosis of this condition as practically impossible. It was a fact that Fallopian tubes when distended with simple fluid, pus, blood, or even when gravid, did twist their pedicles, but it was very difficult even to attempt to frame a plausible theory to explain it; this could be attributed in great measure to their profound ignorance of the statics and dynamics of the peritoneal cavity.—Dr. F. J. McCann referred to a case of tubal gestation with twisted pedicle which he had published. —Mr. Alban H. G Doran considered that diagnosis must be impossible in many cases and that therefore this condition was often overlooked and commoner than clinical records would lead them to believe. Again, it seemed probable, for mechanical reasons, that it was easier for a tube than for an ovarian tumour to untwist itself after axial rotation. Tubal torsion to any appreciable degree was rarer than torsion of the ovarian pedicle because the dilated tube soon became fixed by adhesions, whilst many ovarian cysts did not become adherent to neighbouring structures till after torsion.—Dr. Lewers referred to a case of his own of pyosalpinx with torsion of the pedicle.—Mr. J. H. Targett referred to two cases of tuberculous pyosalpinx in which a similar accident had occurred. He thought that in tuberculous disease the conditions were specially favourable for torsion to occur and that practically all cases of pyosalpinx with subsequent twisting of the pedicle were tuberculous in character.—Dr. Bell replied.

Society of Medical Officers of Health.—A meeting of this society was held on April 8th, Dr. J. Groves, the President, being in the chair.—Dr. J. Howard-Jones read a paper on the Control of Measles which was an appeal for some form of concerted action for checking the spread or reducing the mortality of a disease which caused no fewer than 13 000 deaths annually in England and Wales and which had been uninfluenced by sanitary improvement for the past 50 years. In many towns closure of schools was never resorted to, in others only when the attendance had been so seriously reduced that it could not be deemed in any sense a preventive measure, and in some it was confined to the infant departments. So with regard to Sunday schools, the practice was equally various: in one town only—viz., Reading—had the corporation Parliamentary powers of closure. Notification was compulsory in a few towns, voluntary in others, but unknown in most. In a large number it had been tried but abandoned. From Dr. Theodore Thomson's report to the Local Government Board it appeared that from 90 to 95 per cent. of the deaths from measles were of children under five years of age, that the greatest fatality was during the second year, but that the incidence of the disease was heaviest in the third, fourth, and fifth years. It would thus be understood why it was that in a number of schools examined by Dr. J. Kerr, medical officer to the London School Board, 75 per cent. of the children over five years had already had the disease. It was therefore clear that schools being the centres from which every epidemic spread and the great majority of the cases, with practically the whole of the deaths, being of children under five years, the attendance of such infants—in fact, of babies—was directly responsible for the greater number of the 13,000 deaths. Their exclusion might not reduce the total amount of measles since the infectivity of the disease was such that sooner or later nearly everyone contracted it, but it would by delaying the age of exposure and attack probably lengthen the intervals between epidemics and reduce the mortality. Infants might still contract it from elder children in the same house but while the family consisted of young infants only they would not be exposed to infection. The attendance at school of infants under six years was unnecessary and injurious; they were incapable of "schooling," and the confinement and impure air of the school room were hurtful to their health and development. The £1,250,000 spent on the so-called education of 610,989 infants under five years of age in elementary schools would be available for higher education and research work, or, say, £1,000,000 for this and £250,000 for the medical inspection of schools and the prevention of disease, while the rates would be relieved for some years from the cost of much school extension, since 14 per cent. of the existing accommodation would be set free for older children. Their attendance was not required by the Elementary Education Act but would be encouraged by the school authorities so long as it counted towards the Government grant. The alleged advantages were far outweighed by the disadvantages and the fact that deaths from measles were confined to the children of the poor was not due, as commonly held, to neglect and exposure during convalescence, for they occurred mostly in the first week, but to their being exposed to infection at the ages of greatest suspectibility and fatality of the disease.—Dr. M. K. Robinson said that the experience of notification in Dover had been very satisfactory. In the seven years prior to its adoption the deaths had averaged 180 per annum and were rising, while since that time they had averaged 81.—Mr. T. W. H. Garstang said that his experience was confined to rural districts but he had repeatedly found that by closing schools so soon as there was evidence of an outbreak it was suppressed before a month had passed, whereas when he failed to obtain the order the disease would persist for much longer periods.—Dr. R. Dudfield maintained that all measures were alike useless so long as those hotbeds of infection—the baby class rooms—were permitted, though something might be done by visitation by lady inspectors, and so on. The Public Health Act, 1875, did not define dangerous infectious disease and he thought that it was in the power of an authority to constitute measles one; at any rate, a test case was desirable.—Dr. S. Davies gave his experience of experiments in the closure of schools in a large urban district where the mortality from being one of the highest in the metropolitan area was now one of the lowest, and asked why the mortality from whooping-cough had diminished while that from measles did not.—Dr. J. F. J. Sykes considered that the rise in the mortality from measles which occurred in the "eighties" was due entirely to the lowering of the school age.—Dr. A. Newsholme had had cards printed with the names of all ordinary infectious diseases, on which the teachers inscribed the name of the pupil, scoring out those from which the child had suffered, and on the appearance of which in the school he or she need not be excluded. Such exclusion of the susceptible only was far more rational than closure to the immune and susceptible alike.

Glasgow Southern Medical Society.—A meeting of this society was held on March 31st In the absence of the President the chair was occupied by Dr. J. Coulson Howie.—Dr. T. K. Monro read a paper on Alcohol in Medicine, in the opening part of which he referred to the changes that had occurred in the principles and practice of medicine and in the use of drugs. He instanced potassium bromide as an example and referred to its introduction for the reduction of splenic enlargement, while at the present time it was principally used in the treatment of epilepsy. Quite a revolution, the speaker declared, had occurred in the use of alcohol in medicine. He referred to the old treatment of fevers by powerful stimulation by alcohol and gave as an example of this treatment the practice of R. Bentley Todd who was in the habit of administering great quantities of alcohol in such cases; in one case of a girl, 18 years of age, suffering from enteric fever and pneumonia he gave as much as 48 fluid ounces in the 24 hours. This practice was now obsolete and reference was made to the part which Sir W. T. Gairdner took in the abolition of it. Speaking of alcohol as a food, Dr. Monro declared that there was no evidence to support such an idea. The fact that alcohol was not recoverable from the excretions, he declared, was no evidence of its taking the part of a nutrient. In the process of digestion alcohol was split up into carbon dioxide and water and so in reality was a heat producer, and by preventing the oxidation of fat it became also a fat producer. From the fact,' discovered by experiment, that alcohol diminished the systole of the heart and increased the diastole it was proved not to be a cardiac stimulant. In the failing heart of cardiac valvular disease alcohol was declared to be useless. The transient rise of blood pressure noticed after the exhibition of alcohol arose from the reflex action of tissue irritation. When sufficiently diluted alcohol did not cause any rise of blood pressure.—Following Dr. Monro, Dr. J. W. Findlay made some remarks on the action of alcohol on the pulse-rate, the temperature, and various morbid conditions. On the administration of alcohol there was a very slight and transient increase of the pulse-rate; on the temperature its power as an antipyretic was of no importance. Given in large doses, however, it caused great depression of temperature from vaso-motor relaxation, as was seen in cases of acute alcoholic intoxication. In hot climates the free use of alcohol predisposed to sunstroke. Dr. Findlay referred to its use in cases of fainting, neuralgia, great cold, and dysmenorrhœa; in the last-mentioned condition he considered it a dangerous remedy to advise, as there were other means of relief much safer.—Dr. Howie, *Dr. D. Macgilvray, and Dr. John Stewart took part in the* discussion which followed, and Dr. Monro and Dr. Findlay were cordially thanked for their contributions.

Reviews and Notices of Books.

Adeno-Myome des Uterus. By THOMAS CULLEN, Assistant Professor in the Johns Hopkins University and Gynæcological Assistant in the Johns Hopkins Hospital in Baltimore. With 45 illustrations in the text. Berlin: August Hirschwald. 1903 Pp. 91.

Dr. Cullen's monograph is based upon a number of specimens of adeno-myomatous tumours which he has observed at the Johns Hopkins Hospital at Baltimore. The cases are very fully described and the histological details are illustrated by numerous figures. As the author points out, attention was first drawn to this class of tumours by the work of von Recklinghausen in 1896 and since then a number of cases have been recorded in the literature of the subject. In the majority of instances these tumours consist of a uniform diffuse myomatous thickening of the innermost layers of the uterine musculature into which processes of the hypertrophied mucous membrane of the uterus grow down, thus giving rise to the presence of glandular elements and cystic spaces in the middle of the tumours. They may be divided clinically into three classes—those in which the form of the uterus is not altered and those in which the tumours are either subperitoneal or submucous. One of the characteristic features of the growths is that, unlike the ordinary form of fibroid tumour, they tend at their margin to pass imperceptibly into the rest of the muscular tissue of the uterus without any very clear line of demarcation. The author conclusively shows that in the great majority of the cases the glandular elements are derived from the ingrowth of the mucous membrane of the uterine cavity into the tumour. The view of von Recklinghausen that the glands in these tumours are derived from the remains of the Wolffian bodies is not accepted by Dr. Cullen. He comes to the conclusion that in all cases of adeno-myomata of the uterus in which the glandular elements are similar to those of the uterine mucous membrane and are surrounded by a stroma similar to that surrounding the uterine glands, they are derived from the glandular elements of the uterine mucous membrane or from that of the Müllerian ducts, whether the tumours are interstitial, subserous, submucous, solid, or cystic. In the case of the adeno-myomata arising in the uterine horns, Dr. Cullen attributes the presence of gland elements to outgrowths from the uterine mucous membrane, while in the case of similar tumours arising from the tubal portion of the cornua of the uterus—viz, that containing the interstitial portion of the tube—the glandular elements are probably derived from the mucous membrane of the tubes. Adenomyomata of the round ligament are considered to arise from aberrant portions of the Müllerian ducts. In support of this view is the fact that during menstruation the spaces in these tumours become filled with blood and the membrane lining them resembles very closely the menstruating mucous membrane of the uterus. Adenomyomata are essentially benign tumours and two very interesting cases are recorded by the author in which in spite of the fact that the tumours were imperfectly removed no recurrence took place and the patients recovered. No doubt in the majority of cases these tumours are mistaken for fibro-myomata of the uterus, a diagnosis by clinical examination alone being impossible. They are not infrequently associated with fibro-myomatous tumours, while Dr. Cullen has met with cases of an adeno-myoma occurring together with a squamous-celled carcinoma of the cervix, with an adeno-carcinoma of the body of the uterus, and of an adeno-carcinoma of the body of the uterus arising in an adeno-myomatous tumour. In 15 of the cases the appendages were carefully examined but no relationship could be detected between the presence of these tumours in the uterus and any lesions of the tubes or ovaries. Dr. Cullen's work is an interesting contribution to our knowledge of an important and little known group of tumours.

Blood Pressure in Surgery: an Experimental and Clinical Research. By GEORGE W. CRILE, A.M., M.D., Professor of Clinical Surgery, Western Reserve Medical College. London and Philadelphia: J. B. Lippincott and Co. 1903. 8vo, pp. 422. Price 18s. net.

To this work the Cartwright Prize of the Alumni Association of the College of Physicians and Surgeons, New York City, was awarded last year. It contains the results of 251 experiments on 243 animals. It was undertaken chiefly with a view of determining the nature of shock in surgical operations and the best means of removing its effects. The experiments were made on dogs which were first rendered insensible by an anæsthetic. The trachea was then opened and a cannula was introduced and tracings of the blood pressure were taken. The animals were reduced to the condition of surgical shock or collapse by blood-letting, by removing the integument, by dividing the cardiac nerves, by stimulating the sciatic nerve electrically, by manipulation of the intestines and crushing the paws or the testes, and by other methods; and then various substances were subcutaneously or intravenously injected, such as alcohol, nitroglycerine and amyl nitrite, digitalis, strychnine, normal saline solution, adrenalin and morphine, and various combinations of these drugs, with a view of testing their influence in modifying the blood pressure and thus of preserving life or of acting injuriously. The effects of increased atmospheric pressure both when exerted on the inspired air and when applied to the surface of the body were investigated and, finally, experiments were made on the changes in the blood pressure induced by various operations such as those on the head, mouth, neck, thorax, abdomen, genito-urinary system, spinal column, and other parts. The observations which are here recorded are of great practical importance and we venture to mention a few of them, though the book itself should be studied by those whose daily avocations bring them frequently into relation with shock. In the case of alcohol in animals suffering from shock, however induced, the injection of a moderate dose usually produced further depression and in some instances a considerable dose, when the state of shock was intense, was followed by almost immediate death. The injection of nitroglycerine and amyl nitrite also increased shock. The action of digitalis in animals suffering from shock, either in the form of fluid extract, tincture, or as pure digitalin in solution, caused a rise in the blood pressure, but they did not live so long as control animals—i.e., animals reduced to the same condition of shock but not treated with digitalis. In regard to strychnine it was found that in any degree of shock after the administration of a therapeutic dose of strychnine the animals passed into deeper shock. Adrenalin, in regard to which the author gives an excellent historical account, under the most diverse conditions and degrees of shock invariably caused increase of blood pressure and prolonged the action of the heart. In another series of experiments it was found that digitalis and strychnine supplemented each other very well, the strychnine heightening the excitability of the medulla and spinal cord and the digitalis augmenting the blood pressure. The author draws the important conclusion that the treatment of shock by the most commonly employed stimulation—namely, strychnine, brandy, digitalis, and nitroglycerine—is injudicious and improper, since it produces systemic confusion in the animal.

There is an important section dealing with the subject of resuscitation of animals apparently dead. In this section the results of many experiments are summarised and the statement is made which is worth recollecting that animals apparently dead for 15 minutes may be and were brought back to life by the combined effect of artificial respiration, rhythmic pressure upon the heart, and the infusion of adrenalin. When the blood pr[illegible] again, it seemed probable, [illegible] the heart b[illegible]ressure rose to 30 millimetres Hg or more restored [illegible]egan to beat and the blood pressure was rapidly press[illegible] The various methods of determining the blood [illegible]ure in the human subject are given and are illustrated y many woodcuts. The average blood pressure in the human ubject seems to be between 110 and 150 millimetres, varying nder many different conditions, sometimes being estimated t 200 millimetres and sometimes at less than 100 millimetres. n conclusion, the essential phenomenon of shock is held by r. Crile to be a diminution of blood pressure but he shows y very satisfactory arguments that this diminution is not ue to the failure of the heart or of the cardiac mechanism ut to a loss of peripheral resistance which is again the onsequence of exhaustion or breakdown of the vaso-motor entres. The best means of combating the condition of hock in whatever way it [illegible] be produced is by the intravenous injection of a saline [illegible]ion containing one par[illegible] in 0,000, or one part in 100,000, [illegible] adrenalin. An additional means is to be found in pneumatic pressure applied to he exterior of the body by means of a rubber dress. Very reat credit is due to Dr. Crile and to the gentlemen by whom e was assisted for the originality and precision of the xperiments recorded. It is obvious that the results obtained have an important bearing on practice.

Studies in Heterogenesis. By H. CHARLTON BASTIAN, M.A., M.D. Lond., F.R.S., &c. With 815 illustrations from micro-photographs and 19 plates. London: Williams and Norgate. 1903. Pp. xxxvii.-345. Price 31*s.* 6*d.*

IN his studies in heterogenesis Dr. Charlton Bastian sets forth at length the evidence on which he bases his belief in the contention which he has so long upheld that the lower orms of life—bacteria, amœbæ, monads, and infusoria—are interchangeable. In other words, Dr. Bastian holds that aggregates of bacteria do not breed true but in their offspring are transformed into what the present-day world is prone to regard as distinct and non-interchangeable forms of life. A slight step further brings Dr. Bastian to advance evidence of the *de novo* origin of many lowly organisms and, owing to its important medical bearings, to deduce from this evidence conclusions which, if rightly established, must of necessity cause the whole fabric of bacteriology, infection, and hygiene to fall upon, and to annihilate, the multitude of investigators who have helped to build upon the foundations laid by Pasteur and to cause the name of Pasteur himself to be erased from the roll of fame.

To review this elaborate book at length would be but to attempt to fight over again the battle ably fought, and we believe won, by Darwin, Pasteur, and their disciples. For this we have no space, nor is it needful to do so. The story is, or ought to be, a matter of common knowledge. It is easily accessible in many interesting volumes, in which the development of the accurate bacteriological methods of the present day can also be traced. No doubt advocates of the occurrence of spontaneous generation and heterogenesis will regard this attitude as an untenable *a priori* standpoint. To one schooled in the modern perfected and unequivocal methods for the *pure* cultivation of bacteria it is, however, the only light in which the results obtained by methods discarded by bacteriologists themselves can be regarded. The antiquated methods which still find favour in attempts to re-establish the *de novo* origin and interchangeability of lowly forms of life find no place in modern bacteriological technique. In this attitude bacteriologists are but extending to the advocates of spontaneous generation the treatment which they mete out to one another and against which no bacteriologist will be found to protest.

The methods of modern bacteriology have been devised to exclude or to obviate the errors arising from "outside infection" and the notoriously deceptive appearances suggestive of transition forms of cell life. If bacteriologists [illegible] detect in the results of other members of their calling features which are incompatible with cleanness and accuracy of metho[illegible] those results are discounted [illegible] in the same way as those [illegible] not obtained by Dr. Bastian are received with scepticism a[illegible]nd the erring or would-be authority on bacteria finds t[illegible]hat his results fall upon unsympathetic ears if he be fort[illegible]unate enough to find them escape denouncement as futile an[illegible]d fatuous efforts. We do not doubt that Dr. Bastian ha[illegible] taken all the care that his methods have allowed. [illegible]e are aware of what passes in fluid media containing lo[illegible]ly organisms and can fully appreciate the phenomena [illegible]hich he has so carefully depicted in some 815 reproduction[illegible]s of micro-photographs but we hold that a serious chal[illegible]lenge to the claims *made on behalf of modern* bacteriolog[illegible] is not the outcome of his patient labours, for [illegible]reason [illegible] that the limitations of the methods the simple[illegible] employed [illegible]use him [illegible] to *magnify* the importance of what the bacterio[illegible]logist with better methods regards as avoidable, and therefo[illegible]e unjustifiable, [illegible] sources of error. The book cannot fail [illegible]o be perused wi[illegible]th interest. *It is written with* great [illegible] acumen and will be eas[illegible]ily intelligible to all who wish to poss[illegible] the best possible sta[illegible]tement of the case against the claim[illegible] modern bacteriology [illegible] and unicellular biology.

LIBRARY TABLE.

Stretcher Drill, Illustrated. Second edition. Including the new band-seat, wagon, and railway wagon drills, compiled from [illegible] Manual of the Royal Army *Medical Corps* 1904 Regu[illegible]ns for Army Medical Services, *Field Service* Manual A.M.S., King's Regulations, &c. By Major J. J. DE ZOUCHE MARSHALL (p.s.), Hon. Assoc. Order of St. *John* of Jerusalem in England, commanding *East Surrey Vol. Inf.*

Brigade Bearer Compy., Army Medical Reserve of Officers, late of 1st Cinque Ports R.V.C. and 3rd V.B. East Surrey Regt., Ambulance Instructor of London Metropolitan Police. Published by permission of His Majesty's Stationery Office. 1904. Printed at the office of T. W. Childs, at 10, Broad-street, Teddington. Published by the author at Shortwood, Teddington, Middlesex. Pp. xviii.-110. Price 3s.—This is the second edition of "Stretcher Drill, Illustrated," the first of which we noticed in THE LANCET of July 2nd, 1898, p. 32. The author tells us that he has been encouraged to publish a second edition by the favourable opinions which have been expressed by medical officers of both the Volunteer service and of the Royal Army Medical Corps in regard to the usefulness of his first venture. The nature of the little treatise, which is mainly of a technical kind and is profusely illustrated by engravings and diagrams, is sufficiently set forth in its title. In addition to practical descriptions of stretcher, ambulance wagon, and railway wagon drills the work contains much information on a variety of other subjects likely to prove useful to all having to do with bearer work and the transport and management of sick and wounded. A cardboard "stretcher and patient" issued with the book, it may be added, will be found useful in serving the purpose of learning the drill at home.

Essay on the Irregularities of the Teeth, with Special Reference to a Theory of Causation and the Principles of Prevention and Treatment. By J. SIM WALLACE, D.Sc., M.D. Glasg., L.D.S. R.C.S. Eng. London: The Dental Manufacturing Co., Limited. 1904. Pp. 162. Price 5s net. —This book is a collection of essays which have appeared in the columns of the dental journals. The author freely criticises the views generally accepted with regard to the etiology of irregularities of the teeth and advances a theory of his own; indeed, the keynote to the book is found in the following quotation from the preface. He says: "My studies had so thoroughly convinced me that acquired characters were not transmitted I felt that some other explanation could be made which would account for the diminution in size of the jaws and for the irregularities of the teeth. The idea struck me that there might be an intimate relation between the size and growth of the tongue and the size and development of the jaws, and that this would best explain the facts without any assumption of the inheritance of acquired characters. The facts with which I was acquainted were so easily harmonised by the hypothesis that in a few hours I had roughly sketched out in my mind the theory that I am about to explain." There is undoubtedly a good deal in this book to stimulate thought on the subject but we think if the author had been acquainted with more facts he would have found that they did not all harmonise with his hypothesis. In a work, too, aiming at a scientific study of the question it is a little strange to find illustrations of the type seen on pages 96 and 97. The author sharply criticises Mr. C. S. Tomes's views on selective breeding and supports his own views by pictures apparently from fashion plates, one being reproduced by permission of the *Lady's Pictorial* and the other by Messrs. Harrods. The author gives them as examples of faces with small oral orifices but ample buccal cavities—on what grounds he does not state but to our mind one figure suggests a case of superior protrusion and the other a contracted upper jaw from which the canines have been removed.

The Public Schools Year book, 1904 London: Swan Sonnenschein and Co., Limited. Pp. 568. Price 2s. 6d.—This useful work, which is now in its fifteenth year of publication, was "founded by three public school men—Eton, Harrow, Winchester"—and we learn from the preface that it was the intention of the editors "to include only the great historical public schools along with the more important Victorian schools which have so ably maintained the traditions of the earlier foundations." Gradually, however, the scope has been widened and now the only limit drawn is that a school must be connected with the Headmasters' Conference. Next year, indeed, it is the wish of the editors to deal with the leading girls' schools. The book contains a great deal of information as to the various schools therein included and two new features of this year's issue are an engineering appendix and a musical appendix which give full details as to instruction in these two branches of science and art.

Memoranda on Infectious Diseases for the Use of School Teachers. By JAMES W. ALLAN, M.B. Glasg. Bristol: John Wright and Co. London: Simpkin, Marshall, Hamilton, Kent, and Co, Limited. 1904. Pp. 23 Price 6d.—This little book was originally written for teachers under the Cathcart school board and in the words of the author is meant to be brief and fragmentary. In no profession other than the medical is the ability to recognise the signs of infectious disease so important as in that of the teacher, for a child at school suffering from some infectious disorder, if not promptly isolated, is almost bound to infect his fellows. Dr. Allan gives very plain and simple directions as to the signs and symptoms which may lead the teacher to suspect that a child under his charge is suffering from infectious disease. At one point, however, perhaps, he is a little too optimistic and that is where he says that a child "may return to school three weeks after appearance of rash," the rash in question being that of measles. It would have been well had this statement been qualified by the proviso that all desquamation should be at an end and that the general health of the child should be satisfactory. In some cases four weeks may be necessary. Apart from this point the directions given are admirable.

JOURNALS AND MAGAZINES.

The Journal of Physiology. Edited by Sir MICHAEL FOSTER, F.R.S., and J. N. LANGLEY, F.R.S. Vol. XXXI., No. 1. London: C. J. Clay and Sons. March 29th, 1904. Price 4s.—The articles contained in this number of the *Journal of Physiology* are as follows: 1. The Time Relations of the Photo electric Changes produced in the Eyeball of the Frog by means of Coloured Light, by Francis Gotch, F.R.S., with seven figures in the text. The records for the comparison of the time relations were obtained by means of the capillary electrometer. The red light response is characterised by a long latency period equalling three tenths of a second and a strength of 0·0004 volt. With green and white light the latent period was two-tenths of a second and the maximum response averaged over 0·0005 volt. The response to violet light was $\frac{28}{100}$ths of a second and was of low intensity, averaging only 0 00024 volt. The response to sudden darkness had a latency of two-tenths of a second and is not easily obtained after violet illumination unless this has been maintained for eight seconds or more. The results appear to be in accordance with the Young-Helmholtz theory of light as modified by Maxwell which assumes three distinct colour reactions—*viz.*, red, green, and violet. 2 On Protagon, Cholin, and Neurin, by W. Cramer. Mr. Cramer believes that protagon is not a mixture of different substances but can be isolated. 3 The Function of the Hyaloid Canal and some other New Points in the Mechanism of the Accommodation of the Eye for Distance, by T. P. Anderson Stuart, with nine figures in the text. 4. Contribution to the Physiology of the Thymus, by D. Noel Paton and Alexander Goodall, with one figure in the text. The authors of this article found that in guinea-pigs removal of the thymus is accompanied by a decrease in the number of all varieties of the leucocytes, which decrease in number lasted about two months. The removal of this organ diminished the resisting power of the animal to the action of the toxins of staphylococci and streptococci but not to the toxin of diphtheria.

Scottish Medical and Surgical Journal.—The first four original articles in the April number are as follows: Chronic Intestinal Obstruction caused by Annular Stricture of the Large Intestine, by Mr. David Wallace; Referred Pains, by Dr. William Bruce; a case of General Streptothrix Infection, by Dr. Stuart McDonald; and a case of Pancreatic Infantilism, by Dr. Byrom Bramwell. Abstracts of three of them have already appeared in our columns in the reports of the meetings of the Edinburgh Medico-Chirurgical Society. The paper on Streptothrix Infection gives a very full account of the bacteriology and pathogenic relations of the organism; it is illustrated by two finely-executed coloured plates and several photoprints of microscope fields. Among the summaries of recent literature much information of interest at the present time is given in a paper by Dr. Harry Rainy on Blondlot's "N" Rays. It was in a communication made to the Paris Academy of Sciences on March 23rd, 1903, that M. Blondlot of Nancy announced his discovery of these rays which pass through aluminium but differ from Roentgen's x rays in several respects. The articles published on the subject are to be found chiefly in the weekly *Comptes Rendus* of the Academy of Sciences. Some English investigators on repeating the experiments made in France have not succeeded in obtaining confirmatory results. Some physiological relations of these rays have been described and have been referred to in our columns more than once during the present year.

Caledonian Medical Journal.—Several of the Stewart Celtic Prize Essays have from time to time been published in this journal and one of them forms the opening article in the April number. It is on Old Highland Therapy, is by Mr. Henry Whyte of Glasgow, and naturally contains some Gaelic, both in prose and verse. Dr. T. D. Greenlees, medical superintendent of the asylum at Grahamstown in Cape Colony, writes on the Circulatory Apparatus in General Paralysis of the Insane. He considers that in this condition the pulse presents some characteristic features which may be demonstrated by the systematic use of the sphygmograph. In an article on Medico-legal Experiences Colonel Kenneth Macleod, I.M.S., refers to gynæcological troubles arising out of child marriages in India. The annual meeting of the Caledonian Medical Society will be held on July 22nd in Edinburgh.

Liverpool Medico-Chirurgical Journal.—This journal is published half yearly. The present issue is dated January, 1904, contains 220 pages, and is mainly a record of 28 papers read and many specimens exhibited at the meetings of the Liverpool Medical Institution from January to April, 1903. Several of these communications have therefore been mentioned in our reports of these meetings. The great majority of the papers are on surgical subjects and several are accompanied by illustrations. There are four original articles, the titles of which are: Treatment of Asthma, by Mr. Colin Campbell; Treatment of Prostatic Obstruction, by Mr. D. Douglas-Crawford; Chronic Interstitial Nephritis, by Dr. J. H. Abram; and the Vestiges of Syphilis, by Dr. F. H. Barendt.

The Calcutta Practitioner: a Medical Journal. Calcutta: Published by the City Book Society. Annual subscription for India, 5 Rs.; for foreign countries, 8*s.*—We have received the first two numbers (January and February, 1904) of the above-named journal. We are glad to welcome its appearance, for it may meet a want, as it is intended for circulation among the native members of the medical profession in Bengal. As the editor writes in the introduction to the first number, "No apology is necessary to justify the appearance of a new medical journal in a land where such periodicals are only conspicuous by their scarcity." What is primarily sought for in this new publication is to provide a medium of circulation for the records of the valuable experiences of the isolated units of the medical profession of Bengal. The editor writes with reference to tropical medicine that the clinical phenomena connected with such diseases may be studied much more advantageously in India, where cases are so numerous and varied, than in the schools of tropical medicine in Great Britain. All the articles are written by native practitioners and the text contains many examples of the modes of expression and of the usual mistakes which are familiar to those who are accustomed to English as spoken by the "baboo." The January issue contains a paper on Adrenalin Chloride in Plague and other Diseases, by Rai Bahadur Kailaschandra Bose, L.M.S., C.I.E. This article is worth reading; the author says that adrenalin, given in any stage of plague, maintains the heart and pulse admirably well and brings down the temperature; that its effect in pneumonic and intestinal plague is far from encouraging, but that in bubonic plague, uncomplicated with pulmonary and intestinal troubles, it is a sovereign remedy. The second number, issued in February, contains an interesting paper on the Effects of Mental Impressions of the Mother on the Embryo, by Haridhan Dutta, L.M.S., and also Dr. Bully Chunder Sen's address to the Calcutta Medical Club, delivered at its third annual general meeting. The address deals chiefly with the prospects of the native graduates in the Government service and the grievances of assistant surgeons. Among the contents are Clinical Notes and Records, Reviews of Books, and Remarks on Current Medical Events and on Current Medical Literature. The general get-up and the printing of the journal are very creditable.

Analytical Records

FROM

THE LANCET LABORATORY.

(1) KEPLER MALT EXTRACT WITH HÆMOGLOBIN; (2) MANGANESE AND IRON CITRATE (SOLUBLE) WITH QUININE; AND (3) MANGANESE AND IRON CITRATE (SOLUBLE) WITH STRYCHNINE.

(BURROUGHS, WELLCOME, AND CO., SNOW HILL BUILDINGS, LONDON, E.C.)

1. THE assimilation of iron in the form of hæmoglobin is now established and the latest contribution upon this subject appeared in a paper by Dr. W. D. Halliburton.[1] The results of all observers show that the administration of hæmoglobin improves considerably the condition of the blood with a resulting gain in health and strength. Hæmoglobin is very favourably exhibited in the Kepler Malt Extract. In this form it is agreeable to take, besides which the malt extract itself is a nutrient and helps the digestion of starchy foods. On the whole this combination may be regarded as a valuable therapeutic addition and its use is specially indicated in anæmia, chlorosis, and general debility. We found the preparation to be highly active in converting starch into sugar. A dilute solution gave the characteristic hæmoglobin spectrum; the moisture amounted to 21·41 per cent. and the ash to 1·49 per cent., the latter containing iron and an abundance of phosphate. 2. The preparation of manganese and iron citrate in scale form containing quinine is an obviously valuable combination, as is also that (3) which contains strychnine together with the scale preparation of manganese and iron citrate. We have confirmed on analysis the amounts of the metals and alkaloids stated. In preparation (2) of quinine the manganese amounts to 7 per

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[1] Brit. Med. Jour., April 9th, 1904.

cent, the iron to 14 per cent, and the quinine to 15 per cent. In the strychnine preparation the quantities of manganese and iron respectively are the same with 1 per cent. of strychnine. Both preparations may be had in the form of tabloids.

ALE AND STOUT.

(BARCLAY, PERKINS, AND CO, LIMITED, PARK STREET, SOUTHWARK, LONDON, S.E)

On analysis the light bitter ale (No 1) gave the following results: extractives, 4·79 per cent.; mineral matter, 0·23 per cent.; alcohol, by weight 3·12 per cent, by volume 3·90 per cent, equal to proof spirit 6 84 per cent.; maltose, 2·05 per cent.; fixed acidity calculated as tartaric acid, 0·112 per cent.; and volatile acidity reckoned as acetic acid, 0 09 per cent. This is a well-brewed light ale and a genuine malt liquor bittered with hops. It was in excellent condition. The analysis of a sample of stout marked No. 2 furnished the following results: extractives, 5·10 per cent.; mineral matter, 0·30 per cent.; alcohol, by weight 5·25 per cent., by volume 6·55 per cent., equal to proof spirit 11·49 per cent.; maltose, 2·36 per cent.; fixed acidity reckoned as tartaric acid, 0·20 per cent.; and volatile acidity reckoned as acetic acid, 0·06 per cent. As will be seen from this analysis this is a light form of stout free from acidity and containing only a moderate amount of malt extractives. No. 3 B.S. stout gave the following results on analysis: extractives, 8·40 per cent.; mineral matter, 0 45 per cent; alcohol, by weight 4·00 per cent., by volume 5·00 per cent., equal to proof spirit 8·77 per cent.; maltose, 3 10 per cent.; fixed acidity reckoned as tartaric acid, 0·22 per cent.; and volatile acidity reckoned as acetic acid, 0·06 per cent. The amount of malt extractives is characteristic of a stout described as nourishing, while the alcoholic strength is relatively low. The stout was in good condition and free from acidity. No 4 is an export stout which gave the following results on analysis: extractives, 7·85 per cent; mineral matter, 0·35 per cent.; alcohol, by weight 7·27 per cent., by volume 9·04 per cent., equal to proof spirit 15·85 per cent; volatile acidity reckoned as acetic acid, 0·11 per cent.; fixed acidity reckoned as tartaric acid, 0·24 per cent.; and maltose, 2·50 per cent. As will be seen, this export stout contains more alcohol than does the previous specimen. It is an excellent example of this description of malt liquor. No. 5 is a specially brewed stout intended for exportation to the Russian and North German markets. The analysis was as follows: extractives, 9·95 per cent.; mineral matter, 0 55 per cent.; alcohol, by weight 9·36 per cent., by volume 11·61 per cent., equal to proof spirit 20·35 per cent.; maltose, 2·78 per cent; volatile acidity reckoned as acetic acid, 0·15 per cent.; and fixed acidity reckoned as tartaric acid, 0·35 per cent. This is a "vigorous" malt liquor containing a relatively high amount both of extractive matters and alcohol. It was ripe and mellow and in sound condition, showing no excess of acidity. We believe these malt liquors are thoroughly genuine and they are evidently brewed with care, judging from their excellent condition and flavour.

DIOXOGEN.

(THE OAKLAND CHEMICAL COMPANY, NEW YORK. BRITISH AGENCY, THOMAS CHRISTY AND CO., OLD SWAN LANE, LONDON, E C.)

It is surprising that pure solutions of peroxide of hydrogen have not found greater application in medicine than is the case, since while it is comparatively harmless it possesses very decided cleaning and antiseptic properties. Dioxogen according to our analysis is well suited for medical use in the form of spray for inhalation or local application of the throat or to be taken in definite doses internally since it is free from the common impurities of preparations of hydrogen peroxide. It contains only a trace of chloride. In spite of its proportion of available oxygen the preparation is fairly stable According to our analysis dioxogen contains just over 3 per cent of pure peroxide of hydrogen.

CRYSTALLISED DIGITALINE (NATIVELLE).

(WILCOX, JOZEAU, AND CO, 49, HAYMARKET, LONDON, S.W.)

Digitaline in the pure crystalline state is, of course, a perfectly definite principle and in this form the therapeutic efficiency of the alkaloid can be accurately gauged. It is important that drugs possessing such a powerful action as does digitaline should be pure and definite. The digitaline extracted and crystallised by the process discovered by M. Nativelle, a pharmacist of Paris, has been employed in medicine with uniformly satisfactory results which signify that it is therapeutically superior to ordinary digitaline preparations. The crystalline alkaloid may be prescribed in the form of granules each of which contains $\frac{1}{250}$th of a grain.

COD OLS AND CAST-OLS.

(COD OLS MANUFACTURING CO, 93, DYERS HALL-ROAD, LEYTONSTONE.)

These preparations consist of croquettes of chocolate and flavouring compounds containing a definite amount of castor oil or cod-liver oil, as the case may be. They are prepared with the view of overcoming the objection to the taste of the respective oils. Some amount of success has certainly been obtained in the case of the castor-oil preparation but we cannot say as much for the cod-ol which, in our opinion, is particularly nasty when an attempt is made to masticate it. After all, nauseous substances occupying any bulk are necessarily more rapidly swallowed in the fluid than in the solid form.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 15, 1826.

ON THE MEDICINAL PROPERTIES OF SPIDERS.

To the Editor of THE LANCET.

SIR,—Dr. Bright, in his last Lecture on the treatment of intermittents, recommended, on the authority of one of his pupils, the cobwebs of a peculiar kind of black spider, as a very efficient remedy for obstinate agues. Dr. Bright did not detail the particulars of their modus operandi, neither did he mention the manner in which they should be administered, or the dose necessary for a perfect cure, but he assured his pupils that this action was most salutary, and directly attributable to the medicinal properties, and not to their acting upon the mind as a charm. Several patients having been cured by them, who had not previously been apprized of the nature of the remedy. As the spider to which the docile Doctor has alluded is, I believe, of a very rare species, perhaps it might not be improper to suggest to him the employment of the animals themselves, and also their kindred species, which more abundantly inhabit our houses.

"Credat, Judæus Apella
Non Ego."

A MEDICAL PUPIL.

The black spider (*araneus niger*, *List. Hist.* 77, *Schrod.* 5, 337) was formerly officinal, and much celebrated for its febrifuge virtues. Wrapped in leather, and hung about the arm, it was supposed to be capable of averting the fit of a quartan, and when boiled in oil and instilled into the ears, of easing pain in those parts. *Dioscor. Lib.* 2, *cap.* 68—The country people, with whom the dicta of physicians are handed down by tradition, believe that a small quantity of spider's web, given about an hour before the expected return of an ague, and repeated in half an hour, will prevent its recurrence. The Indians of North America are said to employ spiders and their webs in the same way, and, *a priori*, there is no reason why the former, at least, should not possess medicinal properties as well as the cantharis; whether they do is another question.—ED.

New Inventions.

AN IMPROVED ADJUSTABLE COMMODE.

THIS commode admits of a variety of adjustments, in one of which it presents an entirely horizontal surface, as shown in Fig. 2 It will, therefore, sometimes be serviceable in cases where the bed-pan cannot be used. Its height can be adjusted to that of the bedstead. The seat is of a good size and shape, like an ordinary water-closet seat, instead of a small round hole as usually found in commodes, and it is so constructed that it can be slightly raised at the foot end and so prevent a patient from slipping down. The lid which forms the section for the support of the upper portion of the body can be placed horizontally or it can be raised to various heights so that a patient may sit upright or partially so. When raised it is retained in position by strong pieces of cable which form side supports so that it resembles an arm chair, as shown in Fig. 1. If a patient is too helpless to be supported in this way the lid can be folded back and an attendant can stand behind to give the necessary assistance. The section which forms the support for the lower extremities may either be maintained in the horizontal position, as shown in the illustration, or it may be folded down in order to allow the feet to be placed on a hassock. If desired it can be provided with a sliding foot-piece for this purpose. In cases where it is desirable to keep one leg only horizontal the section can be divided longitudinally so that one foot only is lowered. When not in use, the lower section hangs down in front and the upper section is folded over the seat, forming a useful bedside table. Messrs. Arnold and Sons of West Smithfield, London, E.C., are the makers of the commode.

FIG. 1.

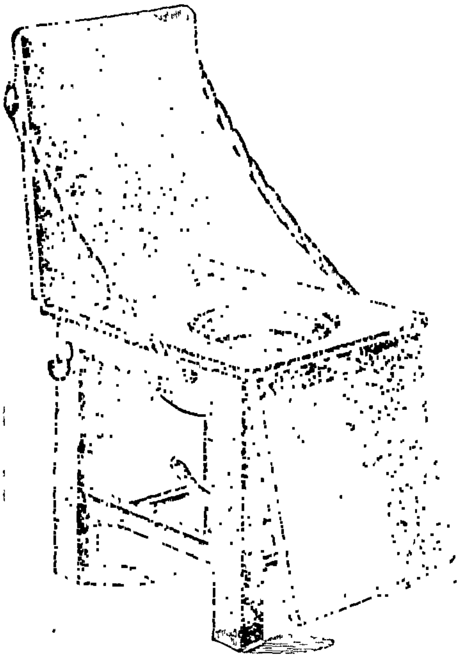
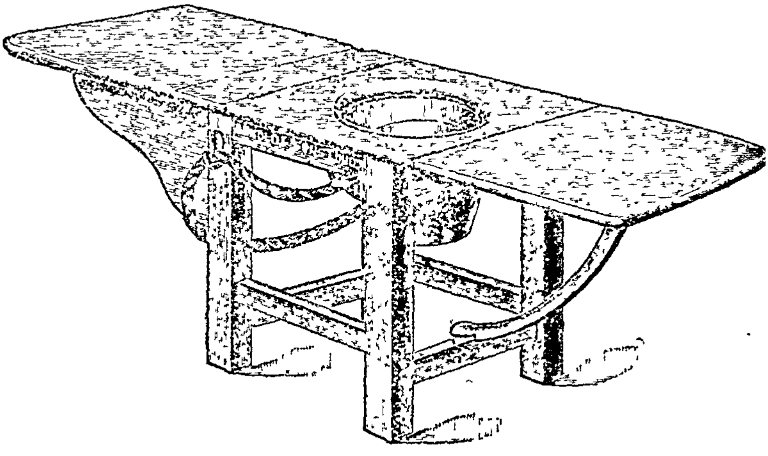


FIG. 2.



J. LIONEL STRETTON,
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Kidderminster.

A REST FOR FLEXION OF THE THIGHS AFTER ABDOMINAL OPERATIONS.

HAVING noticed how invariably patients require their thighs flexed after abdominal operations and the frequency with which the usual pillows require readjusting, I venture to think that the rest shown in the illustration will be found useful. One of the chief points of the rest is that it provides a firm resisting plane for the thigh at an angle, the heels being allowed to touch the bed (Fig. 1). The rest is made in two sizes to suit long and short thighs. I have used these appliances for some time and they have given great comfort.

The wedge-shaped bolster (Fig. 2) is, I think, the ideal for hospital use where so many patients have to lie on their backs for a considerable period.

The bolster enables the shoulders to be slightly elevated, thus leaving the neck straight. As the patient progresses and is able to have a pillow as well it is even more comfortable, being less abrupt than the round bolster or two pillows.

Both the leg rest and the bolster have been most carefully prepared by Messrs. Down Bros., Limited, of St. Thomas's street, Borough, S.E., from whom they can be procured.

FIG. 1.

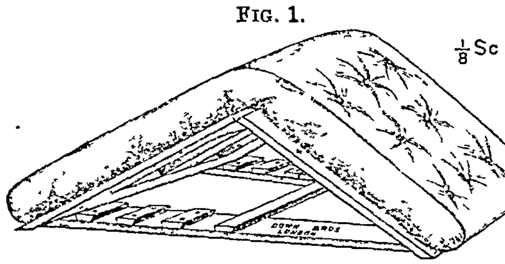
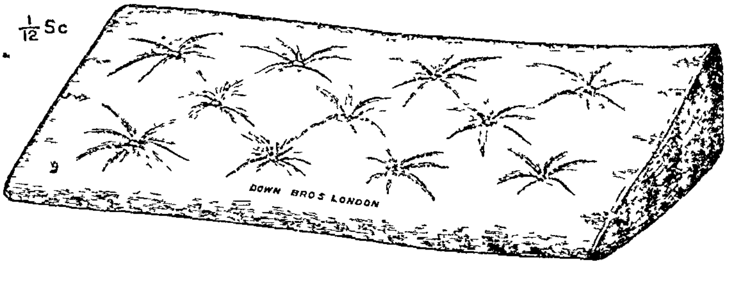


FIG. 2.



A. Z. C. CRESSY,
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Wallington, Surrey.

THE LANCET.

LONDON: SATURDAY, APRIL 16, 1904.

Medical Defence.

WE drew attention recently to a resolution that had been passed unanimously by the council of the Medical Defence Union in reference to the scheme formulated by a committee of the British Medical Association for medical defence. The motion was: "That this council resolves to do all in its power to maintain the integrity of the Medical Defence Union as at present existing." We have received a copy of a notice which has since been distributed to the members of the Medical Defence Union detailing the reasons which caused the council to come to the above decision. The document is temperately worded and the arguments are cogent and difficult to contest. And that is the point upon which we invite the attention of the medical profession.

The committee appointed by the British Medical Association to consider whether the Association should undertake defence work drew up a draft scheme, one of the paragraphs of which contained an "Invitation to the Medical Defence Union, to the London and Counties Medical Protection Society, and to the Medical and Dental Defence Union of Scotland, and other like societies engaged in medical defence, to merge themselves in the British Medical Association to form one professional department for the provision of medical defence." This was, indeed, a bid for that solidarity which we have always advocated. But the Medical Defence Union existing, as it does, as a *company limited by guarantee, cannot in any circumstances* merge or amalgamate itself into any other company or society, but must exist as a separate entity unless wound up voluntarily or compulsorily under the Companies Acts. The council naturally considers that to wind up and to liquidate a financially sound and successful company which has done for 19 years, and is steadily doing, excellent and valuable work, not only for its members but also for the medical profession generally, would be a waste of the funds of the subscribers. This procedure would involve a large expenditure and a needless sacrifice of the best interests of its members. The union has always performed its work well, has never spared any expense when its members were attacked, and in every way has gained their confidence. No wonder, then, that the council refuses to accede to a wish of the British Medical Association that the union should cease to exist as an entity and should merge itself in the defence department of the Association. In acting thus the council may be accused of acting in a purely selfish manner and of considering only its own interests and not those of the profession in general. This charge, however, cannot be substantiated. The union includes numerous practitioners who are not members of the British Medical Association and who, if the union were wound up, would either be cut off from defence or would have to regain the protection now afforded to them by becoming members of the Association and of its medical defence department. This, to our mind, is a forcible argument against the proposed scheme. According to the last return in Great Britain and Ireland, there are 30,409 registered practitioners, of which number about 15,000 (probably a liberal estimate) are members of the British Medical Association. There is no reason why these numbers should not increase, but it is in the highest degree improbable that the Association will ever include in its ranks every member of the profession, even though the scheme were carried out as it now stands, thus giving to the Association a monopoly of medical defence. Such a monopoly would, however, be only temporary, for another society would soon be formed by those who were not members of the Association. As we have frequently and strongly urged, we should like to see a coalition of the existing bodies engaged in Medical Defence. The experience of their executive committees or councils has now been extended and varied, their joint pecuniary position would be a very strong one, and the medical profession as a body would give more support to a coalition society than to two or more separate bodies.

We do not discuss the details of the scheme proposed by the British Medical Association. The question as to the necessity of altering the memorandum and articles of association in order to adjust the financial relationships between the Association and its new "department," the objects of that "department," and the manner in which it would be worked, are matters which concern the Association only and it would be meddlesome for us to offer any criticism. But the question of the extinction of the Medical Defence Union, the London and Counties Medical Protection Society, and kindred societies is a matter which affects the whole profession. The advantages of medical defence and protection are becoming more and more recognised. Several cases that have been heard recently in public have demonstrated to members of the medical profession that they are peculiarly open to risks which may suddenly involve them in legal proceedings or regrettable scandals. These snares are about the path of all and the only way to guard against them is to join a society for mutual defence. But it does not seem to us convenient that the only way to secure the necessary coöperation should be by joining the British Medical Association. That excellent body has multifarious aims and responsibilities, while the work of medical defence is peculiar. The British Medical Association does not include more than half the medical profession and the benefits of medical defence should be open to all. Lastly—and somewhat to repeat ourselves—the existing bodies have experience and the British Medical Association has none. Why should the medical profession prefer to consult those responsible for a new scheme? On the other hand the medical profession has a right to ask the Medical Defence Union and the London and Counties Medical Protection Society to amalgamate, because their utility would be much enhanced by combination.

Private Practice in Germany.

We are all accustomed to finding some aspect of the practice of medicine presented in a novel; nor is there of necessity anything objectionable in this, for it can hardly fail to be profitable to medical men to see themselves as others see them, even though, as has been sometimes the case, the vision of the spectator is distorted by ignorance or prejudice. Among smaller romancers the medical man is a favourite character, while nearly every great writer of fiction has taken occasion to sketch some worthy or unworthy member of the profession, often thereby pointing a confused moral or adorning an uninviting tale. Dickens has given us many medical portraits which, as a whole, in spite of the rampant caricature of some of them, afford valuable indications as to the social standing of the practitioners of the early Victorian era. Thackeray drew one medical man with splendid cruelty and Scott, George Eliot, and Trollope all made successes of medical portraits. There is not, however, in English literature any novel which as a serious study of the relations of the practising physician to his fellow citizens can be quite compared with a remarkable story by Heinrich von Schullern which has lately had a considerable vogue in Germany. It is entitled simply "Aerzte" (Doctors) and the author has in its production combined with an extensive knowledge of modern medicine the technique of the skilful and cultured novelist. The book deals with the experiences of a young medical man in a small town in Silesia and its pessimistic tone may possibly awake a sympathetic echo in the bosom of any struggling practitioner in this country who can find time to read it. The hero, Walter Hellmann, sets out upon his career full of faith in humanity and of enthusiasm for the work which he has undertaken. Little by little his hopes and aspirations are crushed by the meanness and selfishness of those with whom he is brought in contact, until at last he gives up his profession in disgust and despair and attains to some small measure of happiness as a tiller of the soil.

The picture of the middle and lower classes of Germans which is incidentally unveiled is a most unattractive one, but one which it is well should be put before medical practitioners in this country, that they may feel that many of the abuses under which they suffer are shared by their colleagues in Germany. Such a complete absence of delicacy, gratitude, or even common honesty as is displayed by Hellmann's patients would seem exaggerated if one had not met with similar instances in England, though perhaps nowhere in this country need the medical life be one of such unmitigated ugliness as the German author depicts. At the opening of the story, the keynote of which is struck in a quotation on the title page, "Die Leiden des aerztlichen Standes sind zahllos, seine Freuden gering" (the troubles of the medical profession are innumerable, its joys are few), Hellmann, a house physician at the St. Jacob's Hospital at Frankenstein, is seeking to obtain a post as parish medical officer in the neighbouring town of Ebenberg. A member of the senior staff, Dr. Tubinger, endeavours to dissuade him and in the course of sundry conversations gives him an inkling of what is in store for him. "Let me advise you to stay here at the hospital for a year or two," says his cynical counsellor. "You are, I know, rich in knowledge and devoted to your duties but these things count for nothing in private practice." He reminds Hellmann of an experience which the latter has had even while on the hospital staff. "Don't you remember what a scandal was made by the wife of one of our patients whom you with your scientific methods were treating without drugs? If you had only given that man a little water coloured with raspberry juice and had 'poison, with care' underlined on the label you would have been spared all that scene. How annoyed you were with that couple. A practising physician should have an especially thick skin, whereas yours is susceptible to the slightest impression. Remember, too, that here you have me to support you when folly and superstition assail you, but outside you will have to stand alone. Sound health and not too elevated sentiments are what you want. Keen sensibilities are most inappropriate and perilous qualities in the sphere which you propose to occupy." On another occasion he gives Hellmann further advice in the same strain. "You have before you the wearisome conflict with the stupidity, malice, and falsehood of the public, and especially of the female portion of it. Enemies of a not less dangerous character you may find in your fellow practitioners. In the medical profession, as in any other walk of life, gentlemen are not too numerous. But your greatest opponent will be yourself—that is to say, the most prominent features of your disposition. I repeat that for the medical craftsman no characteristic is more destructive to pleasure in his work than the possession of the finer feelings." Hellmann, however, is not to be discouraged. "The calling of the physician is," he tells himself, "one of the noblest. He is worthy to stand by the side of the soldier. In the fight against disease the doctor is as much a hero as is the soldier on the battlefield. The dangers, as well as the trials of body and soul, must be forgotten in the joy which the manifestation of one's love for humanity brings with it." Besides, there is a woman in the case and visions of domestic felicity cast a glamour over the future. A certain amount of canvassing has to be done and the task is not a pleasant one. The young man calls at the house of the mayor where he is shown but scant courtesy, for "the whole family, down to the youngest baby playing on the floor, considered that this person need only be treated with indifference." However, the appointment is obtained, and Hellmann leaves the hospital and begins a life of sordid drudgery which speedily dissipates such remnants of illusion as Dr. Tubinger has left him. He has at first some fastidiousness in the matter of receiving fees which, as an incident described in a letter to his betrothed shows, inspires little sympathy on the part of his clients. "The son of the landlord had the courage to allow me to pull out a tooth for him. I was more anxious about the affair than he was and took a fearfully long time, which extra trouble he acknowledged by offering me, in addition to the usual fee, a few coppers as *pourboire*."

Into the details of the story it is not necessary to enter. Nearly every chapter tells of something disagreeable which befalls the hero or the girl whom he has married. Such progress as he makes is counteracted by the malevolence of an influential woman, wife of a local magnate, whose amorous overtures he repulses. During a temporary absence on account of ill-health he is cheated out of his appointment. His closest friend is estranged through HELLMANN'S failure to satisfy wholly unreasonable demands upon his skill and the death of his own child from diphtheria is regarded by his neighbours as evidence of his incompetence. We are introduced to cranks of all kinds except, curiously enough, the antivaccinationist who does not appear to flourish in all parts of Germany. Against the various evil influences which oppress him HELLMANN makes little headway and it is not surprising to find him describing himself "as a slave of that many-headed monster" the public or regarding the establishment of a species of trade union as the only hope for the future of the medical profession. How many medical men in this country, with provocations hardly less real though not so sensationally accumulated as are the imaginary troubles of Dr. HELLMANN, have come to the same conclusion. We cannot support the view wholly, because the trade union implies in its aims and workings methods which are not consonant with the position of a learned profession; but we welcome the signs, which have recently become more evident, that medical men in this country are awaking to the need of organisation against abuses. A perusal of "Aerzte" cannot fail to confirm the reader in the opinion that this need is a real one.

The Fees of Public Vaccinators.

AT a recent meeting of the Surbiton board of guardians a letter was read, which had been received from the Local Government Board, approving certain surcharges made by the district auditor relating to fees paid to public vaccinators. The fees which have been improperly paid fall under two heads. A sum of more than £400 has been overpaid to public vaccinators for the revaccination of persons at places other than their own homes and a small amount has been paid for the revaccination of children less than ten years of age. The letter of the Local Government Board, to which body the question has been referred upon the refusal of the district auditor to pass the items under discussion in auditing the accounts of the Surbiton board of guardians, is as follows: "It appears that of the sums in question £453 1*s.* represents so much of the fees paid to public vaccinators for the revaccination of persons at places other than their own homes as exceeded the amounts payable under the vaccination contracts. The remaining sum of £2 10*s.* represents fees paid for the revaccination of children under ten years of age notwithstanding the express provision in the Vaccination Order, 1898, that no fee shall be paid for such vaccinations." With regard to the first item the Vaccination Order referred to in the letter of the Local Government Board lays down that vaccinations and revaccinations performed at the patient's home are to be paid for at not less than 5*s.* apiece, while vaccinations performed at the vaccinator's surgery or elsewhere are to be paid for at not less than 2*s.* 6*d.* apiece. That is to say, the rules fix the minimum sum which is to be paid in each instance, and suggest that a smaller amount should be paid when the patient comes to the vaccinator than when the medical man has to go to the patient's home. A form of contract to be used by boards of guardians and public vaccinators is appended to the rules and calls attention to the distinction between the two classes of fees by dealing with them separately. This form is presumably followed in all cases and the amounts to be paid are thus fixed beforehand by a contract which binds both parties. With regard to the revaccination of children under ten years of age, it may reasonably be contended that all successful vaccinations should be recognised as being for the public protection and should be paid for accordingly, but apart from such an argument the rule says clearly that "no payment shall be made in respect of the revaccination of any person who shall be less than ten years old or who shall have been previously revaccinated within a period of ten years." Moreover, the contracts of public vaccinators, if they follow the prescribed form, call attention to the point. The matter is one of considerable importance to medical men who are public vaccinators and who during an outbreak of small-pox may have a large amount of work thrust upon them with little time in which to discriminate and to consider the conditions under which they work. In the case at Surbiton sums ranging from a few shillings to over £100 will now have to be refunded by those who have received them in good faith, believing themselves to be entitled to them and trusting to the knowledge of the officials paying them. The latter should no doubt be sufficiently aware of the rules governing the work of the public vaccinators not to make payments which will be disallowed but this will be no consolation to those who have to endure the worry and irritation inseparable from such proceedings and who will be expected to repay money possibly at an inconvenient time. Others in their position can, however, take warning and protect themselves by carefully observing the regulations that govern the appointments which they hold and their contracts with the boards that employ them.

Annotations.

"Ne quid nimis."

IS THE DELAY IN INTRODUCING MEASURES FOR THE BETTER CONTROL OF OUR FOOD-SUPPLIES JUSTIFIABLE?

To this question we may as well reply at once and emphatically in the negative. It is now more than three years since the Departmental Committee on Preservatives and Colouring Matters issued its report. The report was published early in 1901 and one of the most important recommendations in it was the formation of a court of reference to which all food questions should be referred, and it was further recommended that no preservatives should be allowed in milk and only small specified quantities of boron preservatives in cream, butter, and margarine. Up to the present time no legislation has been made on these recommendations. Why is there so much time wasted in making statutory these recommendations, which were everywhere regarded as a source of protection to the consumer and as fair and reasonable? Again, the Royal Commission on Arsenical Poisoning issued its report on Nov. 6th, 1903, and recommended that the Local Government Board should appoint a special officer who would make inquiries for the Board into the processes

intimate that no one not possessing medical knowledge could be trusted to unravel them. It seems, however, to have fallen into the mistake of attributing the invention of the word "optologist" to the "Optical Society," of which the *Review* above quoted is the "official organ" and which has hastened to disclaim the imputed merit. The poor word, indeed, seems to have no friends. It is said by Mr. Laurance to be "of Transatlantic origin" and to be "curious and ungainly" but the fact remains that it has come into regular employment by spectacle-selling quacks. We frequently see an omnibus carrying a large outside notice board covered by the advertisement of a person who describes himself as "Eye Specialist and Optologist, qualified by examination," and whose shop has "Ophthalmic Institution" in large letters over the door. In the columns of the *Times* the advocates of the new "diploma" roar like sucking doves and profess that all they require is to be subjected to fresh "limitations" by the action of the Spectacle Makers' Company. What they really wish is, of course, to be represented to the public as the possessors of knowledge which in reality they do not and cannot possess. Assuming them to be honest men, they are not only ignorant but are in the still more hopeless position of being ignorant of their ignorance. A curious assumption by the editor of the *Review* in his letter to the *Times* is that "there are only 400 oculists." What he means by an "oculist" or how he arrives at the number is not stated, but he is clearly not aware that the conditions of vision and the nature and treatment of errors of refraction form part of the ordinary medical curriculum and that every candidate for a medical qualification is as much liable to be examined about them as about any other portion of the wide circle of professional knowledge. No medical practitioner under 50 years of age has the slightest excuse for want of acquaintance with either the diseases or the functional derangements of the eye or should be in the least liable to confound one with the other.

PARALYSIS AGITANS.

Dr. T. Stuart Hart, neurologist to the Vanderbilt Clinic, has contributed to the *Journal of Nervous and Mental Disease* for March a valuable paper on Paralysis Agitans based on the cases examined and records made in the neurological clinic of Professor Allen Starr of New York since the year 1888. The number of cases examined, amounting to 219, exceeds very much any similar series published by any one writer and as such has a statistical value which may help, adds Dr. Hart, to elucidate some facts in the etiology and pathology of this obscure disease. The majority of the patients were drawn from the humbler walks of life and advanced paralytic cases of the disease were practically excluded, as only patients who could walk were able to attend. Paralysis agitans was found to be nearly twice as frequent among men as among women, the proportion being 139 males to 89 females, or 7 to 4. The disease rarely made its appearance before the thirtieth year. In the largest proportion of cases the age of onset was between 40 and 60 years. Thus there were two cases under 30 years age, 19 cases between 30 and 40, 54 cases between 40 d 50, 88 cases between 50 and 60, 42 cases between 0 and 70, and nine cases over 70, the ages of the maining five cases being unrecorded. "Paralysis agitans, therefore, belongs not strictly to old age but rather to the presenile degenerative period." As far as could be determined occupation seemed to have no bearing on the etiology. Direct hereditary transmission could rarely be traced (16 per cent. of cases), though other neuroses were present in the ancestry in a larger proportion (about 25 to 30 per cent.) of cases. Borgherini has, however, reported a family in which of nine children three brothers and four sisters, and three children of these, suffered from paralysis agitans. Among the etiological factors assigned by the patients themselves two stood out prominently—viz., emotion (anxiety, grief, severe fright, or shock) and traumatism. "Traumatism often involved," adds Dr. Hart, "an emotional shock and it was possible that emotion might be the more important factor in many of these cases." Sudden and continued exposure and prolonged fatigue were also among the alleged causes. In 12 of the cases an acute infectious fever (typhoid fever, influenza, pneumonia, malaria) preceded the onset of paralysis agitans. It is clear, says Dr. Hart, that we are far from solving the real etiology of the disease though it is noteworthy that all the factors mentioned have in common a general weakening influence on the nervous system and the vaso-motor apparatus. Of the individual symptoms tremor was the first noticed by most of the patients (203 out of 207 in which a record was made of this). The tremor began usually in one or both hands or less frequently in the arms (163 out of 213 recorded cases), but in a few cases (one-seventh of the 163 cases) the lower limbs (foot and leg) or head were first affected and in five cases the tremors were general. Rigidity was observed in 142 cases; in 138 of these tremor was also present Tremor had existed for periods of from eight to ten years in several cases before the onset of rigidity. Contractures were noted in 28 cases; tendency to fall forward, backward, or rarely sideways during walking was noted in 63 out of 173 cases specially examined. The voice was monotonous in 59, slow and measured in 31, piping in 12, feeble in 15, and "thick" in ten out of 120 cases. Pain in the hands and arms, legs, head, and back of a dull character was present in 70 out of 157 cases and paræsthesia of the extremities occurred in 120. Hyperidrosis was complained of in 57 instances and restlessness was a marked feature in the course of the disease in 85 cases. The treatment of the cases followed well-known lines and included rest from work, removal of sources of worry and anxiety, abstinence from alcohol and stimulants, a simple nutritious diet, moderate exercise, passive movements, massage, and hydrotherapy, and such drugs as hydrobromate of hyoscine and sulphate of duboisine which diminished tremor and pain. Improvement followed in a few cases, the disease coming to a standstill and remaining so for a number of years, with relief of tremor, pain, and insomnia, but, adds Dr Hart, no absolute cures could be reported.

THE DISTRIBUTION OF PLAGUE.

THE public health authorities of New South Wales inform us that after an immunity of nearly seven months during which Sydney was free from plague infection a mouse was ascertained to be plague infected on March 7th. The mouse came from a building known as the Grafton Bond at Darling harbour. The rat-catching staff of the board of health has been instructed to pay particular attention to the wharves and bonds between the gas company's works and Erskine-street, within which locality the Grafton Bond is situated. Since the mouse was captured (about one week before a definite diagnosis was made) 250 other rodents have been caught within the area above mentioned but all were free from plague. During the last outbreak of plague in 1903 there were 161 plague infected rats and mice caught but only 2 cases of the disease occurred in human beings. It is hoped that the vigorous measures now being taken with regard to rodents will have as good an effect in limiting the outbreak of this year as was the case in 1903 Plague has also appeared in Queensland, as reported in our correspondent's letter at p. 1088. In the Cape Colony for the week ending March 19th only 1 case of plague was discovered in human beings—namely, that of a coloured female at Port Elizabeth. Plague-infected rodents were found there and at East London, but in the Cape Town and

Harbour Board area of 375 rats examined during the week none was affected with plague. As regards the Mauritius, a telegram from the Acting Governor received at the Colonial Office on April 8th states that for the week ending April 7th there were 3 deaths from plague. The latest returns from the Transvaal show the following figures, as contained in a telegram from Lord Milner received at the Colonial Office on April 9th:—Suspected cases reported up to date, 154: coloured persons, 136; and whites, 18. Deaths, 72: coloured persons, 65; and whites, 7.

THE QUESTION OF HEREDITARY TRANSMISSION OF ACQUIRED MORBID CONDITIONS FROM PARENT TO OFFSPRING.

IN a recent *Thèse de Paris* (1904) Dr. G. Delamare of Paris, working at the laboratory of Professor Charrin, has given an account of the results obtained by him in this branch of study. Hereditary transmission from the parent to the embryo, says Dr. Delamare, may take place in one of three ways: first, the germ-cell or the ovum may be damaged or altered as the result of grave constitutional disturbance or disease acquired by the mother at or before the time of conception, a similar condition being possible also as regards the spermatozoa of the male parent; secondly, the impregnated ovum before it has undergone differentiation into it embryonic rudiments (pre-embryonic stage) and while still free in the Fallopian tube or encapsuled in the uterus may be subject to the action of toxic, cytolytic, and other disturbing morbid agencies present in the maternal blood plasma; and, thirdly, the embryo may be affected *viâ* its placental attachment to the mother which takes place at the third week and marks the beginning of embryonic life proper. These modes of hereditary transmission are not identical and should not be indiscriminately confounded under the general term "heredity." By "acquired" characters in the pathological sense are to be included, says Dr. Delamare, those changes of a physico-chemical or morphological nature which are produced *de novo* within the parent organism, not having been inherited by it *ab ovo* but caused by the action of extraneous agencies of sufficient potency. Thus insanity or gigantism may appear in a man or woman whose parents are free from either of these affections and the man or woman thus affected may transmit the morbid condition in question to the offspring in a very marked degree. The same applies to cretinism. Gout of the father will, says Dr. Delamare, predispose to gout in the son whom he procreates and so will tuberculosis of the father predispose to a vulnerability or facile tendency of the son to acquire tuberculosis. Leucocytes are found to be able to transmit to their descendants (daughter leucocytes) the power of immunity acquired against certain diseases (Massart). That superficial and slight mutilations of the parent, such as circumcision and the rupture of the hymen, are not inherited is due to the fact that these do not produce bodily disturbance of nutrition or affect the composition of the blood and therefore cannot affect the germ or sperm cells. No nexus of cause and effect exists, but as the consequence of serious lesions of the nervous system or viscera of the parent experimentally produced Dr. Delamare states that the offspring may show in the corresponding organs conditions of disease or abnormality the nexus of which can be traceable as effect and cause. Thus as regards serious lesions of the central nervous system attended with constitutional disturbance the classical experiments of Brown-Séquard on guinea-pigs have shown that a special form of epileptic attack accompanied by certain trophic lesions, produced by hemisection of the dorsal spinal cord (rarely of the cervical and never of the lumbar spinal cord), is transmitted to the offspring with great frequency. These experiments have been confirmed by Obersteiner, Westphal, Dupuy, and Romanes, and by Dr. Delamare himself. A similar form of epilepsy produced in guinea-pigs by a less serious lesion—viz., section, crushing, or laceration of the great sciatic nerve—is also hereditarily transmissible. Massin excised half the liver in buck and doe rabbits and found that the descendants had small and malformed livers. Dr. Delamare found that removal of a kidney or of one suprarenal body in several guinea-pigs did not affect the corresponding organs of the offspring. Experiments were also made on two bitches, three rabbits, and 17 guinea-pigs to bring about local destruction of parts of the liver (hepatitis and localised cirrhosis) by injections of naphthol, distilled water, and dilute solutions of silver nitrate, all with positive results (partial atrophy, cirrhosis, and maldevelopment of the liver) as regards the offspring of these affected animals. He states that cytotoxins and cytolysins are liberated from the affected organ and circulate freely in the blood, and that such cytotoxins influence the germ cell or developing ovum while still in the embryonic state, causing it to develop and to manifest the characteristic lesions of the liver while still in utero. It was also found that hens which were hypodermically injected with extracts of such cytolysins laid eggs which were abnormal and damaged, inasmuch as when hatched they showed an unusual proportion of malformed embryos, dead embryos, amniotic hæmorrhages, and other abnormalities. Of 27 eggs of hens thus treated 21 showed the abnormal characters in question. The injection of bitches with hepatotoxins and nephrotoxins also produced lesions of the liver and the kidney in the growing embryos in utero. Dr. Delamare thus concludes that there are modes of hereditary transmission to the offspring of diseases and tendencies to disease (diatheses) from parents who have acquired them and that in some cases the pathological nexus of cause and effect can be traced.

THE WINTER'S WEATHER AT SOME ENGLISH RESORTS.

THE following table gives a summary of the temperature, rainfall, and bright sunshine for the whole of the winter—Dec. 1st to March 31st—at several of the chief resorts in these islands. Similar statistics were published in THE LANCET of March 12th for the three months, December to February, at seven of the principal resorts abroad. As would naturally be expected the majority of the latter were warmer than the home stations, but there were, nevertheless, two or three notable exceptions. The winter at the

Stations.	Temperature.						Rainfall.		Sunshine
	Highest maximum.	Lowest minimum.	Mean maximum.	Mean minimum.	Mean of maximum and minimum.	Difference from average.	No. of days with rain.	Total fall.	Total number of hours.
	Deg. F.	Deg. F.	Deg. F.	Deg. F.	Deg. F.	Deg. F.		Ins.	
Harrogate	56	20	41	34	37·5	–0·7	79	11·3	193
Bath... ...	59	21	46	35	40·5	–1·0	72	10·8	196
Tunbridge Wells*...	57	23	43	33	38·0	–1·5	57	10·8	155
Hastings...	55	23	43	33	38·0	–2·4	80	11·0	222
Torquay ...	59	30	47	39	43·0	–0·2	78	18·7	265
Falmouth	55	30	47	40	43·5	–0·6	83	24·0	254
Scilly Isles	55	33	49	42	45·5	–0 6	88	18 7	260
Jersey ...	56	28	47	39	43·0	–0 6	85	14·9	285

* The observations for Tunbridge Wells are for January to March only.

Scilly Isles, which represents fairly well the weather in the Penzance district, had about the same average temperature as Nice and Florence, while as regards the average temperature of the night Scilly was superior to both the Italian and the *Rivieran resorts*, while in Torquay and Falmouth the nights were just as warm as those at Nice. At most of the English stations, too, the difference between the day and night temperature showed less range than some of those abroad. Nice, for instance, had a mean diurnal range of 13°, but at the Scilly Isles and Falmouth, as well as at Harrogate, the range was no more than 7°, while at Torquay and Jersey it was only 8°. During the three months, December to February, the screened thermometer fell to 32° or below on 11 nights at Biarritz, on six at Florence, on three at Nice, and on one occasion even at Rome. But Scilly was entirely without frost throughout the winter, the screened instrument only once descending to near the freezing point, and at Torquay and Falmouth there were only two or three slight frosts. The aggregate rainfall at the home stations was less than at some of those abroad although it had a month longer in which to fall. The number of days with rain are not strictly comparable, as a "day with rain" at the foreign stations signifies a day when at least four-hundredths of an inch of rain has fallen, while with us it means a day when at least one-hundredth of an inch has fallen. It is a pity that all the stations do not give the percentage of ozone present in the atmosphere; at Torquay, where the borough meteorologist takes careful observations, the percentage of the possible amount for the whole winter was 47. It was least—38—in December and greatest—59—in February.

A CASE OF TUBERCULOUS DEPOSIT IN THE SPINAL CORD IN THE COURSE OF PULMONARY TUBERCULOSIS.

Dr. Ernst Oberndörfer of Berlin records in the *Münchener Medicinische Wochenschrift*, No. 3, 1904, a case of considerable interest from the Moabite Hospital at Berlin under the care of Professor Goldscheider. The patient was a man, 26 years of age, who had for some time suffered from tuberculosis of the lungs. He began to complain of disturbances of the act of defecation and difficulty in emptying the bladder, with wandering pains in the epigastric and lumbar regions. Later a paresis of the left leg developed with some impairment of sensation of the lower half of the body. The condition was regarded as one of compression paraplegia and weight extension was applied; in spite of this the condition of the patient became rapidly worse, complete paraplegia with retention of urine developing. Meanwhile the pulmonary disease advanced rapidly and six weeks after admission to the hospital the patient died. Before death the original diagnosis of compression paraplegia was discarded and the correct one of tuberculosis of the spinal cord was made on the following grounds—the co-existence of the lung condition, the absence of the objective signs of vertebral caries, and the manner of spread of the cord symptoms beginning with unilateral paralysis and local patches of anæsthesia and gradually advancing to complete paralysis and loss of sensation. The necropsy confirmed the diagnosis: the vertebræ and meninges were natural but in the lower dorsal region of the cord a bean-shaped swelling was found projecting slightly above the surface on the posterior aspect. A cross section was made at the level of the eighth thoracic segment, when a yellowish white tumour, sharply marked off from the softened cord tissue around, was exposed. Its internal border was surrounded by a narrow zone of greyish red translucent tissue. The tumour occupied the whole of the left side and extended into the right side of the cord at this level, leaving only a small area of the white matter of the antero-lateral region unaffected. It extended downwards in conical form and ended at the ninth thoracic segment. A piece of the tumour examined microscopically showed a mass of conglomerate tubercle, caseous centrally, and surrounded by fresh nodules in which typical giant cells were found and abundant tubercle bacilli. Apart from the rarity of this condition, of which Herter reported three cases, collecting records of 24 others from the literature of the subject, this case is of interest from the correct diagnosis having been formed during life and from the admirable and instructive way in which it is recorded.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

OUR readers will remember that the Prince of Wales, the President of King Edward's Hospital Fund for London, announced at a meeting of the general council of the Fund held at Marlborough House on March 8th that a large sum of money, estimated to produce £4600 a year, had been promised by a friend if a further sum of double that amount were obtained by the end of the year. The object of the anonymous donor is to enable the council to make its distributions to hospitals without drawing upon its reserves as it had to do last year when a sum of over £18,000 was thus appropriated to complete the grants. Towards this object a donation of £1000 has been received by the Fund from "G. W. O." and a legacy of £10,000 from Mr. F. S. Massy Dawson, the executor of the late Mr. Richard Hawkins Beauchamp. Mr Hugh C. Smith, the chairman of the executive committee, has issued an appeal for further donations towards making up the sum required and he announces that he will be glad to give any further information concerning the Fund. The address of the Fund is 81, Cheapside, London, E.C.

THE EARLY DIAGNOSIS OF PERFORATION IN TYPHOID FEVER.

MORE than a fourth of the deaths from typhoid fever are due to perforation. The value of operation has been abundantly shown in recent years. At the Johns Hopkins Hospital six patients have been saved out of 14 operated on. Dr H. W. G. Mackenzie has published an eminently practical paper in the *Practitioner* for January in which he points out that as good results may be obtained in general as in hospital practice if the practitioner is on the alert to give the patient the benefit of prompt operation. He very clearly states the points in the early diagnosis of perforation. The danger of perforation commences with the disease and lasts until recovery is complete. Perforation may occur before the patient feels ill enough to take to bed or during convalescence. The greatest risk is during the second, third, and fourth weeks Abdominal pain is the most important early symptom and may be the only one. It usually comes on suddenly and is severe and persistent. Vomiting, nausea, hiccough, frequent actions of the bowels, a rigor, sweating mental excitement, or collapse may precede, accompany, or quickly follow the onset of the pain. The nurse should be instructed to report at once to the practitioner the occurrence of pain or any other of these symptoms When summoned the medical attendant should carefully examine the patient for the following signs of perforation. 1. There may be a change in the temperature—a sudden fall or a sudden rise, or a fall followed by a rise, or a rise followed by a fall; but a steady temperature for a few hours does not negative perforation. 2. There may be a change in the pulse; soon after perforation the pulse usually becomes more frequent and weaker. It is highly significant if the pulse in the few hours following the attack of pain becomes more rapid, running, and feeble; but increased rapidity does not invariably follow within a few hours. 3. There may be a change in the facies. The development of a pinched or drawn look, depression of the angles of the mouth, sinking in of the eyes, blueness of the lips, and sweating are important. 4. Still more important are the local abdominal signs. There may be tenderness which usually is more marked in the lower half of the abdomen. Rigidity or resistance of the abdominal walls may be present. The abdomen may be retracted or distended but in either case there will probably be rigidity or resistance. On the other hand, softness or flaccidity is reassuring. Obliteration of liver dulness is a valuable sign if present but is not free from ambiguity; it is confirmatory of the diagnosis of perforation of a hollow viscus. Shifting dulness in the flanks may point to the presence of free fluid in the peritoneal cavity. Finally, there may be diminished respiratory movement of the abdominal wall. Dr. Mackenzie advises that the practitioner should select the surgeon beforehand, so as to obtain him equipped in the shortest possible time.

A FESTIVAL dinner in aid of the funds of the Middlesex Hospital will be held on Tuesday, May 3rd next, at 7.30 P.M., in the Whitehall Rooms of the Hôtel Métropole. The Right Hon. the Lord Mayor will take the chair. A preliminary list of gentlemen who have consented to act as stewards has been issued and contains 192 well-known names. Noblemen and gentlemen willing to act as stewards are requested kindly to send their names to the secretary-superintendent of the hospital, Mr. F. Clare Melhado. The chairman of the dinner committee is Lord Sandhurst and the deputy chairman Prince Francis of Teck. The dinner will be free of charge and contributions are earnestly solicited. It is stated that the proceeds of the dinner will be devoted to the purposes of making good the inroads on invested capital which have been necessitated by new buildings and other improvements to meet the demand of modern requirements and for the maintenance of the cancer charity and the special department for research into the nature and cure of cancer, the hospital's branch establishment for convalescents at Clacton-on-Sea, and improved and extended accommodation for the nurses.

A GENERAL meeting of the Metropolitan Street Ambulance Association will be held at 20, Hanover-square, London, W., on Monday, May 2nd, at 5 o'clock. Important motions will be submitted for consideration, amongst them one in favour of sending a representative deputation to the London County Council early in May. All medical men are invited to attend. 1000 London medical men have already joined the association. The fact that membership incurs no liability and that there is no compulsory subscription necessitates the formation of a fund to provide for printing and incidental expenses. Members wishing to contribute small donations of a few shillings are invited to communicate with Dr. Arthur W. James, honorary secretary, at 69, Gloucester-terrace, Hyde Park, W.

THE death of Sir Philip Crampton Smyly took place at an early hour on Friday, April 8th, at his residence, 4, Merrion-square, Dublin. He had suffered from gout for a long period but in the end his death came unexpectedly, for after dinner on Thursday he complained of illness and died at two o'clock on the next morning. He was for many years one of the best known and most eminent of Dublin surgeons and on account of his high social qualities and invariable courtesy was greatly esteemed. He was President of the Royal College of Surgeons in Ireland in 1878, representative of the College on the General Medical Council from 1895 to 1900, President of the Irish Medical Association 1901 to 1902, in 1895 was appointed Surgeon-in-Ordinary to Her Majesty Queen Victoria in Ireland, and in 1901 Honorary Surgeon to His Majesty the King. We shall publish a fuller obituary notice.

THE Ingleby Lectures of the University of Birmingham for 1904 will be delivered on Tuesdays, May 10th and 17th, at 4 P.M., in the medical lecture theatre, by Dr. C. J. Cullingworth, obstetric physician to St. Thomas's Hospital, who has taken for his subject, a Plea for Exploration in Suspected Malignant Disease of the Ovary.

THE FIRST INTERNATIONAL CONGRESS OF SCHOOL HYGIENE.

(FROM OUR SPECIAL CORRESPONDENT.)

THE First International Congress of School Hygiene was held from April 4th to 9th at Nuremberg under the patronage of His Royal Highness Prince Ludwig Ferdinand of Bavaria

It may be well to state, first, the object of the Congress and, secondly, by what bodies the English and foreign interests were represented. The object of the Congress may shortly be said to be to direct the attention of existing authorities to the importance of, and the practical means of attaining the most perfect results in, the physical and mental wellbeing of children, to direct attention to the hygiene of the teachers themselves, and, lastly, to give an opportunity to those especially interested in the wellbeing of the young to study and to appreciate the means whereby this object can best be attained.

The English interests at the Congress were represented by a special committee formed by members of various organisations interested in education and school hygiene. The formation of this committee was due to the energy of the medical officer to the London School Board, Dr. James Kerr. The English committee includes representatives of the following bodies: the Royal College of Physicians of London, the Royal College of Surgeons of England, the London School Board, the Medical Officers of Schools Association, the Incorporate Society of Medical Officers of Health, the London School of Medicine for Women, the Childhood Society, the Child-Study Association, the National Union of Teachers, and the Sanitary Institute, and was under the presidency of Sir Lauder Brunton.

The first general meeting of the Congress took place in the Apollo Theatre, Nuremberg, on April 5th and was attended by nearly 1500 members. The chair was taken by Professor Dr. GRIESBACH, the President of the Allgemeiner Deutscher Verein für Schulgesundheitspflege, and he requested Prince Ludwig Ferdinand to open the Congress.

Prince LUDWIG FERDINAND said that it was with the greatest pleasure that he had come to open the First International Congress of School Hygiene. It was the ancient and historical town of Nuremberg which opened its doors to the Congress. This was the town in which such masters as Albrecht Durer and Hans Sachs had lived and by their art and genius had added to its fame. He welcomed the delegates from distant States and countries and said that they had come together for the purpose of discussing the means for developing the coming generation into healthy and educated men and women. He wished the Congress success in its work and declared the First International Congress of School Hygiene open.

Professor Dr. GRIESBACH welcomed the delegates from the various countries and from the numerous societies. He said that no less than 20 European and extra-European States were represented at the Congress and that only Turkey and Italy were unrepresented. It had unfortunately been impossible to form an Italian committee. It was in such work as the Congress had before it that the medical man and the teacher must work hand in hand. The delegates from the various countries then spoke, Dr. A. EICHHOLZ, His Majesty's inspector of schools for the blind, deaf, and defective, replying on behalf of Great Britain.

At the closure of the formal business of the meeting the first general meeting of the Congress was held and Professor COHN (Breslau) read a paper entitled "What has the Ophthalmic Surgeon done for School Hygiene and what remains

to be done?" More than 40 years ago he had inspected the schools in Breslau and it had been his first duty to see that the schools were better lighted. In those days there was neither school hygiene nor school medical officer. The well-known work of Helmholtz, Graefe, Arlt, and Donders had, indeed, appeared but had not been applied to the hygiene of schools. From 1864 to 1886 the speaker had examined the eyes of 10,000 school children and was in search of the cause of the increasing short sight and of a means of preventing this defect. This work was the starting point of work on school and eye hygiene the literature of which had now become so vast that it was no longer possible to examine it all. He found, in the first place, that the number of short-sighted children steadily increased with the development of the school from the lowest village school to the gymnasium; in the second place, that the number of cases of myopia increased from class to class; and in the third place, that the degree of short sight also increased from class to class. These facts had now been proved by examination of thousands of children in various lands and might be stated as "laws." Myopia might be regarded as a widespread disease produced by school life. Further experience in the last ten years had shown that the acuity of vision in young children examined in the country was twice or three times as great as that of a child examined in the school room—similar to the great acuity of vision which was present in the Bedouin Arab. Unfortunately the acuity of vision diminished during the years of school life very rapidly. The true cause of short sight—viz, the change in the shape of the eye from a ball to that of an egg—was not even yet fully known, although there were various hypotheses. One thing was certain—that much close work, especially in association with hereditary disposition and bad lighting, produced myopia and that school hygiene must more especially fight against such near work. 20 years ago Professor Stilling had attributed the short sight not to work but to an alteration in the shape of the orbit. This view could not be upheld on anatomical grounds and it was greatly to be regretted, since if such were the case it would render all the work in connexion with school useless in the prevention of myopia. The position of the writing table and the position in which the pen was held were important and it had been shown that less short sight resulted when these points were carefully considered. The character of the print of books was an important matter and the speaker regretted that even at the present time in Bavaria books were allowed which were badly printed. Professor Cohn next dealt with the lighting of the rooms. In 1883 he had first used the photometer of Weber and had been able accurately to estimate the light of the schoolroom. A definite unit of the minimum light allowed was established and he had found in a gymnasium in Breslau only a tenth of the minimum light was present in some places. In the same school he found that the greater number of the children could not see the sky. He then showed various methods for estimating the light in a room and at a given point in the room. He had for many
years advocated the appointment [illegible]
examination of school children.
medical officer was appointed to
in Germany there were but 676
much had been done yet the number of short sighted students had not diminished. He had in 1867, in 1881, and again in 1902 found 60 per cent. of short-sighted students in Breslau. Further attention must be paid to the lighting of the school rooms and to the position in which the child held the head whilst at work. He next dealt with the question of the influence of heredity on the production of short sight and was of the opinion that two short-sighted people should not marry. It was of importance that the regulations imposed in school should also be maintained in the home The speaker ended his address by the words "Keine Schule ohne Augenarzt" (no school without an ophthalmologist).

Dr. Benda (Berlin) spoke on the subject of over-pressure in the more advanced classes. He recommended the abolition of the so called Abiturienten-Examen (the final examination which entitles young men to matriculate as students at the universities). No lessons should be given in the afternoons, so that the children might have ample opportunity for bodily exercises and games. Home lessons ought to be limited as much as possible. Special classes for defective or backward children ought to be arranged in the gymnasia,
as was already the case in the
advanced pupils ought to be
they wished to attend with a
or position in life. In this way the change from the restraints of school training to the wider circle of university studies would become less abrupt than under the present system.

Dr. Schmidt (Bonn) recommended that bath rooms should be provided in schools and that douche baths should be obtainable. Swimming ought to be made compulsory for children above ten years of age.

Dr. Gutzmann (Berlin) read a report on Stuttering and Stammering Children. He had observed that stuttering was comparatively frequent during the first years of school life and during the period of puberty. By a collective investigation made on 3000 pupils it was ascertained that of each 100 stutterers 6 per cent. were aged from six to seven years, 10 per cent. from seven to eight years, and 15 per cent. from 11 to 12 years. He was of opinion that over-pressure, especially in neuropathic children, contributed to the development of stuttering. On the other hand, he believed that stammering diminished as a result of school training, so that of each 100 stammerers 29 were found to be aged from seven to eight years and only 6 per cent. were from 13 to 14 years.

Dr. Grevo (Munich) discussed the influence of diseases of the teeth on the mental development of children. He said that a great many children in the municipal schools suffered from caries of the teeth. These children were as a rule badly nourished because they were unable to digest satisfactorily and their mental capacity was defective in consequence of this. Regular inspections of the teeth of the children should be provided for in the regulations made by school authorities.

Professor Schusny (Budapest) read a paper on Sexual Questions in Relation to School Life. He recommended that children previously to the age of puberty should be informed on sexual matters by their parents and that teachers of natural science should on suitable occasions allude to these questions. In the Hungarian schools, where lessons on hygiene were given, these requirements were already met. He said that for the last ten years he had been in the habit of delivering addresses to youths who were leaving school, advising them on sexual hygiene, on the danger of venereal diseases, and on the advantages of chastity.

An address was delivered by Professor Axel Van Johannessen (Christiania) on the Position of School Hygiene in Norway. He dealt in the first place with the developments of the school, and stated that since 1889 the schools in the country had greatly improved. He said that not only on the boys but also on the girls gymnastics were obligatory. There was a medical officer in every school and warm baths were provided in most of the schools in Christiania. In the towns, also, many of the poorer children were fed and this cost the State about 160,000 kronen a year. The elder children had games of which the most important was "ski-ing." The upper classes were taught physiology and the teachers were taught school hygiene

Dr. Le Gendre of Paris delivered an address entitled "Sur l'hygiène et les maladies personnelles des maitres au point de vue de leurs rapports avec les élèves."

The second general meeting was held on April 7th. The first paper by Dr. Phil. Seckenger (Mannheim) dealt with the arrangement of schools dependent on the mental capacity of the children. He said that the capacity of children for education depended on physiological, psychological, pathological, and social circumstances and that it was impossible to order the education of all children on one set plan, but that the children must be regarded as individuals of different capacity He divided the school children into three great groups: those with good capacity, those with less than the normal capacity, and those with but little capacity (weak minded), and on educational, ethical, and social grounds provision should be made for these three classes. He then described such a system which was in operation at Mannheim.

At the last general meeting of the Congress Dr. James Kerr read a paper entitled "What is Most Required in School Ventilation." He said there was required for all schools some efficient method of ventilation. In small rooms this might be a modified natural system, by fires or ventilating stoves. Other systems depending on roof ventilators and climatic conditions were fallacious and whilst acting during some seasons of the year failed in summer, and caused draughts in winter. Open windows, doors, and fireplaces, or extraction chimneys could, by a rigorous system of window-drills and the constant supervision of a skilled teacher, be utilised for most of the school year to maintain a comparatively pure air, but even these methods would fail when most wanted, as in summer. For large schools direct mechanical movement of the air was best by large fans running at low speeds. In order to avoid "short-circuiting" by opening of doors all ducts should be as large as could be afforded and the outlets of low resistance; inlets to rooms should be high on the walls, outlets low; 2000 cubic feet per head per hour should be supplied. Accessory heating preferably by low pressure steam or water was advisable. The air should be well moistened. Cloakrooms and stairways must also be ventilated. At present the chief objection to the mechanical ventilation was the sense of loss of tone from want of sufficient skin stimulation by the smoothly flowing warmed air. Probably the system of the future would be one of large supplies of very moderately heated air moved by combined propulsion and extraction by fans, with accessory heating of rooms and free permission to open doors and windows.

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THE MOSELY COMMISSION.

THE reports of the various members comprising the Mosely Educational Commission to the United States of America have just been issued and form a volume which will, we think, prove of great value to those interested in education. The book, however, demands close study and the contents are not arranged in the most convenient manner for reference. Thus there is no index and the joint report which apparently summarises the conclusions of the Commissioners is barely one and a half pages in length. There is, in addition, a series of summaries of each report but if the reader wishes to find the opinions of the Commissioners upon any single point his search is by no means made easy. These omissions will, however, we have no doubt be *rectified in a future edition* when we hope to see a really good subject index added. The idea of the Commission was started in Mr. Mosely's mind by the excellent work which he noticed to be done by American engineers in South Africa some 15 years ago. To one of these, Louis Seymour, Mr. Mosely reminds us that we owe a debt of gratitude for the admirable way in which he and his volunteer company kept open communications in Natal during the Boer War. Seymour lost his life while leading some men to cover for the defence of a bridge at Zand River. Some years before the war Mr. Mosely visited the United States to see for himself "what sort of country it was that was responsible for sending so many level-headed men to the Cape." On his return he organised two commissions, the one an industrial commission and the other an educational commission. The "terms of reference" of the latter were as follows:—

> [illegible]

Mr. Mosely pays a warm tribute to the people of the United States for the assistance which they gave to the Commission and the hospitality which was so freely proffered.

The joint report expresses the deep impression made upon the Commissioners by the evidence which they have gathered in the United States of the absolute belief in the value of education both to the community at large and to agriculture, commerce, manufactures, and the service of the State. An overwhelming desire to learn appears to characterise the scholars and teachers seem to be possessed of but one wish—that of helping their pupils in every possible way. There is a close connexion between theory and practice, the practical bent of the men of science and letters and the breadth of their outlook being very remarkable. Both the public and private donors give liberally on behalf of education, specially as regards buildings and equipment. But the remuneration of teachers is by no means always on a satisfactory basis and the members of the Commission "have also been led to view somewhat with alarm the growing preponderance of women teachers." The absence of any religious difficulty serves to facilitate the work of the schools. We notice, however, that an instruction to the Commissioners was that religious controversy in connexion with education should be absolutely ignored, so that these reports will not help us on this side of the Atlantic seeing that we are at present passing through an acute stage of the religious difficulty as regards education.

We shall not attempt to deal with the separate reports other than with those of Professor J. Rose Bradford who deals with advanced medical education and of Dr. W. H. Gaskell who deals with the teaching of anatomy and physiology. Professor Rose Bradford subdivides his report into: (1) the Relation of Hospitals to Medical Schools; (2) Clinical Laboratories; (3) the Teaching of Medicine; and (4) Pathology. The medical schools visited were, in the United States, those of New York, Philadelphia, Baltimore, Chicago, Ann Arbor, Boston, and Ithaca, and in Canada Montreal, Toronto and Quebec. The schools in [illegible] ciated with the medical departments of the universities and their clinical facilities were not exclusively employed for the instruction of the students of a single university or school. In some cities, however, as Baltimore and Montreal, one hospital is entirely devoted to the needs of a single medical school—namely, the Johns Hopkins Hospital at the former and the Royal Victoria Hospital at the latter. In a great many hospitals both in the United States and in Canada the members of the visiting staff are only on duty for a period of three or six months and at the end of this period the wards are transferred to another physician or surgeon. The system of student clerks and dressers scarcely exists in the United States except at the Johns Hopkins Hospital, though it is in full operation in Canada. In most American hospitals, however, the ward work is done by internes who correspond to house physicians and house surgeons. Professor Rose Bradford summarises the first portion of his report as follows:—

> These two points—on the one hand the limited period of service of the visiting and teaching staff and on the other the absence of the [illegible] system the students get the practical acquaintance with disease subsequently during their period of office as "internes," at a time, moreover, when they are more fully capable of making use of the opportunities afforded them. In the English system the student becomes a clerk or dresser at a period in his career when he knows little or nothing of medicine or surgery and thus they argue that the great opportunities afforded him are to a considerable extent wasted. With their system the "interne" has already graduated and has acquired a knowledge of medicine and surgery which should enable him to make full use of his opportunities. The great and obvious disadvantage of the American system is clearly the fact that [illegible] rnes" and thus a number [illegible] advantages that the daily [illegible] parts. I was informed on [illegible] students in the leading [illegible] ently to graduation either [illegible] ls or in some other city or [illegible] cent. of the students not only graduate but pass out into practice without this invaluable experience. This is a very striking, if not the most striking, difference between the system of medical education in vogue in the United States and that followed in this country and also in Canada.

As regards clinical laboratories these in most of the institutions visited were a conspicuous feature. In all the medical schools there is a tendency to bring clinical medicine more closely into relation with recent scientific developments than is the case in this country, blood counts and other investigations being made not merely from a diagnostic point of view for any particular case but in a more or less routine fashion. Such a practice must tend to put medicine on a more scientific basis. As regards the teaching of medicine the work is far more systematised than in this country and the individual student is more supervised throughout the course of his studies. Didactic lectures are almost entirely given up and in most subjects their place has been taken by a great development of laboratory work. In medicine, however, their place has been taken by what are called "recitations." A "recitation" is apparently what we should in this country call catechising—that is to say, a subject is given for treatment and the teacher questions his class upon it and is also asked questions by his class. Professor Rose Bradford seems much impressed by the value of this method. The absence of ward work for students is more or less made up for by small classes under the charge of an instructor who teaches physical signs and the taking of histories. Physical diagnosis is often studied by the student in his second year [illegible] largely made use of for [illegible]

With regard to pathology, the teaching of this subject and the buildings and requirements for teaching it seem to be far ahead of the average establishments in this country. Pathology includes morbid histology, bacteriology, gross morbid anatomy, and, in some cases, clinical pathology. The subject is as a rule begun to be studied in the student's second year. One special point about the instruction is the practice of giving unknown cultures or unknown sections to the students [illegible] record of every [illegible] demonstrators [illegible] point and the [illegible] specimens are worthy of imitation in this country.

Dr. Gaskell in his report upon the teaching of anatomy and physiology first draws attention to the fact that there are no outside examiners either in the United States or in Canada. In all cases the question whether a student passes or not is decided by his teachers and not only by a separate examination but also by the nature of the work done by him throughout the term. There is therefore every inducement to him to attend regularly to his practical and lecture work. Physiology includes histology, often combined with embryology, physiological chemistry, and physiology proper. Dr. Gaskell refers to the method of teaching mentioned by Professor Rose Bradford but adds another—namely, "seminars." These, we gather, are something like a "recitation" but the classes are very small and may, perhaps, be compared with the work done amongst us by students reading with a coach. Another method which obtains specially at *Harvard*, and *which Dr. Gaskell* considers of great value, is the system whereby a student is allotted a subject upon which he has to write a thesis which has to be read and discussed by the students, fellows, and teachers and defended by himself. He is expected to show a knowledge of the contemporary and other literature dealing with the subject of the thesis. The anatomical and physiological laboratories are far ahead, in Dr. Gaskell's opinion, of most of our own and the system of laboratory units as existing at Toronto and Johns Hopkins University impressed him very much. By this system only some 25 be utilised for most of the school year to maintain a comparatively pure air, but even these methods would fail when most wanted, as in summer. For large schools direct mechanical movement of the air was best by large fans running at low speeds. In order to avoid "short-circuiting" by opening of doors all ducts should be as large as could be afforded and the outlets of low resistance; inlets to rooms should be high on the walls, outlets low; 2000 cubic feet per head per hour should be supplied. Accessory heating preferably by low pressure steam or water was advisable. The air should be well moistened. Cloakrooms and stairways must also be ventilated. At present the chief objection to the mechanical ventilation was the sense of loss of tone from want of sufficient skin stimulation by the smoothly flowing warmed air. Probably the system of the future would be one of large supplies of very moderately heated air moved by combined propulsion and extraction by fans, with accessory heating of rooms and free permission to open doors and windows.

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City of London Asylum, Dartford (Annual Report for 1903).—The average number of patients resident during the year was 561, comprising 254 males and 307 females. The admissions during the year amounted to 193—viz., 107 males and 86 females. Of these 184 were first admissions. Dr. Ernest W. White, the medical superintendent, states in his report that regarding the mental condition of the patients admitted 13 were suffering from general paralysis and 45 from acute and subacute melancholia. "We are still receiving many chronic patients who have been treated previously in other asylums or in single care and who come to us as fresh cases...... As vacancies occur they are filled; we do not confine ourselves to cases of recent origin or to those in which the prospect of recovery is good." The causation of insanity in the admissions included hereditary predisposition, alcoholic intemperance, mental anxiety and worry, old age, and bodily diseases. The number of cases discharged as recovered during the year amounted to 59—viz., 31 males and 28 females, or 10·5 per cent. of the average number resident. The deaths during the year amounted to 48, or 8·5 per cent. as calculated on the same basis. Of the deaths two were due to epilepsy, three to renal disease, four to senile decay, five each to colitis and cardiac disease, six to pulmonary and other forms of tuberculosis, 11 to general paralysis of the insane, and the rest to other causes. The sewage system of the asylum has been thoroughly tested and defects have been remedied, iron pipes being substituted for earthenware in the vicinity of the well. "I may add," says Dr. White, "we have been almost free from dysentery since the change of water-supply." Apart from the occurrence of a few cases of dysentery [illegible]
good during the year. [illegible]
year's working of £1 [illegible]
state in their report th [illegible]
in their behaviour, that their dress and personal tidiness were satisfactory, that the condition of the wards, dormitories, and asylum generally was very favourable, and that the medical case-books were well kept. "As respects means of escape in case of fire we think there should be an additional exit from the single room end of F 4 ward and from both hospital dormitories, and we are glad to learn that the matter has already received the attention of the committee." The committee of management states in its report that a sanitary annexe has been added to the workshop block, that a greenhouse has been erected for plants required for the wards and gardens, that minor alterations have been made in the laundry dayroom, and that the fire extinction appliances throughout the asylum have been thoroughly overhauled.

SEWERAGE OF AXMINSTER.—The Local Government Board is urging the Axminster (Devon) rural district council to carry out the work of the sewering of the town at an early date. The district council, however, is taking no steps in the matter and the chairman at a recent meeting stated that the question had been under discussion for the past 30 years. At the present time open sewers in some cases run close to houses and public highways.

INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH.—Dr. J. F. J. Sykes, medical officer of health of the metropolitan borough of St. Pancras, has been elected president of the Incorporated Society of Medical Officers of Health and will come into office on Oct. 1st. The society has *decided to make an investigation into the incidence and* causation of "return" cases of scarlet fever and diphtheria and as a first step a committee has been appointed to draw up a schedule of inquiries which medical officers of health and superintendents of isolation hospitals will be requested to adopt.

THE METROPOLITAN ASYLUMS BOARD AND ITS MEDICAL STAFF.

AGAIN we have to comment unfavourably upon the attitude adopted by the Metropolitan Asylums Board towards its medical staff, and in view of the several occasions on which we have considered it our duty to deal with this subject we think it as well at once to disclaim any personal animus in the matter. We know that for our medical readers such a disclaimer is unnecessary but the policy upon which we have commented has not been initiated by medical men, while the situation that has been created is one in which the public is deeply interested. The public duties of the Metropolitan Asylums Board are far-reaching, onerous, and delicate and if that Board, by the tacit sanction of the Local Government Board, succeeds in alienating medical sympathy the sufferers will be the people of London and not the medical profession. The recent arbitrary dismissal of certain of the assistant medical officers of the Metropolitan Asylums Board has, as our readers know, led to the conviction of the Board as an unjust master. The Board has paid compensation to the medical men who were treated in a manner the legality of which the Board shrank from attempting to defend. It is presumably with the view of being able to continue oppressive tactics, but without risk of legal reprisal, that the form which we print below has been prepared for the signature of assistant medical officers accepting service under the Board. The form, we understand, is already in force although it is unlikely that as yet any, or at all events many, medical men have signed it.

METROPOLITAN ASYLUMS BOARD.

CONTRACT OF SERVICE.

Name ... ...
Appointment ... ...
... ... 1904.

I hereby acknowledge and agree —

1. That the salary agreed to be paid to me is £ : : per annum.
[illegible] order, £ : .
[illegible] mum].
2 [illegible]
3. [illegible]
4. [illegible] duty,
[illegible] hall be
[illegible] nd to
[illegible] liable
[illegible] ithout
previous suspension; and that in the event of such dismissal or suspension followed by dismissal I shall receive my salary up to the day on which I may be so dismissed or suspended
5. [illegible]
6. [illegible]
situation I will give one * [illegible]
to the steward the amount of one * 's wages.
7. That my attention has been called to the Poor-Law Officers' Superannuation Acts, 1896-97 and the provisions thereof explained to me
8. That I am liable at any time to be transferred to any other institution of the Board to serve in a similar capacity to that for which I am now appointed.

Signed ... ...
Date ... ...

Witness ... .
Occupation ... .

* Week or month.

The document is a perfectly clear one, needing but little explanation though calling loudly for comment. It has to be signed in the presence of the steward, which seems an odd arrangement, tending to make it appear that an assistant medical officer is particularly in a subordinate position to the steward, while the third clause of the contract places him under the jurisdiction of "superior officers," these being, we suppose, the four principal officers of the Board—viz., the medical superintendent, the chaplain, the matron, and the steward. The fourth clause provides for the legal dismissal of assistant medical officers in the summary manner which has already cost the Board loss of prestige and loss of money. The position of the Board is secured by the fifth clause, which makes it clear that no assistant medical officer is intended to obtain a longer tenure of his office than one month. We invite medical men who think of taking service under the Metropolitan Asylums Board to consider the situation, and we suggest that no one should sign such a document. It is not in the nature of things to be expected that all the assistant medical officers of the Metropolitan Asylums Board are likely to remain, or are likely to desire to remain, for any long period the servants of the Board. The position of assistant medical officer to the Metropolitan Asylums Board is not one that a medical man would consider as a career, while we are perfectly aware that inconveniences arise from giving lengthy tenure to subordinate appointments. But there is a difference between appointing a medical man to a post for such a long time that it becomes unfair to ask for his resignation, and hiring him in the way that the charwoman or the cook is hired, with freedom to get rid of him at a week's or a month's notice. We do not believe that the Metropolitan Asylums Board, under such a contract, will obtain the services of young medical men anxious to learn and to carry out the various duties appertaining to the administration of a hospital for infectious disease. The assistant medical officer, who has to be obtained in a hurry and has to do his work while a panic is on, knowing that however well he does it he will be dismissed summarily, has no proper opportunity either of learning the scientific treatment of disease or of discharging his functions towards the public. He will not be an efficient officer, and he will not have a fair opportunity of becoming one. There is, so far as we can see, no inducement for seeking the posts in the conditions now imposed.

The object of obtaining the signatures of the assistant medical staff of the Board to the obnoxious contract published above is very clear. The Board desires to get rid of medical men in slack times, the justification of the measure being, of course, economy. No economy will result and it is no use for imitation reformers to shout loudly to the contrary. If we mistake not, on the same plea of economy reductions have been made in the nursing staff of the Board, whereby the position has been brought about that within two or three months of dismissing nurses the Board is advertising for new nurses. Supposing that these vacancies have to be filled temporarily by institutional nurses at wages higher than those given by the Board to its regular staff, where will be the economy? At the present time we believe there may be no particular pressure on the accommodation of the fever hospitals of the Metropolitan Asylums Board, but do the managers of the Board believe that the laws of periodicity are going to be set aside to oblige their spendthrift attempts towards reform? What will happen if the Board finds itself short of medical men and short of nurses with anything in the nature of an epidemic to combat? It will be unable to obtain efficient assistance save by high payment. This situation was met in past days by the maintenance of a staff adequate for keeping open all the permanent wards. That arrangement is now obsolete, while the cutting down of *personnel* is continued with greater rigour. To bring the hospitals into a plight in which they cannot cope with an outbreak of disease is not economy. It is no more economy than it is to omit to take out an insurance policy against fire or death A ruinous risk is incurred for the sake of saving a premium.

The whole position is a very serious one and demands the attention of the public whose safety depends upon the proper administration and maintenance of the hospitals of the Board. And what we would urge upon the public is that they must not be deceived by any statements that the innovations upon which it has been our duty recently to reflect constitute economy. We do not say this because the so-called economical changes are being made at the expense of the medical profession but because they are being made against public policy. The superintendents are to be put upon fixed and inadequate allowances of coals and lighting. What is saved to the public purse when the expenses of the various meters and their annual repairs are considered? Vicarious dispensing is to be done by the assistant medical officers and the medical employés of the Board are to be liable to immediate dismissal and so on, but the net result will not be economy. The medical profession at first will feel irritated and then will resolve not to place themselves at the disposal of the Board. The Board will have to raise its pecuniary terms and will spend considerably more pounds in so doing than it has saved shillings by ill-judged methods. It is to be hoped that the Local Government Board will take an early opportunity of investigating the whole matter.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Woking Urban District.—Dr. R. W. C. Pierce embodies in his current annual report an interesting account of an outbreak of septic sore-throat which occurred in this district in October and November of 1903 and which was attributed to the consumption of milk derived from a certain farm. There were in all 98 houses invaded by cases of this septic sore-throat and of this total no less than 76 obtained their milk from one or other of two milk dealers who, in turn, derived their supply from a common, and the suspected, source. The remaining 22 houses took their milk from nine other different dealers and Dr. Pierce apparently thinks that the illness in these 22 houses may be explained by the following facts: (*a*) milkmen borrow milk from one another on their rounds; (*b*) householders occasionally buy extra milk from passers-by; (*c*) the conveyance of infection from one house to another; (*d*) the possibility of other milk from a different source being similarly impure; and (*e*) the general prevalence of sore-throat in the autumn. Possibly this endeavour to explain the origin of these outstanding 22 cases is the weakest part of an otherwise strong chain of evidence. On inspecting the cows at the suspected farm the course taken was to examine the milk yielded by each quarter of the udders of the 20 cows and the results are certainly instructive. From one cow dirty pinkish milk was drawn from one teat and normal milk from the other three teats; from another what appears to have been pus was drawn from two teats, while the third cow yielded somewhat similar results. In the case of the fourth cow three teats yielded this pus-like material and the remaining teat coagulated milk. Bacteriologically the milk yielded streptococci and staphylococci "similar, if not identical with those which had been found in swabs from the throats of persons affected." An interesting fact brought out by the investigation was that the external examination of the udders afforded no indication of the conditions which must obviously have been present in the interior. This outbreak led to an examination of all the milk-supplies in the district and the result, as was to be expected by anyone conversant with the filthy conditions obtaining in the cowsheds of England, was to show an excessive amount of dirt "indicating a great want of cleanliness in the production or handling of milk," a fact which is equally demonstrable by an examination of the sediment to be found in the milk jugs of our breakfast tables. The veterinary surgeon who subsequently examined the cows which yielded the pus came to the conclusion that the condition of the udders was due to the fact that the cows had not been "properly stripped and that organisms gained entrance from outside through the milk ducts in the process of milking."

Cardiff Port Sanitary District.—Dr. Edward Walford's report for the last quarter of 1903 contains a record of the bacteriological examination of the water-supply of certain vessels arriving in the port of Cardiff and the results are somewhat instructive. In each case the source of the water is recorded and the results of the bacteriological examinations which were made by Dr. H. A. Schölberg are stated as number of organisms per cubic centimetre both at 37° and 20° C. The variations in the numbers are remarkable. For instance, the water of a steamer which arrived at Cardiff on Nov. 28th and which took in water at Karachi, Suez, and Algiers contained ten organisms per cubic centimetre at 37° C. and 950 at 20° C. This water is classed as "good." At the opposite extreme we have the water of a steamer which arrived on Oct. 23rd and which had watered at Karachi and Algiers, but which contained no less than 12,800 organisms per cubic centimetre at 37° C. and 4160 at 20° C. This water is regarded as "impure." Of course there are many additional facts which it would be instructive to know—i.e., the precise method of storage in each case, the position of the tanks as regards exposure to heat or dust, and the dates at which they were last cleaned out. But these points notwithstanding, the figures are interesting. The manner in which we in England are dependent upon the foreigner not only for meat but also as regards the quality of such meat is illustrated by the Cardiff figures contained in the report under review. During the quarter ended Dec. 31st of last year there arrived at that port 3450 forequarters and 3450 hindquarters of beef and 30,544 carcasses of mutton. For the wholesomeness of all this food we are largely dependent upon the foreigner, for it can hardly be contended that the examination of the frozen carcass is nearly so satisfactory as the examination of the animal before and after death when all the viscera are available Against this large arrival of dead meat 411 live cattle and 294 live sheep were received.

Plympton St. Mary Rural District.—Mr. S. Noy Scott is not an enthusiast in the matter of sanatoriums for consumption and he thinks that a given sum of money invested in erecting well-built and properly situated houses would do more towards the permanent reduction of the death-rate from pulmonary tuberculosis than many times the same sum expended on the building and support of sanatoriums. Inasmuch as it is not possible to isolate even a small proportion of the total number of cases it is useless to attempt by sanatoriums alone to produce any marked effect upon the general prevalence of the disease. Mr. Scott is, however, well pleased with the work done by the Didworthy Sanatorium, as although all the patients do not recover most of them receive distinct benefit and are able to return to work.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8553 births and 5379 deaths were registered during the week ending April 9th. The annual rate of mortality in these towns, which had been 19·7, 18·7, and 18 7 per 1000 in the three preceding weeks, declined last week to 18·4 per 1000. In London the death-rate was 18·6 per 1000, while it averaged 18·3 per 1000 in the 75 large provincial towns. The lowest death-rates in these towns were 7·0 in Walthamstow, 7·1 in Hornsey, 7·5 in Willesden, 7·6 in East Ham, 10·3 in Leyton and in Northampton, and 11·2 in Smethwick; while the highest rates were 21·4 in Bolton, 21·5 in Manchester, 21·7 in Swansea, 22 8 in Leeds, 23·4 Wolverhampton, 24·8 in Birmingham, 26·2 in Bootle, 27·7 in Hanley, and 29·3 in Norwich. The 5379 deaths in these towns last week included 583 which were referred to the principal infectious diseases, against 540, 532, and 640 in the three preceding weeks; of these 583 deaths 222 resulted from whooping-cough, 183 from measles, 57 from diphtheria, 52 from diarrhœa, 35 from scarlet fever, 25 from "fever" (principally enteric), and nine from small-pox. No deaths from any of these diseases were registered last week in Hastings, Southampton, Reading, Northampton, Burton-on-Trent, Coventry, or Tynemouth; among the other towns the highest death-rates from the principal infectious diseases were recorded in Brighton, Norwich, Hanley, Wolverhampton, Birmingham, St. Helens, Warrington, Bolton, and Rotherham. The greatest proportional mortality from measles occurred in Brighton, Norwich, Hanley, Stockport, St. Helens, Salford, Rochdale, Burnley, and Rotherham; from scarlet fever in Warrington and Newport (Mon.); from diphtheria in Bradford and West Hartlepool; and from whooping-cough in Wolverhampton, Walsall, Birmingham, Aston Manor, Wallasey, Warrington, Bolton, Bury, Salford, and Swansea. The mortality from "fever" and from diarrhœa showed no marked excess in any of the large towns. Of the nine fatal cases of small-pox registered in these towns last week three belonged to London, two to Hull, and one each to Stockport, South Shields, Gateshead, and Newcastle-on-Tyne. The number of small-pox cases remaining under treatment in the Metropolitan Asylums hospitals, which had been 74, 110, and 126 on the three preceding Saturdays, had further risen to 134 on Saturday, April 9th; 25 new cases were admitted during the week, against 26, 54, and 42 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 1505, against 1634, 1585, and 1570 at the end of the three preceding weeks; 141 new cases were admitted during the week, against 176, 145, and 153 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 375, 383, and 370 in the three preceding weeks, further declined to 333 last week, but were 96 in excess of the number in the corresponding period of last year. The causes of 68, or 1·3 per cent., of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Leicester, Nottingham, Salford, Newcastle-on-Tyne, and in 34 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Manchester, Burnley, Halifax, Rotherham, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 23·0, 22·3, and 20·6 per 1000 in the three preceding weeks, further declined to 20·3 per 1000 during the week ending April 9th, but was 1·9 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 16·1 in Paisley and 17·9 in Edinburgh to 23 9 in Dundee and 24·6 in Perth. The 671 deaths in these towns included 19 which were referred to whooping-cough, 14 to measles, seven to small-pox, seven to diarrhœa, five to diphtheria, three to "fever," and two to scarlet fever. In all, 57 deaths resulted from these principal infectious diseases last week, against 85, 86, and 72 in the three preceding weeks. These 57 deaths were equal to an annual rate of 1·7 per 1000, which was 0·3 per 1000 below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 24, 29, and 23 in the three preceding weeks, further declined last week to 19, of which seven were registered in Aberdeen, six in Glasgow, three in Dundee, and two in Edinburgh. The deaths from measles, which had been 22, and 23 in the two preceding weeks, declined again to 14 last week and included eight in Glasgow, two in Dundee, and two in Paisley. The fatal cases of small-pox, which had been seven, seven, and five in the three preceding weeks, rose again last week to seven, of which four occurred in Greenock and three in Glasgow. The deaths from diarrhœa, which had been 18, 15, and nine in the three preceding weeks, further declined to seven last week and included three in Glasgow and two in Aberdeen. The fatal cases of diphtheria, which had been three, seven, and three in the three preceding weeks, rose again last week to five, of which three were recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 185, 165, and 157 in the three preceding weeks, further declined last week to 138, but were 40 in excess of the number in the corresponding period of last year. The causes of 23, or more than 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 27·7, 30·4, and 28·5 per 1000 in the three preceding weeks, rose again to 29·7 per 1000 during the week ending April 9th. During the past four weeks the death-rate has averaged 29·1 per 1000, the rate during the same period being 18·7 in London and 19 5 in Edinburgh. The 216 deaths of persons belonging to Dublin registered during the week under notice showed an excess of nine over the number in the preceding week and included 19 which were referred to the principal infectious diseases, against 20, 14, and 20 in the three preceding weeks; of these, eight resulted from whooping-cough, four from measles, three from "fever," two from diphtheria, and two from diarrhœa, but not any from small-pox or from scarlet fever. These 19 deaths were equal to an annual rate of 2·6 per 1000, the death-rates last week from the principal infectious diseases being 2·3 in London and 0·8 in Edinburgh. The fatal cases of whooping-cough, which had been 13, five, and 11 in the three preceding weeks, declined again last week to 8. The deaths from measles, which had been four, five, and four in the three preceding weeks, were again four last week. The fatal cases of "fever," which had been one and two in the two preceding weeks, further rose last week to three. The two deaths from diarrhœa corresponded with the number in the preceding week. The 216 deaths in Dublin last week included 41 of children under one year of age and 48 of persons aged 60 years and upwards; the deaths of infants slightly exceeded the number in the preceding week, while those of elderly persons showed a decline. One inquest case and two deaths from violence were registered, and 91, or more than 42 per cent., of the deaths occurred in public institutions. The causes of nine, or over 4 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

Royal Navy Medical Service.

The following appointments are notified:—Deputy Inspectors-General: T. D. Gimlette to Hong-Kong Hospital and L. H. Kellett to Plymouth Hospital. Fleet Surgeons: J. L Barrington to Haulbowline Hospital H. R. Osborne to the *Good Hope*; W. Bett to the *Russell*; E. B. Townsend to the *Britannia*, for Dartmouth sick quarters; and J. H. Stenhouse to the *Spartan*. Staff Surgeon W. H. S. Stalkartt to the *Monmouth*. Surgeon J. Fullarton to the *Cadmus*.

Royal Army Medical Corps.

Lieutenant J. Waddell is placed on temporary half-pay on account of ill-health (dated March 11th, 1904).

Army Medical Reserve of Officers.

Surgeon-Captain G. A. Lang, having resigned his commission in the Volunteers, ceases to belong to the Army Medical Reserve of Officers.

Volunteer Corps.

Royal Garrison Artillery (Volunteers): 7th Lancashire: The appointment of Joseph Grant-Johnston to a Surgeon-Lieutenancy is cancelled.

Rifle: 2nd Volunteer Battalion the King's (Liverpool Regiment): Captain D. Smart, from the Liverpool Volunteer Infantry Brigade Bearer Company, to be Surgeon-Captain and to be borne as Supernumerary whilst doing duty with the above Bearer Company (dated April 2nd, 1904); Lieutenant J. G. Martin, from the Liverpool Volunteer Infantry Brigade Bearer Company, to be Surgeon-Lieutenant and to be borne as Supernumerary whilst doing duty with the above Bearer Company (dated April 2nd, 1904). 2nd Volunteer Battalion the Durham Light Infantry: Surgeon-Lieutenant T. H. Livingstone resigns his commission (dated April 2nd, 1904). 9th Lanarkshire: Surgeon-Lieutenant W. J. Mackinnon to be Surgeon-Captain (dated April 2nd, 1904).

Deaths in the Services.

Inspector-General Timotheus J. Haran, R N. (retired), at his residence in London, in his seventy-fifth year. He entered the Royal Navy as assistant surgeon in 1850, became staff surgeon in 1858, fleet surgeon in 1871, and reached the rank of inspector-general in 1886. He retired two years later. In 1851 he was assistant surgeon of and employed in charge of the *Harlequin's* boats in the attack on Lagos (mentioned in despatches), and he was also present in several subsequent expeditions to the rivers and lagoons adjoining against the expelled chief Kosoko. He was also employed repeatedly in boat cruising in the *Harlequin's* boats for the purpose of suppressing the slave trade on the West Coast of Africa. During the Crimean war he was assistant surgeon of the *Viper* in the Black Sea and was repeatedly in action. He took part in the battle of Eupatoria, the operations on the coast of Circassia, including the capture of Kertch, and the expedition in the Sea of Azov, the night attacks on the sea defences of Sevastopol, the capture of Kinburn, and the subsequent operations in the Gulf of Dneiper (Crimean and Turkish medals, the Azoff and Sevastopol clasp). He was assistant and additional surgeon of the *Boscawen*, flagship of the Hon. Sir F. W. Grey on the Cape of Good Hope and West Coast of Africa station, between 1857 and 1860 and landed at Ascension to attend yellow fever cases of the *Trident* in 1859. He was surgeon of the *Brisk* from 1860 to 1863, being employed at the Cape of Good Hope and East and West Coasts of Africa, and accompanying Commodore Wilmot in December, 1862, on a mission to the King of Dahomey—an enterprise then considered perilous and which entailed an absence from ship of six weeks. He was selected for service with the Royal Marine battalion which proceeded to South Africa in 1879. In 1881 he was employed at Haslar and was afterwards in charge of the Malta hospitals up to the year 1886, when he was promoted to inspector-general and appointed to Plymouth Hospital. Inspector-General Haran was a justice of the peace of Queensland and was honorary surgeon to the King.

Staff Surgeon William Rogers, R.N. (retired), on April 7th, at his residence at Saltash, Cornwall. The deceased entered the Royal Navy as surgeon in 1839 and was promoted to staff surgeon on Oct. 20th, 1845. He had seen no war service. Since his retirement he had lived at Saltash where he was much respected.

Colonel Robert de la Cour Corbett, D.S.O., R.A.M.C., principal medical officer of the Oudh and Rohilkhund districts, at Lucknow, on March 24th, aged 59 years. He entered the service in 1867 as assistant surgeon, became surgeon in 1873, surgeon-major in 1879, brigade-surgeon in 1893, and surgeon-colonel in 1898. He served with the Burmese expedition in 1886–87, during the later part of the campaign acting as principal medical officer of the Upper Burmah Field Force (mentioned in despatches, D.S.O., medal and clasp).

Lieutenant Colonel Nathaniel Alcock, A.M.S. (retired), at Bellevue, Ballybrack, co. Dublin recently. He joined the army in 1860, became surgeon in 1873, surgeon-major in 1875, and retired in 1889. He served in the Kaffir war of 1878 (medal). He had been employed for some time as medical officer in charge of the military prison, Dublin. The deceased was a much esteemed and deservedly popular medical officer who possessed considerable literary and scientific attainments. The loss of health mainly brought about by field service and exposure in the Kaffir war, unfortunately led to his comparatively early retirement, by which the Army Medical Service lost an able and promising member.

Dentistry in the Army.

It is only of late years that the importance of dentistry has been recognised by military authorities. A soldier to go through an arduous campaign with efficiency must keep in good health, but unless his teeth are in good order he cannot masticate his food properly and his digestion will therefore be defective. Military rations in the field are not always readily assimilable; on the contrary, they are often supplied in a highly indigestible form, so the soldier more than the civilian should have every part of his assimilating apparatus in good working order. In the *Deutsche Militärarztliche Zeitschrift* for January Dr. Richter discusses the subject of military dentistry at considerable length. It was in Saxony that steps first were taken to instruct soldiers how to take care of their teeth. On April 3rd, 1902, a Ministerial circular containing instructions regarding the hygiene of the mouth was issued and in the following March a similar procedure was generalised for the whole of the German army. Lectures on the subject by qualified medical officers have also been instituted and non-commissioned officers are required to see that the inculcated theories are carried out. A few dental dispensaries are now in operation in some of the chief garrisons of Saxony and Bavaria, including Dresden and Leipsic, the charges being extremely moderate. Tooth-stopping, for example, costs 6*d.* only and a denture of eight teeth can be fitted for 7*s.* The *personnel* of these dispensaries is furnished by the dentists (qualified and probationary) who are fulfilling their term of compulsory military service. The reason that these establishments are as yet comparatively few in number is not due to budgetary restrictions, for the expenditure involved is trifling, but to the fact that dentists in Germany are extremely scarce. Whereas close on 30,000 medical men are engaged in the active exercise of their profession throughout the empire the total number of dental surgeons does not exceed 1800. And yet, according to Dr. Richter, the scope for skilled dentistry is considerable. Out of 1000 persons examined by him he found that on an average each individual had 5·9 teeth in his mouth that were more or less decayed. A perfectly sound set of teeth was extremely rare. In an infantry regiment there would be need, he says, of 2300 tooth extractions every year, 2100 teeth would require stopping, and 50 men would be candidates for dentures, partial or complete. Every recruit, continues Dr. Richter, should be taught that with care the usefulness of his teeth can be greatly increased and their duration prolonged. Caries in his opinion is not hereditary. Every night before going to bed the mouth should be thoroughly rinsed and the teeth well scrubbed with a wet brush. Unless this is done fermentation will take place, acids will be generated, and decay facilitated. During the daytime the mouth is seldom as quiescent as it is during sleep. Talking serves to keep the teeth clean and toothpicks after meals are very useful. Dentifrices and washes, in Dr.

Richter's opinion, are worse than useless. Nothing can be better than mechanical cleansing with a wet brush.

A BRITISH OFFICER'S REPORT ON THE FIGHT AT CHEMULPO.

A long extract from a letter by Captain Lewis Bayly of H.M.S. *Talbot*, dated Feb. 20th, has been published, from which we reproduce (from the *Standard* of April 12th) the following very interesting medical details connected with a naval engagement in modern war:—

wounded were out of this [illegible], which is [illegible] per cent. killed, [illegible] per cent. wounded. It must not be forgotten that having no gun shields her gun crews were practically unprotected and that shrapnel shell were largely used, to judge by the holes in the boats, funnels, &c. All was quiet in the engine room, as though they had been at target practice. In one stokehold (they have five with no fore and aft bulkhead) the water came up to the floor of the furnaces but did not get into the other stokeholds.

Further on and at the end of his communication Captain Bayly goes on to add that—

A very great deal of shrapnel must have been fired at the *Varyag*, judging by the round holes, and not much lyddite, for there seems to have been no inconvenience from poisonous gases. Much trouble has been caused to the wounded on account of the pieces of cloth that are constantly being extracted. Many men are wounded with punctures, holes about as large as the top of the little finger, and from a quarter of an inch to half an inch or one inch deep, but with no foreign substance such as iron, &c., being present in the wound, and no sign of scorching round the mouth of the wound.

THE WAR IN THE FAR EAST.

The Japanese Red Cross Society has a roll of between 800,000 and 900,000 members and its organisation leaves little if anything to be desired. Nearly 300 medical men are employed in its service and some 1600 qualified nurses are ready for immediate work in connexion with the war. The two permanent hospital ships of the society have accommodation for 400 patients.

The *Times* states that "200 Canadians who served in South Africa with medical and bearer corps have been engaged by the Japanese Government to serve in the present war in a similar capacity. The Japanese authorities have shown a complete knowledge of Canadian participation in the South African war in the selection they have made."

The executive committee of the Russian Red Cross Society, says the *Novosti*, has received advice from Athens that in the Russian Embassy there many Greek medical men have enrolled their names with the request that they may be sent to the theatre of war to serve in the hospitals.

THE LATE FREDERICK CHARLES STEARN, SURGEON, R.N.

The funeral of Surgeon F. C. Stearn, one of the medical officers of Portsmouth Dockyard, took place on April 6th with full naval honours. The service in the Dockyard church was held by the Rev. Dr. Shone and was attended by Rear-Admiral Henderson and all the Dockyard officers, Flag-Captain Sir R. K. Arbuthnot representing the Commander-in Chief. Afterwards a procession was formed, headed by a firing party. Then came the band of the Royal Naval Barracks, preceded by a field gun carriage on which was the coffin covered with a Union Jack and bearing the deceased officer's hat and sword. Six surgeons were pall bearers. Carriages with private mourners followed and after them walked a large number of naval and Dockyard officers. The interment was at the Highland-road Cemetery and at the close of the service the usual three volleys were fired over the grave.

NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund, held on April 12th, Sir J. N. Dick, K.C.B., being in the chair, the sum of £50 was distributed among the several applicants.

The *Army and Navy Gazette* of April 9th states that Surgeon-General G. J. Evatt, C.B., retired list, A.M.S., has been invited to contest the Fareham Division of Hampshire at the general election in opposition to the sitting member, Mr. A. H. Lee, Civil Lord of the Admiralty.

Correspondence.

"Audi alteram partem."

SYPHONAGE IN THE GREAT INTESTINE.

To the Editors of THE LANCET.

SIRS,—A reference to Dr. R. W. Leftwich's latest work on "Syphonage and Hydraulic Pressure in the Large Intestine" has served to confirm the opinion I formed from the evidence produced in his earlier papers—viz., that he is in error in supposing the great intestine to act as a syphon in man during life. The chief observations on which he bases his theory of syphonage are (putting them in brief) the following:—

1. That a piece of garden hose, bent so as to represent the various curves and segments of the colon, acts as a syphon with substances which are only partially fluid in nature, such as glycerine. The criticism I offer to this observation is that the normal contents of the great intestine are of such a consistency that they cannot be made to flow in a tube even with rigid walls, much less in one with flexible and unequal walls. Further, the curves given by Dr. Leftwich to his artificially constructed colon have no resemblance to the actual flexures of the colon as seen in the human body, either living or dead.

only full and
nd fixation of
Leftwich had
e arrangement
in animals allied to man or to consult the literature on this subject, otherwise he would have found that the disposition of the great intestine of man does not differ in principle from that found in other mammals, in which, he is careful to explain, there can be no colic syphonage. It is certainly true amongst genera of primates that the more they are habituated to the upright posture the more firmly is their great intestine fixed to the posterior abdominal wall, but this feature finds a full and satisfactory explanation in the alterations in the respiratory movements of the abdominal viscera and need for greater fixation of the abdominal contents, caused by the change of posture.

3. That the theory of syphonage explains the arrangement of the fibres of the muscular coats of the human colon. The muscular arrangement of the human colon is not peculiar, it is similar to that of all mammals which live on a mixed or vegetable diet and in which the contents of the
s of a solid consistency. The
muscular coat of the colon in
e production of the peculiar
peristaltic movements which help in the digestion, absorption, and propulsion of the semi solid contents of the colon.

4. That the tonicity or contraction of the tænia of the colon can render the walls of that viscus rigid and thus fit it to act as a syphon. No one, so far as I know, has ever denied tonicity to either the longitudinal or circular coat of the colon, but I am unable to conceive that the action of the longitudinal coat can have any effect on the bowel other than to shorten it. The only manner in which the walls of the bowel could be rendered rigid enough to serve as a syphon would be to suppose that the circular fibres of the colon, which alone can alter the lumen, possessed an active power of elongation. Dr. Leftwich, however, in harmony with modern physiological teaching, regards such an action as impossible, but, on the other hand, he refuses to accept physiological evidence of the importance of the peristaltic movements of the great intestine, yet the muscular coat of six inches of the human colon is nearly three times the weight of an equal segment from the small intestine.

The only manner in which the cæcal or colic wall could be rendered rigid enough to serve for syphonage would be to create a negative pressure within the cavity of the abdomen. This effect could be obtained by placing the patients, not in the upright posture, as Dr. Leftwich places them to obtain colic syphonage, but in a head down posture, for we know that in such a posture the negative pressure within the abdomen is sufficient to cause *ballooning of the bladder*, vagina, or rectum if the orifices of these viscera be opened. In the upright posture, on the other hand, the intestinal contents are subjected to a pressure of from 10 to 20 millimetres of mercury, the pressure rising three or five millimetres with each expiration, from 20 to 30 millimetres with persons aged 60 years and upwards; the deaths of infants slightly exceeded the number in the preceding week, while those of elderly persons showed a decline. One inquest case and two deaths from violence were registered, and 91, or more than 42 per cent, of the deaths occurred in public institutions. The causes of nine, or over 4 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Deputy Inspectors-General: T. D. Gimlette to Hong-Kong Hospital and L. H. Kellett to Plymouth Hospital. Fleet Surgeons: J. L Barrington to Haulbowline Hospital H. R. Osborne to the *Good Hope;* W. Bett to the *Russell;* E. B. Townsend to the *Britannia*, for Dartmouth sick quarters; and J. H. Stenhouse to the *Spartan*. Staff Surgeon W. H. S. Stalkartt to the *Monmouth*. Surgeon J. Fullarton to the *Cadmus*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant J. Waddell is placed on temporary half-pay on account of ill-health (dated March 11th, 1904).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain G. A. Lang, having resigned his commission in the Volunteers, ceases to belong to the Army Medical Reserve of Officers.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 7th Lancashire: The appointment of Joseph Grant-Johnston to a Surgeon-Lieutenancy is cancelled.

Rifle: 2nd Volunteer Battalion the King's (Liverpool Regiment): Captain D. Smart, from the Liverpool Volunteer Infantry Brigade Bearer Company, to be Surgeon-Captain and to be borne as Supernumerary whilst doing duty with the above Bearer Company (dated April 2nd, 1904); Lieutenant J. G. Martin, from the Liverpool Volunteer Infantry Brigade Bearer Company, to be Surgeon-Lieutenant and to be borne as Supernumerary whilst doing duty with the above Bearer Company (dated April 2nd, 1904). 2nd Volunteer Battalion the Durham Light Infantry: Surgeon-Lieutenant T. H. Livingstone resigns his commission (dated April 2nd, 1904). 9th Lanarkshire: Surgeon-Lieutenant W. J. Mackinnon to be Surgeon-Captain (dated April 2nd, 1904).

DEATHS IN THE SERVICES.

Inspector-General Timotheus J. Haran, R N. (retired), at his residence in London, in his seventy-fifth year. He entered the Royal Navy as assistant surgeon in 1850, became staff surgeon in 1858, fleet surgeon in 1871, and reached the rank of inspector-general in 1886. He retired two years later. In 1851 he was assistant surgeon of and employed in charge of the *Harlequin's* boats in the attack on Lagos (mentioned in despatches), and he was also present in several subsequent expeditions to the rivers and lagoons adjoining against the expelled chief Kosoko. He was also employed repeatedly in boat cruising in the *Harlequin's* boats for the purpose of suppressing the slave trade on the West Coast of Africa. During the Crimean war he was assistant surgeon of the *Viper* in the Black Sea and was repeatedly in action. He took part in the battle of Eupatoria, the operations on the coast of Circassia, including the capture of Kertch, and the expedition in the Sea of Azov, the night attacks on the sea defences of Sevastopol, the capture of Kinburn, and the subsequent operations in the Gulf of Dneiper (Crimean and Turkish medals, the Azoff and Sevastopol clasp). He was assistant and additional surgeon of the *Boscawen*, flagship of the Hon. Sir F. W. Grey on the Cape of Good Hope and West Coast of Africa station, between 1857 and 1860 and landed at Ascension to attend yellow fever cases of the *Trident* in 1859 He was surgeon of the *Brisk* from 1860 to 1863, being employed at the Cape of Good Hope and East and West Coasts of Africa, and accompanying Commodore Wilmot in December, 1862, on a mission to the King of Dahomey—an enterprise then considered perilous and which entailed an absence from ship of six weeks. He was selected for service with the Royal Marine battalion which proceeded to South Africa in 1879. In 1881 he was employed at Haslar and was afterwards in charge of the Malta hospitals up to the year 1886, when he was promoted to inspector-general and appointed to Plymouth Hospital. Inspector-General Haran was a justice of the peace of Queensland and was honorary surgeon to the King.

Staff Surgeon William Rogers, R.N. (retired), on April 7th, at his residence at Saltash, Cornwall. The deceased entered the Royal Navy as surgeon in 1839 and was promoted to staff surgeon on Oct. 20th, 1845. He had seen no war service. Since his retirement he had lived at Saltash where he was much respected.

Colonel Robert de la Cour Corbett, D.S.O., R.A.M.C., principal medical officer of the Oudh and Rohilkhund districts, at Lucknow, on March 24th, aged 59 years. He entered the service in 1867 as assistant surgeon, became surgeon in 1873, surgeon-major in 1879, brigade-surgeon in 1893, and surgeon-colonel in 1898. He served with the Burmese expedition in 1886–87, during the later part of the campaign acting as principal medical officer of the Upper Burmah Field Force (mentioned in despatches, D.S.O, medal and clasp).

Lieutenant Colonel Nathaniel Alcock, A.M.S. (retired), at Bellevue, Ballybrack, co. Dublin recently. He joined the army in 1860, became surgeon in 1873, surgeon-major in 1875, and retired in 1889. He served in the Kaffir war of 1878 (medal). He had been employed for some time as medical officer in charge of the military prison, Dublin. The deceased was a much esteemed and deservedly popular medical officer who possessed considerable literary and scientific attainments. The loss of health mainly brought about by field service and exposure in the Kaffir war, unfortunately led to his comparatively early retirement, by which the Army Medical Service lost an able and promising member.

DENTISTRY IN THE ARMY.

It is only of late years that the importance of dentistry has been recognised by military authorities. A soldier to go through an arduous campaign with efficiency must keep in good health, but unless his teeth are in good order he cannot masticate his food properly and his digestion will therefore be defective. Military rations in the field are not always readily assimilable; on the contrary, they are often supplied in a highly indigestible form, so the soldier more than the civilian should have every part of his assimilating apparatus in good working order. In the *Deutsche Militarärztliche Zeitschrift* for January Dr. Richter discusses the subject of military dentistry at considerable length. It was in Saxony that steps first were taken to instruct soldiers how to take care of their teeth. On April 3rd, 1902, a Ministerial circular containing instructions regarding the hygiene of the mouth was issued and in the following March a similar procedure was generalised for the whole of the German army. Lectures on the subject by qualified medical officers have also been instituted and non-commissioned officers are required to see that the inculcated theories are carried out. A few dental dispensaries are now in operation in some of the chief garrisons of Saxony and Bavaria, including Dresden and Leipsic, the charges being extremely moderate. Tooth-stopping, for example, costs 6*d.* only and a denture of eight teeth can be fitted for 7*s.* The *personnel* of these dispensaries is furnished by the dentists (qualified and probationary) who are fulfilling their term of compulsory military service. The reason that these establishments are as yet comparatively few in number is not due to budgetary restrictions, for the expenditure involved is trifling, but to the fact that dentists in Germany are extremely scarce. Whereas close on 30,000 medical men are engaged in the active exercise of their profession throughout the empire the total number of dental surgeons does not exceed 1800. And yet, according to Dr. Richter, the scope for skilled dentistry is considerable. Out of 1000 persons examined by him he found that on an average each individual had 5·9 teeth in his mouth that were more or less decayed. A perfectly sound set of teeth was extremely rare. In an infantry regiment there would be need, he says, of 2300 tooth extractions every year, 2100 teeth would require stopping, and 50 men would be candidates for dentures, partial or complete. Every recruit, continues Dr. Richter, should be taught that with care the usefulness of his teeth can be greatly increased and their duration prolonged. Caries in his opinion is not hereditary. Every night before going to bed the mouth should be thoroughly rinsed and the teeth well scrubbed with a wet brush. Unless this is done fermentation will take place, acids will be generated, and decay facilitated. During the daytime the mouth is seldom as quiescent as it is during sleep. Talking serves to keep the teeth clean and toothpicks after meals are very useful. Dentifrices and washes, in Dr.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Health of Convicts in the Andaman Islands.—The Increasing Plague Mortality.—Further Particulars of the Mulkowal Disaster.

THE annual report on the penal settlement of the Andaman Islands has recently been published. The islands are admittedly unhealthy and the chief diseases are malaria, dysentery, and phthisis. Phthisis is said to be encouraged by insufficient lateral sleeping-floor area in the convict barracks and by insufficient clothing, especially during the rains. Against malaria mosquito brigades have been started in every station and village in the settlement and the general administration of quinine is to be extended further. Some curious remarks are made in the report concerning the use of the mosquito net. It is considered impracticable because it interferes with the perflation of air. I quite agree that "to prevent the insidious infection of phthisis there must be the freest perflation of air possible in dwellings," but that this view "prohibits the mosquito net as a remedy for malaria in Port Blair Convict Barracks" is questionable. The report goes on to say that "as both phthisis and malaria are equally dangerous in the settlement a choice must be made between free perflation of air and the mosquito net, and since the mosquito brigade is a good remedy for malaria the mosquito net may be left out on consideration." Here we have the writing of a civilian and not that of the medical officer. The mosquito net does interfere somewhat with the currents of air but not sufficiently for it to be condemned on that account, and its manifest advantages in preventing a malarious patient being dangerous to others should have insured its use. The want of floor space—in other words overcrowding—would seem to be the chief evil.

The period of the annual plague maximum mortality throughout India is now approaching and the death-rate has been steadily rising. The total number of deaths from plague last week was 33,517, being nearly 5000 more than in the previous seven days. The principal increases are recorded in the United Provinces, the Punjab, the Bombay Presidency, and Bengal. The totals published are: Punjab, 6431 deaths; Bengal, 4386; Bombay Presidency, 7140; Bombay city, 925; Karachi, 145; Calcutta, 230; Madras Presidency, 625; Central Provinces, 2290; Mysore State, 383; Hyderabad State, 577; Central India, 955; Rajputana, 621; and Kashmir, 405. It is a curious circumstance that the outbreaks in Bombay city and in Calcutta are both behind their usual seasonal developments. The recrudescence in Karachi is very severe and Allahabad has also recently suffered tremendously.

The mystery of the Mulkowal disaster is gradually leaking out. It appears that the Plague Research Laboratory of Bombay notified the Punjab Government of its inability to supply the full quantity of the prophylactic and at the same time intimated that the fluid which would be sent would be prepared in a different way. It was soon noticed that a much larger proportion of the new fluid was unfit for use—in fact, I have it from one of the operators that the number of bottles he thought it advisable to discard was very considerable. It was reported that abscesses occurred more frequently with the new fluid which suggested that it contained impurities. Moreover, the reaction was feeble and the occurrence of a few deaths closely following inoculation threw further suspicion on the new fluid. While arrangements were being made to discontinue its use the deplorable calamity occurred. 19 persons were inoculated from one bottle and all of them contracted tetanus and died. No blame is attached to the inoculating officer. The circumstances point to the conclusion that the fluid had been contaminated before it reached the Punjab. How this particular bottle became poisoned still remains a mystery. The disaster has proved a death-blow to inoculation in India.

March 26th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Work of the Port Sanitary Authority during 1903; Liverpool and Sea-borne Infectious Disease.

IN an important seaport like Liverpool, which is open to ships carrying merchandise and passengers from all parts of the world, there is no small liability of infectious disease when it may happen to exist on incoming vessels being brought to the port. The port sanitary authority by careful watchfulness is guarding against the occurrence of such mischief, being aided in this effort by the Mersey Docks and Harbour Board. In the report of the port sanitary authority for 1903, recently issued, Dr. E. W. Hope deals with the manner in which disease is combated when a vessel on arrival in the Mersey is suspected of being infected with any infectious disease. She is at once boarded by the medical officer and is not permitted to dock until he has thoroughly examined her. If the vessel be found free from disease the captain receives a certificate to that effect and is then allowed to take his vessel to dock. The report states that there are statutory powers authorising the detention of vessels infected, or believed to be infected, with cholera, plague, and yellow fever, but there are no statutory powers to prevent other ships which may have small-pox, typhus fever, &c., on board from entering the docks. However, by an arrangement with the Mersey Docks and Harbour Board, any dangerously infected vessel may be prevented from entering the docks until dealt with by the medical officer. Thanks to this valuable provision the port of Liverpool is exceptionally well protected. With regard to the hospital accommodation it is mentioned that the original port hospital in the Sloyne has recently been added to and improvements have been made in bathing and lavatory accommodation. An additional pavilion and a separate home for the nurses, as also a laundry and a disinfecting apparatus, were erected in 1902. There is now accommodation for 50 patients. Patients suffering from infectious disease and requiring to be removed to the port hospital are conveyed by the port sanitary authority's tug or by the ship's boat to the hospital jetty and landed. The majority of patients, however, are removed to the city hospitals from the dock after the vessel has been berthed, this being a more convenient plan than sending all sea-borne cases to the port hospital. The number of ships from infected ports medically inspected during the year was 119 and vessels bound for Manchester (*viâ* Ship Canal) from infected ports are dealt with by the Liverpool port sanitary authority under an order of the Local Government Board. The Liverpool authority has also accepted responsibility for the accommodation in a Liverpool hospital of any case of small-pox which may be present on board a Manchester-bound vessel. This is a voluntary arrangement between the authorities of Liverpool and Manchester. There is an interesting paragraph in the report about rats as disseminators of plague. Many methods have been tried to catch these pests but trapping has yielded, so far, the best results. This can only be done properly by expert rat catchers. Rats when caught are sent to the corporation bacteriologist who reports on the presence of plague amongst them, or they are killed and the carcasses destroyed in the ship's furnaces. During last year 5083 rats were caught on board 98 ships, but none were found to be infected with plague. Several pages in the report are occupied by a codification of the modifications in quarantine measures and the additional regulations regarding rats which are the outcome of the International Sanitary Convention in Paris in October last. On the subject of yellow fever Dr. Hope points out that it is now concluded that this disease, like malaria, is transmitted by a species of mosquito found plentifully in the haunts of yellow fever. During the year 16 ships brought cases of small-pox, or suspected small-pox, to the port, notably from Bilbao, Barcelona, Constantinople, and Smyrna. 32 cases of enteric fever, six cases of scarlet fever, 12 cases of measles, one case of anthrax, 32 cases of phthisis, and 18 cases of beri-beri occurred in Liverpool-bound vessels and were reported to the authority. As to the emigrants, only 79 out of the large total of 265,918 were found to be suffering from infectious disease. These were children affected with small-pox, chicken-pox, measles, and scarlet fever. During the year the port has remained entirely free from those forms of sickness which tend to cause interference with commercial business by leading to quarantine in foreign ports.

Birkenhead Infectious Diseases Hospital.

The desirability of providing increased accommodation at the Birkenhead Infectious Diseases Hospital has become a matter of urgency and the matter has engaged the attention of the health committee of the Birkenhead town council for some time past. The committee adopted a motion, which will require ratification by the town council, to the effect that various alterations and additions should be made at an estimated cost of about £13,000. This estimated expenditure will comprise £4294 for alterations and additions to the administrative block; £4940 for the erection of two additional ward pavilions, each to contain 12 beds, with day-room attached; £858 for a lodge and discharging block, to be erected at the main entrance to the hospital; £736 for the construction of a laundry block; £1050 for the provision of machinery, with the addition of a reserve boiler; and general furnishing about £1000.

The Harveian Oration at the Royal College of Physicians of London.

Dr. Richard Caton, consulting physician to the Royal Infirmary and emeritus professor of physiology at the University of Liverpool, is announced to deliver the Harveian Oration at the Royal College of Physicians of London in June next.

Infirmary for Children.

The appeal made by the committee of the Liverpool Infirmary for Children on behalf of the rebuilding fund has resulted in the receipt of £39,269 up to March 28th. £25,000 are still required to make up the desired amount.

Sanitary Inspectors' Examination Board.

On April 5th the first of a five days' examination, under the Sanitary Inspectors' Examination Board, took place at the University of Liverpool. This is the first occasion upon which the examination has been held in the provinces. Dr. Hope, the medical officer of health of Liverpool, had arranged the preliminary details of the examination. There were only 14 candidates, including several who had been trained at the Liverpool School of Hygiene.

Anthrax in Cheshire.

The Board of Agriculture has issued an order with regard to the slaughter of animals in cases of anthrax to the effect that the council of the administrative county of Chester may, if it thinks fit, cause to be slaughtered any animal affected with anthrax or suspected of being so affected. The slaughter of animals shall be conducted in such a mode as will, as far as possible, prevent effusion of blood. Where the animal slaughtered was affected with anthrax the owner shall be compensated to the extent of one half the value of the animal immediately before it became so affected and in every other case the compensation shall be the value of the animal immediately before it was slaughtered. Provided that the owner of the animal gives notice in writing to the council or its inspector or other officer that he objects to the animal being slaughtered, it shall not be lawful for the council to cause that animal to be slaughtered except by the further special authority of the Board of Agriculture and Fisheries being first obtained. On each occasion of slaughter under this article the council shall send to the Board of Agriculture and Fisheries a report stating the number of animals slaughtered, the mode of slaughter and of disposal of the carcasses, and the compensation paid in respect of each animal.

April 12th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Small-pox in Bristol.

BRISTOL has been entirely free from small-pox since the end of September last but it is probable that there will now be some cases infected by a tramp who slept in a large common lodging-house in the city on March 29th and who was found on April 2nd in the Keynsham workhouse suffering from the disease. The man had left Newcastle on-Tyne on March 13th, tramping south through Worcester and Gloucester. It is nearly eight years since small-pox was spread in Bristol through the agency of a common lodging-house and on that occasion there were 20 cases.

Vagrancy in Gloucestershire and Somersetshire.

In 1882 a County Vagrancy Committee was formed in Gloucestershire, three members being appointed by the Court of Quarter Sessions and one by each of the boards of guardians in the county. The chairman of this committee presents to the county council a quarterly report of considerable value, setting out the number of tramps who have visited the various casual wards during a specified period. In the first quarter of the present year 17,873 tramps were admitted to the wards of the Gloucestershire workhouses, an increase over the corresponding period of last year of 4147. This increase is almost entirely confined to the Gloucester, Westbury, and Winchcombe unions. At the last meeting of the county council the chairman of this committee made the satisfactory statement that there was a distinct decrease in the number of children being dragged about the country by tramps. At the meeting of the Somerset county council, held on April 4th, a motion was adopted urging the Local Government Board to consider what measures could be adopted for the establishment of a more effective and uniform system of dealing with tramps throughout the country.

Penybont Health Report.

Mr. Wyndham Randall, the medical officer of health of the rural district of Penybont in Glamorganshire, has just issued his annual report from whi [illegible] an estimated population of 15,455 [illegible] 1903 was 33 3 per 1000, the death-rate from all causes 14·7 per 1000, and the infantile mortality-rate as low as 99 per 1000 births. The county asylum is situated in the Penybont district and Mr. Randall records for several diseases the death-rates in the asylum alone and in the rural district excluding the asylum. In the asylum the phthisis death-rate was 16·6 per 1000 and the cancer death-rate 3·7 per 1000, while in the rural district the death-rate from these two diseases was 1 per 1000 and 0·6 per 1000 respectively.

Cornwall County Nursing Association.

The annual meeting of the Cornwall County Nursing Association was held at Truro on April 8th. It was reported that during 1903 six new districts had been formed, making a total of 34 district associations affiliated to the society. 42 nurses had been trained since the commencement of the work, of whom 26 are still working for the association. The financial statement showed that the income amounted to £361 and the expenditure to £660, the deficiency having been met by taking about £200 from the capital.

April 11th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The late Sir Philip Crampton Smyly.

THE death of Sir Philip Crampton Smyly came as a surprise in the end, although he had for some time been a severe sufferer from gout. His scientific attainments, no less than his social connexions, made him one of the most prominent representatives of the medical profession in the country. He had been President of the Royal College of Surgeons in Ireland and representative of the College on the General Medical Council and honorary surgeon to the late Queen Victoria. At his death he was honorary surgeon to the King. By his marriage with a daughter of the third Lord Plunket, he was brother-in-law to the Archbishop of Dublin and Lord Rathmore. Sir Philip Smyly was only ill for a few hours.

Ballinasloe District Lunatic Asylum.

Much interest has been felt in the West of Ireland for months as to who would be the successor to the late Mr. R V. Fletcher as resident medical superintendent of the Ballinasloe District Lunatic Asylum. The election, which was in the hands of the joint committee nominated by the Galway and Roscommon county councils, took place on April 11th and resulted in the appointment of Dr. James St. Lawrence Kirwan, recently the junior medical assistant in the asylum. A letter was read from the Lunacy Department, stating that the Lord Lieutenant concurred in the resolution of the board fixing the salary of the resident medical superintendent at £500 per annum with £120 a year as allowances.

The Freedom of the City of Belfast for Mrs. Pirrie.

The corporation of the city of Belfast has unanimously decided to confer the freedom of the city on Mrs. Pirrie. The compliment is paid "in recognition of her signal services to the community in inaugurating and raising by her untiring zeal and personal influence a fund sufficient for the erection, equipment, and endowment of the Royal Victoria Hospital, which was instituted to commemorate the Diamond Jubilee of Her late Majesty Queen Victoria and to confer lasting benefits upon the citizens of the city of Belfast."

The Right Hon. W. J. Pirrie has already had this honour conferred upon him in recognition of his great services to Belfast during the period of his Lord Mayoralty. It is unique in the annals of municipal life for husband and wife to have such honours bestowed upon them.

Health of Belfast.

Since the commencement of the present epidemic of small-pox in Belfast, 46 cases had been admitted to the Purdysburn Hospital, 30 were discharged, two died, and there were 14 still remaining in hospital. There were 147 admissions to the intercepting hospital and 16 "contacts" remain at present. Between Feb. 21st and March 19th there were notified 38 cases of scarlet fever, 24 of erysipelas, 20 of typhoid fever, 18 of diphtheria, 5 each of simple continued fever and small-pox, 4 of puerperal fever, and 2 of croup. The deaths from zymotic diseases were 56 and those from phthisis and diseases of the respiratory organs were 96 and 213 respectively, making a total of 309 from the last two causes. Very few cases of typhoid fever have been notified during the month. The deaths from whooping-cough keep high and the mortality from respiratory diseases has been exceptionally high of late. The prevalence of small pox in Glasgow accounted for its being carried to Belfast. It was strongly urged at the meeting of the city corporation on April 5th that something should be done to deal with the tuberculosis problem (96 deaths from consumption occurred in the past month) and it came out in the discussion that plans are to be considered shortly for a building to accommodate 100 patients.

The Belfast Ophthalmic Institution.

At the annual meeting of the friends of this charity, held on April 7th, it was reported that there were 171 intern and 2184 extern patients during the past year. The year closed with a debt of £54 in addition to one of £100 to the "alteration and additional building account." The honorary secretary said that if the committee would collect £100 before the next annual meeting he would augment it by £50 A vote of thanks was passed to the medical staff of the hospital for their services.

Newry Guardians and the Medical Officers of the Newry Union.

At a meeting of the South Down branch of the Irish Medical Association held in Newry on April 7th it was decided that the medical officers of the Newry union should write to the Newry board of guardians for instructions how to act in cases of emergency, because, as matters stand at present, they are precluded from having consultations except in ordinary cases in the daytime. In the latter cases the existing fee allowed by the guardians corresponds with that which they are prepared to accept but in all other cases which are most likely to arise every medical man practising in the neighbourhood refuses to accept the fees at present offered, and they feel that they must in the interest of their patients be placed in a position to be able to obtain immediate assistance in case of necessity so as to relieve suffering or to save human lives.

April 13th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Chloroform and Oxygen Anæsthesia.

AT a meeting of the Academy of Medicine held on March 29th M. Kirmisson gave an account of his experience in the use of chloroform mixed with oxygen as an anæsthetic, being a revival of a method which had been formerly tried by Paul Bert upon some patients under the care of Péan. M. Kirmisson uses Rede's apparatus and gives a mixture of vaporised chloroform and oxygen in the proportion of from two to three grammes of the former with from three to four litres of the latter. M. Kirmisson's experience of the method comprises 229 cases of anæsthesia in children aged from six months to 15 years. No untoward effects were observed. The anæsthetic sleep is perhaps rather longer in coming on than with chloroform alone, but, on the other hand, the period of excitement is absent and vomiting is very rare. By this method M. Kirmisson has kept a patient anæsthetised during an operation lasting 52 minutes with only 16 grammes of chloroform. He considers that the method will find its principal application in abdominal surgery and in gynæcology where operations are likely to be prolonged. The use of oxygen causes a slight increase in the expense of administration compared with that of chloroform alone but this is compensated by the saving in the amount of chloroform used.

A New Local Anæsthetic.

At the same meeting of the Academy M. Forneau and M. Billon gave an account of a new local anæsthetic which has the same properties as cocaine but is only half as poisonous. Moreover, it has no vaso constrictor power which is one of the chief objections to cocaine. The body belongs to the group of amino alcohols and its name is hydrochlorate of A-dimethyl-amino-B-benzoyl-prophenol, or more simply amyleine. M. Reclus and M. Chaput have used it in general surgery, M. de Lapersonne in ophthalmology, and M. Sauvez in dentistry, all with success.

Treatment of Cancer of the Skin by the X Rays.

Still at the same meeting M. Leredde gave an account of the above treatment. The therapeutic use of the x rays after a period of somewhat risky groping in the dark could now be applied under definite regulations, at all events to the treatment of malignant affections of the skin, in which really remarkable effects had been obtained. The forms of disease to which this method is specially applicable are those called by M. Leredde "*épithéliomes adultes*"—that is to say, those in which the field of altered tissue is limited by a raised edge (*bourrelet*). Such cases of epithelioma are serious or at all events tend to become serious. Cure is brought about by liquefaction and disintegration of the malignant tissues which are completely destroyed, showing the selective action of the rays upon cancerous tissue. If pain is present it often disappears after the first sitting and the same is the case with any offensive smell. The æsthetic results are excellent and cure may be considered as absolute when the treatment is pushed far enough. Radiotherapy may be combined with other measures but at present it is the treatment of election for certain localised growths such as epithelioma of the eyelids, epithelioma of the nose, and in many cases where the patient refuses the use of the knife.

The Isolation of the Tuberculous at Paris.

The fifth committee of the Municipal Council of Paris has given up the idea of establishing an isolation hospital at Montmorency owing to the opposition of the inhabitants and is now casting its eyes upon the Chateau of Dugny close to Bourget (Seine). The building lies in a plain and its interior arrangements would lend themselves well to the required purposes. It stands in a park with an area of 125 hectares, partly wood and partly meadow land, which is traversed by a little stream, the Morée. The principal building has a frontage of not less than 70 metres and the interior is divided into 200 rooms. M. Mesureur, the director of the Assistance Publique, estimates that 1000 tuberculous patients could be isolated at Dugny. The committee has been over the chateau and in the absence of any opposition the Assistance Publique thinks that the building will be ready for reception of the patients before the end of the current year. Besides this M. Mesureur proposes to hand over for the treatment of tuberculosis the annexe of the Hôtel Dieu, the Laennec and Broussais Hospitals, and the 27th Bastion. These will provide a total of 1184 beds of which 167 will be reserved for surgical cases. Various wards will be also allotted for tuberculous patients at the Tenon, Boucicaut, Saint Antoine and Saint Louis Hospitals providing another 909 beds. Finally, two anti-tuberculous dispensaries will be established, the one at the Tenon Hospital and the other at the Laennec Hospital. The expenses, which are estimated at about 2,000,000 francs, will be met partly by loan and partly out of the funds of the *pari mutuel*.

The Chemical Constitution of Living Beings.

At a recent meeting of the Academy of Sciences M. Quinton laid before those present the results of a long and patient research which throws an unexpected light upon, and adds support to, the Darwinian theory of the evolution of species. The research concerned sea water. In M. Quinton's view sea water is the natural source from which, as Haeckel believes, those elementary bodies have their rise which in turn develop into every other species, human beings included. The environment in which the anatomical elements of living creatures exist is neither more nor less than a marine one. Our tissues and cells continue to exert their functions in a fluid the composition of which presents the closest resemblance to that of sea water. Hitherto the number of elements entering into the composition of a living body has been considered to be about 15. But the researches of M. Quinton have shown the existence of traces of at least some 14 other elements which are also found in sea water, such as copper, lead, silver, gold, and others. Further, if an animal be bled to exhaustion (*saigner à blanc*) and the place of the blood be supplied by sea water on the morrow the animal will have regained its strength and at the end of five days its recovery is complete. M. Quinton has injected into animals a quantity of sea water greater than their own body weight without any toxic effects, whereas an injection of pure water rapidly brings about death. Sea water then appears to be the true nutrient fluid of animals, their natural plasma, in fact. M. Perrier, who introduced M. Quinton's paper to the meeting, did not fail to point out to what recondite philosophical theories these facts might lead.

April 12th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The International Congress of School Hygiene.[1]

THE First International Congress of School Hygiene was held in Nuremberg from April 4th to 9th, under the honorary presidency of Prince Ludwig Ferdinand of Bavaria, M.D., Professor Griesbach of Strasburg acting as chairman. There was a very large attendance of medical men and educationists, the number of members being not less than 1130. They came not only from Germany but also from most countries of Europe, from Japan, and from the United States. Apart from the general meetings, the Congress was divided into 11 sections—namely: (1) School Buildings; (2) Hygiene of Residential Schools; (3) Methods of Hygienic Investigation in Schools; (4) Physiology and Psychology of Educational Work; (5) Instruction in Hygiene for Teachers and Pupils; (6) Games and Drill; (7) Medical Supervision of Schools; (8) Special Schools or Classes; (9) Hygiene of Children out of School; (10) Hygiene of the Teaching Profession; and (11) General Hygiene in its Relation to Schools. After the inaugural proceedings the first paper was read by Professor Hermann Cohn of Breslau, the well-known ophthalmic surgeon. He took for his subject the Hygiene of the Eyes and alluded to inquiries conducted by himself 40 years ago when he examined the eyes of 10,000 school children and found myopia to increase coincidently with over-exertion of the eyes in school so that the worst vision was to be found in the most advanced classes.—Of the foreign delegates Professor Johannessen (Christiania) read a report on School Hygiene in Norway. Some parts of Norway were so thinly populated that 10 per cent. of the children had to walk more than four kilometres (two and a half miles) to the nearest school. Nevertheless, medical officers were appointed to all Norwegian schools and medical women for the girls' schools. The teachers received instruction in hygiene from the medical officers. With regard to Christiania, the capital of Norway, he said that of the 19 municipal schools 17 were provided with bathing arrangements and 29 per cent. of the children received meals in the schools free of charge.—Dr. Le Gendre (Paris) read a paper on the Ill-health of Teachers in its Relation to the Pupils. He drew attention especially to tuberculosis and recommended that candidates for teaching appointments should undergo a careful medical examination so that those who were actually or possibly tuberculous might not be employed in teaching.—A great many other papers were read before the Congress, among which several were of medical interest. Professor Hueppe (Prague) spoke on Infectious Diseases in their Relation to Schools; Dr. Leubuscher (Meiningen) and Dr. Hartmann (Berlin) on the Duties of Medical Officers to Schools; Dr. James Kerr (London) on School Ventilation; Dr. Schmidt (Bonn) on Games and Physical Exercises; and Dr. Flachs on Dress Reform for Girls. It was announced that the next international congress on this subject would be held in London under the presidency of Sir Lauder Brunton.

Health of the German Navy.

A statistical report on the health of the navy during the period from April, 1899, to Sept. 30th, 1901, has recently been issued by the medical department of the Imperial Naval Office. The report states that the health of the naval forces has continued to improve from year to year since 1879. The proportion of men reported sick was 745 per 1000 in 1900 and 690 per 1000 in 1901; the daily number under medical care was 57·5 per 1000 in 1900 and 35 per 1000 in 1901. On an average each patient was under treatment for 17·8 days in 1899 and for 18·6 days in 1900, the respective numbers for some other navies being 15 1 days for the British, 20 4 for the Austrian, 11·1 for the American, and 9·4 for the French navy. The health conditions were very unsatisfactory on board the vessels of the East African squadron where malaria prevailed and in the German settlement at Kiao-Chau in China where an epidemic of enteric fever and dysentery had broken out. The mortality of the navy has somewhat increased of late years, the death-rate being 3·2 per 1000 during the period 1897–99 and 4·2 per 1000 during the above-mentioned period 1899–1901.

The Belitz Sanatorium for Tuberculosis.

The Berlin association for insurance against sickness under the workmen's insurance law (Landes-Versicherungs-Anstalt) has erected a large sanatorium for tuberculous patients at Belitz in the neighbourhood of Berlin. This sanatorium, which is a model of its kind, is situated in a forest district and is provided with every requisite for the treatment of the patients. It contains bedrooms, day-rooms, a dining hall, shelters for Liege-kur, and various departments for hydrotherapeutic treatment and other purposes. Although intended for patients belonging to the working class exclusively the arrangements are in every respect so good that they could hardly fail to be appreciated by patients of much higher social position. No charges have to be paid by the individuals undergoing treatment; all expenses are defrayed by the above-mentioned association, the only condition being that the disease is in a curable stage. The object aimed at in providing sanatorium treatment is to prevent working men and women from becoming permanent invalids, as in that case under the insurance laws the association would have to maintain them for the remainder of their lives. The sanatorium was opened on July 15th, 1902, for males and on August 11th for females and the report which was issued some weeks ago states that the male department was full on August 7th and the female department on August 21st. There are 180 beds for men and 72 for women. Of the patients admitted 70 per cent. were in the first stage, 25 per cent. were in the second stage, and 5 per cent. were in the third stage of pulmonary tuberculosis. In 11 per cent. pyrexia was present on the day of admission; in 14 per cent. tubercle bacilli were found. The results of the treatment were excellent: 94 per cent. were able to resume work and 40 per cent. did not show any symptoms of tuberculosis when they left the sanatorium. The patients increased in weight during their stay in the sanatorium, the average gain of weight being 6·6 kilogrammes for men and 5·3 kilogrammes for women. The treatment, apart from liberal nourishment, consisted chiefly of hydrotherapeutics and Liege-kur. No injections of tuberculin were given. It was observed that the improvement in health was generally much slower in women than in men. The average length of residence was 12 weeks. A number of the men left the sanatorium on finding that the loss of their earnings was a serious matter for those dependent on them. From the point of view of the institution this was unfortunate, because if these premature discharges could have been avoided the results would have been still better. It must be remembered that this sanatorium is not the only one carried on by the Workmen's Insurance Association. Its institutions include one for chronic, non-tuberculous diseases, also in Belitz; one for venereal diseases in Lichtenberg; one at Gutergotz for tuberculous patients in a more advanced stage; and some other smaller ones. As already mentioned, the object of these establishments, which have become a permanent feature in social hygiene, is to preserve as much as possible the insured workmen from becoming chronic invalids whose maintenance would be very costly.

April 12th.

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[1] An account of this Congress from our Special Correspondent will be found on p. 1072.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Renewal of Plague.

IN addition to the rinderpest, which has been absorbing all the energies of the Sanitary Department for the last nine months, human plague has now reappeared in Upper Egypt after so long an interval that it seems probable that it must have been reintroduced from abroad. The pilgrims now returning from Mecca are officially said to be free from plague and cholera and as yet no cause for this new outbreak has been found. History has again repeated itself, for it seems certain that the disease was kept concealed for some time before it was discovered by the sanitary officers. Barefaced concealment of infectious disease still continues in all the villages attacked, and cases are eventually found in houses which had been carefully searched a day or two [illegible] March 5th in some [illegible] *opposite the town of* [illegible] eaths which occurred prior to that date must have been due to plague. Altogether about 200 people have already been attacked and of these some 180 have died, the first known case being that of a man who died in his village five days after returning from Assiout where he had been called as a witness in the law courts. *The high mortality is due to the fact* that *the disease is* taking the pneumonic form, eight persons out of a family of 11 having died in one house and four deaths occurred in another household of five people. Cases of plague have also occurred in the little town of Tahta where for some days there has been a marked mortality among the rats. Additional reports have been received from some villages in Keneh province on both sides of the Nile; from one of these a man accompanied by his wife and three sisters went across the Nile to attend a relative's funeral. Three days later the man, his wife, two of these sisters, and two other sisters had all died from plague. Since then other cases [illegible] n confined [illegible] Major O. [illegible] the neces- [illegible] he disease but at this time of the year it is quite certain that it will spread in spite of all efforts. It is difficult to keep patience with the natives who obstruct legitimate and tactfully considered sanitary precautions, especially when dealing with villagers who suffered severely from plague only a year ago. Major Garner, for instance, suspected the existence of plague at the village of Naknak but on inspection could find no cases there. Yet on the following day the wife of the sheikh of the village died and on the next day the niece of the sheikh and two other people were found plague-stricken in the village. There can be no doubt that these cases were purposely hidden during the house-to-house inspection and nothing short of severe punishment will prevent similar occurrences in other places. It will take many a long year to change the habits of the Egyptian rustics who do not in the least believe in the necessity of cleanliness and disinfection, who imagine that all illnesses come from an evil spirit, and that the Government officials are all their hereditary enemies. If the many problems of endemic disease are ever to be attacked seriously in Egypt the staff of English inspectors must be considerably increased. At present all the time of the staff is taken up in combating epidemics and, unfortunately, for some years to come the supply of native medical men will not equal the demand. A further case of plague has now been reported from Suez in a man who had just returned from Port Said.

Kasr-el-Ainy Hospital.

This hospital and the medical school in connexion with it are progressing satisfactorily every year. Electric lighting is now being provided for the wards and the administrative offices and a new laundry has been built which will be worked by electric power. The in-patients have increased in number to 1000 more than in previous years and the out-patients number 66,000 annually, of whom 35,000 are new cases. The entry of students last October was 36, being more than at any time since the old days when youths were brought by force to the Government schools. A micro-photograph room has been opened and also an additional room for the physiological laboratory. Mr. G. L. Crimp has been temporarily engaged for pathological work during the absence of Dr. W. St. Clair Symmers at the serum institute for cattle plague, and Dr. G. Elliot Smith has also been given an English assistant for anthropological work.

Obituary Notice.

Captain H. E. Haymes, R.A.M.C., of the Soudan Civil Administration, died in the Soudan on March 15th. His death is not only deeply regretted by his many friends but it is a very serious loss to the Government. After a distinguished career at St. Thomas's Hospital he took resident appointments at the Royal Berkshire Hospital, Reading, and the Eastern Counties Asylum, Colchester, and soon after entering the Royal Army Medical Corps he applied for service in the Egyptian army. He first came to the front while in surgical charge of the wounded dervishes after the capture of the Khalifa at the end of 1899 and for his services on that occasion he was admitted to the Order of St. John of Jerusalem. In November, 1900, he accompanied Lieutenant-Colonel Sparkes, C.M.G., on a tour, which eventually lasted 18 months, in the Bahr el Gazzal province, and they travelled together all through the Niam-niam country, where Haymes's skill in surgical operations spread far and wide and did much to pacify the wild tribes to whom England's power was unknown. His medical and sanitary work were alike excellent and he had in addition the rare gift of administrative ability which marked him out very strongly for future employment as head of a province. He was a very good all-round sportsman and a splendid big game shot. He also went with Major Hunter on a punitive expedition in the Rumbek district, where he was wounded in the hand by a spear. He was specially decorated by H.H. the Khedive for his valuable services and then returned to Cairo to repair his own health after many attacks of malaria. Soon disdaining the delights of polo and smart society he volunteered to return to the Bahr el Gazzal where he was given both administrative and medical duties and while serving there he was again selected to accompany a small military patrol. The patrol was fired at by some ignorant villlagers and unfortunately Haymes was slightly wounded in the head. The climate is a very bad one for surgical injuries; his previous hardships had doubtless weakened his constitution and pyæmia including a septic abscess of the lung resulted, causing death in 13 days. He was universally beloved by his fellow officers and friends and he won the hearts of all the natives by his exceptional qualities of just, upright, brave, straightforward common sense.

Cairo, April 3rd.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

A Bill to Remodel the Medical Department of the United States Army.

A BILL has been introduced recently into the Senate and House of Representatives of the United States framed with the view of bringing about important changes in the Army Medical Service. According to the Surgeon-General of the United States Army the Medical Department at present suffers from three serious defects of organisation which handicap its efficiency in time of peace and render impossible any efficient expansion in *time of* war. *These* are: a commissioned *personnel* entirely inadequate to perform the medical service of the army even in time of peace; *insufficient* inducement in the way of pay and promotion to attract the most desirable class of young physicians to enter the corps; and no satisfactory means of expansion *to meet* war conditions and special needs in time of peace. The only means of expansion heretofore existing, the employment of contract surgeons to supplement the insufficient commissioned *personnel*, has always been wasteful and unsatisfactory and has now become absolutely unpractical because of the recent decision that the contract surgeon not being an officer obedience to his orders cannot be enforced even in the case of the enlisted men of the hospital corps. The organisations necessary to remove these defects are briefly as follows. The medical department to consist of medical corps and medical reserve corps. Medical corps.—1. Size: (*a*) sufficient to form an adequate nucleus in time of war, and (*b*) sufficient to do all ordinary duty in time of peace. 2. Grades: (*a*) to offer sufficient emoluments to induce efficient men to enter the corps; (*b*) to officer properly the war nucleus; and (*c*) to officer properly and to administer in time of peace. Medical reserve corps to be drawn from medical men in civil life.—1. Size: (*a*) to meet unusual demands in time of peace, epidemics, care of troops at small stations, examination of recruits at unimportant places, &c.; (*b*) to increase medical department to proper size to meet demands in insurrections and small wars where increase in upper (administrative) grades is not necessary and where volunteer troops are not called out. 2. Grades: to have commissioned grade in order to meet adequately requirements of military service.

The Sanitary Condition of the Isthmus of Panama.

Dr. J. O. Perry of the United States Public Health and Marine Hospital Service has been at Colon and the Isthmus of Panama by the command of President Roosevelt, making investigations into the sanitary condition of the canal. Dr. Perry has submitted an exhaustive preliminary report to the Surgeon General to the Public Health and Marine Hospital Service. The writer finds malarial fevers in all forms the chief bane of the locality, but yellow fever, tuberculosis, and rheumatism are more or less prevalent. He finds the sanitary conditions in Colon and Panama extremely bad and along the railway road the state of affairs in this respect is even worse. The death-rate of Colon is high. Statistics compiled give an annual death-rate of 47 per 1000, but taking into consideration that these are probably incomplete he thinks that the mortality is not less than 50 per 1000. He considers that the natives are not so immune as is generally thought to be the case, although, of course, they have acquired a considerable degree of immunity. The rainy season at Colon and in the immediate vicinity lasts from May to January, the rainfall during that period averaging about 125 inches, which is twice the precipitation at Panama. Along the line of railroad between the two cities are 18 villages, with a population of about 15,000, almost exclusively negroes and Chinese. The sanitary condition of these places is wretched in the extreme. As to what extent the prevailing diseases can be diminished or prevented by proper sanitary equipment and regulations Dr. Perry says: "Having shown that 75 per cent. of the diseases are malarial; yellow fever exists and will increase upon introduction of new material; that dysentery, tuberculosis, and rheumatism are common, I think that a conservative estimate would be that 80 per cent. or even more of these diseases could be prevented." 75 per cent of the population of Colon consists of Jamaican or other negroes and Dr. Perry is of the opinion that to make it a clean city will necessitate the destruction of all the shanties which they now inhabit and their replacement by dwellings built on good sanitary principles. The conditions are much the same in Panama, which, Dr. Perry says, can be made a healthy tropical city by the introduction of a modern sewerage system and a good water-supply.

Paper Money as a Means of Carrying Infectious Germs.

Dr. Thomas Darlington, health commissioner of the city of New York, has pointed out the dangers liable to result from the use of coins and of dirty paper money, based upon the investigations of Dr. William H. Park, head of the Bureau of Research in the Department. The report made by Dr. Park was to the effect that experiments upon coins demonstrated that the metals produced a deleterious effect upon bacteria, so that within 48 hours they were usually free from disease bacteria. He further reported that the investigations so far have established the fact that bacteria are not killed by any substance in paper money but remain alive until time and drying destroy them. No actual disease bacteria have as yet been demonstrated. The report is only preliminary; experiments are still going on and will be continued for some time.

April 2nd.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Bubonic Plague.

BUBONIC plague has broken out again in Queensland. Five cases have been reported from Brisbane. Three cases were unofficially stated to have occurred at Cairns but on further investigation one proved not to be plague. Dr. B. B Ham, the health commissioner, has had to object to irresponsible statements being made to the press as to suspicious cases of illness. The Board of Public Health in Victoria has forwarded a circular to all the municipalities in that State requesting that steps should be taken to destroy all rats as a precaution against plague. During the last quarter of 1903 29,000 rats were destroyed, but only about six municipal bodies have concerned themselves in the matter.

Typhoid Fever in Victoria.

Typhoid fever has increased in prevalence in Victoria this season. The returns for the fortnight ending Feb. 27th showed 225 cases, with ten deaths, as against 138 cases during the corresponding period of 1903. The increase was especially marked in the Bendigo district. The Board of Health is inquiring into the condition of the cases in the suburbs of Melbourne, especially as to their relations to milk-supply, and a report is being prepared. 75 cases of typhoid fever are under treatment at the Melbourne Hospital.

Prevention and Treatment of Tuberculosis.

The Victorian Society for the Prevention of Tuberculosis has prepared a leaflet dealing with the proper disinfection of houses after their occupation by consumptives. It recommends the burning of wearing apparel, pillows, and mattresses, the repapering of rooms and ceilings, and the washing of floors and furniture with disinfectants. The leaflet has been forwarded to the press with a request for publication and also to municipal councils. The latter have been asked to instruct their health officers to insist on proper disinfection and ventilation of houses. The committee of the Austin Hospital has called for tenders for the erection of the Kronheimer wing for consumptives but the residents in the neighbourhood are still agitating against its erection and the Premier declines to give a maintenance grant to the institution. A meeting was recently held in Melbourne of the subscribers to the Victorian Sanatorium for Consumptives, which has recently been incorporated under the Hospitals and Charities Act, to adopt by-laws and to appoint staffs for the management of the sanatorium. The objects of the institution were stated to be "the prevention and cure of tuberculosis (*a*) by treating persons who are labouring under such an incipient form of disease as to afford a reasonable hope of their obtaining benefit from a temporary residence in a suitable climate; (*b*) by treating persons who, being convalescent, require further medical treatment and change of air to re-establish their health; (*c*) by treating persons who may be in such other conditions as the institution in any general meeting may consider it advisable to treat; and (*d*) by such wider or other means as the institution may think fit to adopt." Under By law 17 power was given to the committee of management "to appoint and dismiss medical and other officers, whether honorary or otherwise." An amendment that the honorary medical officers might be elected by the subscribers was rejected. The following were appointed honorary medical officers: Consulting physician: Mr. D. Turner. Medical examiners: Melbourne, Dr S Bird, Dr. R H. Strong, and Dr. Turner; Echuca, Dr. R. Bindon Stoney; Eaglehawk, Dr. B. S. Cowen; Bendigo, Mr. O. Burke Gaffney; Warrnambool, Dr. M'Knight.

Friendly Societies' Institutes and the Medical Profession.

Reference has previously been made to differences existing between the Balmain United Friendly Societies Dispensary and the New South Wales branch of the British Medical Association. The dispensary used to have four medical officers to whom the sum of £1320 per annum was paid in the following manner. Each medical officer was paid a monthly salary at the rate of £150 per annum and the remaining £720 were divided into 12 parts of £60, allotted to the officers according to the number of prescriptions issued by each. The medical officers were allowed a guinea for confinements and the right of private practice. The dispensary has 3500 members, and the amounts paid to the surgeons averaged about 7*s*. 6*d*. a member. The New South Wales branch of the British Medical Association thought that the payment was too little and at its instigation the four medical officers demanded payment *per capita* at the rate of 16*s*. per member per annum, practically the same rates as those received by the local lodge surgeons before the dispensary was established. The dispensary board of managers declined to adopt the system and two of its four medical officers resigned. The British Medical Association Council then declared the dispensary "inimical to the interests of the medical profession" in the terms of No. 36 of its Articles of hold the position of medical officer to the dispensary, or meet the medical officers in consultation. The dispensary board then decided to appoint three medical officers at a fixed salary of £450 per annum each, and advertised the positions. A number of applications were received and Dr. P. J. Kelly, Dr. Ellen Wood, and Dr. M J. Cortis were appointed. The two first named were previously medical officers to the dispensary. Dr. Kelly was also a candidate for the position of paid medical officer to the Balmain Hospital and when the election by the hospital committee came on it was pointed out that if Dr. Kelly were appointed the honorary medical staff of the hospital would not meet him or work with him. The committee appointed Dr. Kelly.—In Bendigo, Victoria, a somewhat similar difficulty occurred. The United Friendly Societies' Institute had some difference with one of its medical officers who resigned. The Victorian Medical Defence Association issued a circular to the profession pointing out the conditions of the contract between the institute and its medical officers and warning medical men not to apply for the position on much the same grounds as those taken by the British Medical Association in New South Wales as to the Balmain Dispensary, chiefly that the annual salary, £450 per annum, to each of the two medical officers for attending to 2362 members and their families was too low and much below the *per capita* rate ruling in the district. The Medical Defence Association had previously passed a resolution to the following effect:—

> That it is contrary to the interests of the medical profession that medical men should accept office in friendly societies' institutes where the aggregate salary averages per member less than the rate paid in the district.

The medical men practising in Bendigo held a meeting and passed the following resolution:—

> That we agree not to meet in consultation the medical officers of the Bendigo Medical Institute so long as the rule (No. 7 in the resolutions of the Medical Defence Association) bearing on the salaries of their officers is not complied with. (Rule 7 is the resolution above quoted.)

22 medical men applied for the position at Bendigo, but after the issue of the circular of the Medical Defence Association five of them withdrew. Dr. T. O. F. Alsop was appointed.

March 4th.

Obituary.

JOSEPH MAY, F.R C.S ENG., L.S.A., J P.,

CONSULTING SURGEON TO THE ROYAL ALBERT HOSPITAL, DEVONPORT.

Mr. Joseph May died at his residence, 1, Nelson-gardens, Stoke, Devonport, on April 10th, in his ninety-seventh year. Mr. May, who was born in Devonport, was articled to Mr. Tripe, a surgeon of Devonport, and received his medical education at St Bartholomew's Hospital and the Aldersgate-street School of Medicine. In 1830 he took the qualifications of M.R.C.S Eng. and L.S.A. Mr. May then studied his profession in Paris and in 1831 offered his services to the Polish army, then fighting against Russia and was appointed chief surgeon to the Nyazdowa Hospital. He then joined the army at Warsaw and was present at the siege of that town After its surrender Mr. May returned to England, having been awarded the decoration of the Cross of the Polish Order of Stanislaus. In 1832 he commenced practice at Devonport and was appointed honorary surgeon to the Devonport and Stonehouse Public Dispensary which was eventually merged into the Royal Albert Hospital. Mr. May always took a prominent part in municipal matters; he had been an alderman for many years and four times filled the mayoral chair. He was presented with a magnificent candelabra and his portrait in oils as a recognition of his devoted labours in connexion with the opening of the Plymouth Devonport, and South-Western Junction Railway in 1876 Mr. May was for 20 years on the School Board and for 12 years occupied the position of chairman. He took a great interest in all matters connected with education and was for many years vice-chairman of the Devonport Girls' High School. He was a justice of the peace. In 1899 he was presented with the freedom of the borough of Devonport. He leaves a widow and two sons, both members of the medical profession, one daughters. Mr. May will be greatly missed in Devonport, where he was held in the very highest esteem, and by his death the medical profession loses a member of whom it may well be said that he was in every sense of the words a credit and an ornament.

WALTER WINTER WALTER, M.R.C.S. ENG., L.S.A.

Mr. Walter Winter Walter of Stoke-sub-Hambden, Somerset, died on April 1st in his seventy-ninth year. The deceased, who took the qualifications of M.R C.S. Eng. and L.S.A. in 1846 and 1848 respectively, had practised for many years at Stoke. He was a former president of the West Somerset branch of the British Medical Association. Mr. Walter in his younger days was an active member of the Somerset Archæological Society and his collection of antiquities, which was one of the finest in the West of England, was presented by him a few years ago to the County Museum at Taunton where they are known as the "Walter Collection." The deceased, whose wife predeceased him by a few days, was buried on April 5th in the churchyard of Stoke. He leaves a son who is a member of the medical profession.

DANIEL MOUNCEY ATKINSON, L R C.P., L R.C S EDIN., L.F.P.S. GLASG.

Mr. D. M. Atkinson, who died recently in Glasgow, was well known among the younger practitioners of that city and the position he had already attained led his many friends to consider his prospects as of the brightest. He was born in Yorkshire, being the son of a medical man in practice at Ferry Bridge near Pontefract. He received his medical education in Glasgow at Anderson's College and at St. Mungo's College, the medical school in connexion with the Royal Infirmary, where he gained medals in the classes of clinical medicine and operative surgery. Not long after becoming qualified in 1895 he resolved to settle in Glasgow and for some years he had been assistant to the professor of clinical medicine in St. Mungo's College. Mr. Atkinson, who was 49 years of age at the time of his death, possessed a considerable collection of coins and jewellery which had descended to him as a family heritage.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At the primary examination held recently the following candidates passed in the subjects indicated.—

PART I.

Biology—G. F. C. Harvey, London Hospital, and E. A. Mordaunt,

E A. Mordaunt and
nds, Glasgow; C. S.
Free Hospital.
er, Royal Free Hos-

PART II.

Anatomy.—I R Fearn and J. W. Featherstone, Guy's Hospital, T S Harrison, Manchester; R. J. W. McKane and A. W. C. Miller, Leeds, F B O Dowd, Birmingham, H. V. White, Manchester, F H P Wills, St. Mary's Hospital; and R. P. Wylde, Manchester.

Physiology—A C Dickson and I R. Fearn, Guy's Hospital; J. C. Fletcher, Royal Free Hospital, J. W. Featherstone, Guy's Hospital; W. J. G Gayton, London Hospital, T. S. Harrison, Manchester, A W. C. Miller, Leeds; F. B O Dowd, Birmingham; H. V. White, Manchester, and F. H. P. Wills, St. Mary's Hospital.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the recent quarterly examinations of the Scottish Conjoint Medical Board, held in Edinburgh, the following candidates were successful:—

First Examination—Zerk Daniel
Andrew Johnstone, Edinburgh
Wigan, Charles Kinsley Carroll
Ireland (with distinction); Ma
Daniel Johannes Joubert, Stelle
Rosscarberry, Cornelius Alexa
Edward John Lumsden, Cou
Ashbourne; Easton Spence Shi
du Toit Malan, Cape Colony.

Second Examination.—Archib[illegible] Kirkcaldy (with distinction); Edward Albert [illegible] [illegible]nction); Harold Hubert Babington, Ire[illegible] Carnbee (with distinction); Ronald W[illegible] Wilfrid Metcalfe Chambers, Knock, [illegible] Patrick O'Connell, Saugor, India; Joseph Benjamin Norman Raphael-Tom, Trinidad; Howard Douglas Stewart, London; Krishnaji Waman Dani, Poona; John Theodore Anderson, Victoria; Douglas Llewellyn George Radford, Leith; Herbert Moncrieff Sturrock, Edinburgh; Herbert Charles Orrin, Colchester; Thomas Wrenn Faulkner, Cooma; [illegible] Narayan Ghosh, Lucknow.

Third Examination. [illegible] Edinburgh (with distinction); James [illegible] distinction); Henry Traill Simpson, Le[illegible] [illegible]rge Augustus Stewart Hamilton, Dublin [illegible] [illegible]egge, Dundee; Henry Albert Pascoe, Ne[illegible] [illegible]omas McLaren Galloway, Sinclairtow[illegible] [illegible]am Fleming, County Durham; and Jo[illegible]

Final Examination [illegible] *the three Coöperating Authorities*).—Alford Rogers, Burry Port; Andrew Sergeant McNeil, Preston; John Alexander Tolmie, Ontario; Marian Theresa Pool, London; John Clegg Pickup, Burnley; William Douglas Yuille, Melbourne; Harry Andrew Foy, Cawnpore; Phirozshaw Cooverji Bharucha, India; Edmund O'Shaughnessy, co. Cork; Abdul Hakim Khan, India; Cunamal Santdas Thadani, Hyderabad; John Cretin, Mauritius; Dora Mann, Eisenberg; Edwin Nelson Jan, Ceylon; Chauncey Eugene Coke, Ontario; Herbert James George, Jamaica; William Thomas Clark, Ontario; George William Armstrong, Wales; Arthur Charles Lodge La Frenais, Madras; and David John Lewis, Newcastle.

UNIVERSITY OF GLASGOW.—The following have passed the first professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (B., Botany; Z., Zoology; P., Physics; and C., Chemistry):—

Archibald Aitchison (Z.), John Andrew Aitken (P.), William Allan (C.), David Anderson (Z.), William Anderson (B., P.), Thomas Archibald (Z., C.), James Currie Auchencloss (B., Z., P.), William Barr (Z.), Frank Beaton (B.), Charles Bennett (Z., C.), Robert Inglis Binning (B., P.), John Blakely (Z.), John Lindsay Boyd (Z.,* C.), William Brown, M.A. (B.), William Barrie Brownlie (Z., C.), David Young Buchanan (Z.), Murdo Buchanan (Z.), Hector Mackay Calder (P.), John Cameron (Z., P.), James Carrick (Z., C.), Donald James Clark (Z.), John Humphrey James Victor Coats (B.), James Cook (Partick), (Z., C.), John Cruickshank (Z., C.*), Walter Dawson (P.,* C.), James Cowie Dick (B.), William Hunter Duncan (B.), James Kirkwood Dunlop (P.,* C.), Allan Dunsmuir (C.), Thomas Loudon Fleming (B.), Thomas Forsyth (B.), William Leonard Forsyth (Z., C.), John Fotheringham (Z.), Berkeley Gale (C.*), David Gibson (Z., C.), Walter Gilmour (Z., C.), Hugh MacVicar Gossman (B.,* P.), Alexander Thomas Arthur Gourlay (B., P.,* C.), Edward O'Driscoll Graham (P.), Thomas Edmondstone Gray (Z.,* C.), William Cooper Gunn (P.), Josiah Stranaghan Harbinson (B., Z., P.,* C.), Stephen John Henry (Z., C.), James Hall Hislop (Z., P.), William Alexander Hislop (P., C.), Archibald Hogg (B.,* C.), Benjamin Hutchison (Z.,* C.), Alexander Mills Kennedy (Z., C.), Thomas Joseph Kirk (Z.), John Lang (Z.), William Leitch (B., Z., P., C.), Daniel Conway M'Ardle (B., C.), Peter Cunningham M'Arthur, M.A. (B.*), Frank Crombie Macaulay (Z.), Hugh M'Callum (Z., P.), Ro[illegible] Macphail Macdonald (Z.), Alexander [illegible] Joseph Bogue Mackay (B., P., C.), [illegible] Francis William Mackichan (B., P.*), William Campbell Mackie (Z., C.), William Edward M'Lelland (C.), James Walter M'Leod (Z., C.), James M'Millan M'Millan (Z., P.,* C.), John MacMillan (B., P.), Peter Russell M'Naught (Z.,* C.), Donald Irvine M'Naughtan (B., P., C.), Allan M'Pherson (Z., P.), William Aubrey Layard Marriott (Z., C.), Frank Needham Marsh (Z., C.), Horatio Matthews (C.), Kenneth Chisholm Middlemiss (Z., C.), Thomas Miller (Z.), Robert M'Kenzie Morison, M.A. (B.,* Z., C.), Hugh Morton (C.), James Muir (Z., P., C.), Robert Charles Muir (P.), William Aikman Muir (Z., P.*), Archibald Campbell Munro (Z.,* C.), Arthur Alexander Murison (P.), Charles Sutherland M'Kay Murison (B., C.), Archibald Naismith (P., C.), Watson Noble (Z., C.), Albert Rutherford Paterson, (Z.,* C.), Adam Patrick (B., Z.), Ralph Montgomery Fullarton Picken (Z.*), David Purdie (Z., C.), Murray Purvis (Z., C.), Edward Quigley (Z., P.*), Richard Rae (Z.), Nicol M'Nicoll Rankin (B., Z.), Thomas [illegible], P.*), George Waugh Scott (P., C.), Allan [illegible] Alexander Sewell (Z., C.), James Brown [illegible] C.), Lawrence Storey (C.), [illegible] [illegible]avid Taylor (Z., C.), Walter Telfer (P., [illegible] (B., P., C.), John Shedden Thomson ([illegible] [illegible]r (Z., C.), William Samuel Waterhous[illegible] Thomas Charles Dalrymple Watt (C.), [illegible] (Z., P.*), David M'Gruther Wilson (Z., C.), Hugh Mundle Wilson (B., P.,* C.), and William Alexander Wilson (B., C.).

Women.—Martha Maclean Buchan (P., C.), Margaret Baird Sproul Darroch (B., Z.), Mabel Foley (P.,* C.), Margaret Gardner Forrest (B.,* P., C.), Jeanie Walker Jones (P., C.), Annie M'Crorie (B.), Janet Annie Mac ea (Z.), Flora Morrison (P.), Jeannie Peden Rose (B., Z.), Winifred Margaret Ross (P.), Jessie Capie Russell (P.,* C.), and Jeanie Hinshaw Stewart (P.,* C.).

The following have passed the second professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (A., Anatomy; P., Physiology; and M., Materia Medica and Therapeutics):—

George Victor Anderson (A., M.), James Montgomery Anderson (M.), Andrew Hamilton Arnott (P., M.), John Bain, M.A. (A.), Thomas Barbour, B.Sc. (A., P.), Charles Burns (P.), William Archibald Campbell (A., P., M.), Donald Livingston Carmichael (P., M.), Henry Howard Christie (A., P., M.), Donald Clark (M.), John Sawers Clark, M.A. (A., P.), James Coutts (A., P., M.), Andrew Donaldson Cowan (A., M.), Thomas Lawson Craig (A., P.), Arthur Muir Crawford (A., P., M.), Weir Burns C[illegible] (A., P[illegible] Harold Windley Dempster (P., M.), Allan [illegible] Richard John Driscoll (M.), James Du[illegible] Eaton (A., P.), Thomas Henderson Forr[illegible] Georgeson (P.), William Gilbert (A., P., [illegible] (A.), Arnold Harris Gray (A., P.), Jo[illegible] (M.), Robert Neil Guthrie (A., P., M.). [illegible] P.), William Towers Hardie (A.) Rober[illegible] Lawrence Hislop (M.), David Guthrie [illegible] Harry Stewart Hutchison (M.), Arnold [illegible] Percy James Kelly (A.), John Keys (A., P.), James Dunlop Kidd (A., P.), Robert Wright Leckie (A.), Alexander Leggat (A.), Alexander M'Call (P.), John M'Cartney (M.), David MacDonald (A., P., M.), James M'Farlane (A., P., M.), John Henry M'Kay (A., P., M.), Thomas Cooper Mackenzie (P.), William Ferguson Mackenzie (A., P., M.), William Macleod (A.), Norman Smith MacNaughtan (A.), Alister Argyle Campbell M'Neill (A., P.), Charles James Colquhoun Macquarie (A., P.,* M.), William Hislop Manson, M.A. (M.) [illegible] Marshall (A., P.), Robert May (A.), John Miller (A., P., M.), [illegible] Peter Mitchell, M.A. (A.,* P.*); Hugh Walker Mon[illegible] [illegible]rick Joseph O'Hare (A.), John Oswald (P.), James Hogg Paul (A., P.), Arthur Geoghegan Paxton (P.), John Reid (M.), Frederick Gordon Robertson (A., P., M.), John Cooper Russell, M.A. (M.), William James Rutherfurd (A., P.,* M.), Alfred Cecil Sharp (A.,* P.*), John Sharp (A., P., M.), James Charles Donaldson Simpson (P., M.), Robert Alexander Slater (A.), William Smellie (A., P.), Thomas Baillie Smith (A., P., M.), James Stevenson (A., P.), John Stevenson (A., P.), Arthur Anderson Stewart (A.), David Laurence Alexander Tate (A.,* P.,* M.*), Charles Samson Thomson (A., P., M.), Martin Turnbull (P.), Alexander MacMillan Watson (A.), James Kennedy Welsh (A., P., M.), David John Williams (M.), George Haswell Wilson (A., P., M.), Moses Youdelevitz (A., P.), and John Young (Mount Vernon), (A.).

Women.—Jean [illegible] Andrew (A., P.), Rose Isobel Hudson (A., P., M.), [illegible]s (A.), Agnes Picken, M.A. (A., P[illegible] Reid (A., M.), Vera Dagmar Rei[illegible] (P., M.).

Old Regulations.—Mr. Robert Stewart M'K[illegible], M.A., has passed the second professional examination (Anatomy and *Physiology) for the degrees of M.B. and C.M.

The following have passed the third professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (P., Pathology; and M., Medical Jurisprudence and Public Health):—

George Allison Allan (P.), William Smith Allan (P., M.), Andrew Allison (P., M.), Andrew Woodroffe Anderson (M.), James Henderson Baird, B.A. (P., M.), Hugh Barr (P., M.), George Duncan Morrison Beaton (P., M.), John Miller Hopkins Caldwell (M.), Thomas Murdoch Campbell, M.A. (P., M.), Charles Game Angus Chislett (M.), Robert Wilson Dale, M.A. (P., M.), Robert Scott Dewar, M.A. (P., M.), Walter Duffy, M.A. (P., M.), John Shaw Dunn, M.A. (P.*), Eric John Dyke (P., M.), Hamilton William Dyke (P., M.), James Fairley (P., M.), Harry Prescot Fairlie (P., M.), Alexander Burns Ferguson (P., M.), George Garry (M.), James Gemmell (P.), Joseph Glaister (P., M.*), Alexander Graham, B.Sc. (P., M.), William Grier (P.*), Charles Francis Dyer Hammond (M.), James Duncan Hart (P.), Frank Hauxwell (P.), James Waugh Hay (P., M.*), Ralph Vincent Howell (M.), Alexander Hunter (M.), James Hunter (P.), William Boyd Jack (P., M.), George Notman Kirkwood (P.), William Love Kirkwood (P., M.), George Hugh Logan (P., M.), Peter Lowe, M.A., B.Sc. (P., M.*), John Bertram M'Cabe (P.), Thomas M'Cosh (P.), Walter George Macdonald, M.A. (P., M.), Duncan M'Ewan (P.), Hugh Allan Macewen (P., M.), James Denniston Macfie (P., M.), John Macintyre (M.), Ronald Mackinnon (M.), Roderick MacLeod (P.), Matthew Thompson Drummond M'Murrich (P., M.), Hugh MacNaught (P.), Peter Maguire (P., M.), William Main (P., M.), John Moffatt (P., M.), William Struthers Moore (P., M.*), Henry Joseph Milligan (M.), David Robertson Mitchell (P.), John Dunn Nisbet (M.), John Pearson (P.), Henry Sherwood Ranken (P., M.), Cunison Deans Rankin (P., M.), Thomas Hood Rankin (M.), Thomas Thomson Rankin (P.), James Mill Renton (P., M.*), Arthur Robertson (P., M.), William Rolland (P.*), Campbell Ross (P.), John Macdonald Ross (P.), Alexander Cappie Russell (P., M.*), Edward Louis Augustin Sieger (M.), William F[illegible] Sieger (P.), James Alexander Somerville (M.), Thomas [illegible] Alexander Stuart (P., M.*), John Taylor (P[illegible] [illegible]*), William Lind Walker, M.A. (P.), Alexa[illegible] (M.), and George Young (P., M.).

Women.—Bethia Shanks Alexander (M.), Jeannie Thomson Clark (P.), Mary Theresa Gallagher (P., M.), Elizabeth Maud M'Vail (P.), Charlotte Reid Park (M.), and Mary Spence (M.).

* Passed with distinction in the subjects indicated.

UNIVERSITY OF ABERDEEN.—The following degrees and diploma have been conferred:—

Honorary Degree of Doctor of Laws (LL.D.).—Charles James Cullingworth, M.D., St. Thomas's Hospital, London.

Degree of Doctor of Science (D.Sc.).—Andrew Norman Meldrum, B.Sc.

Degree of Bachelor of Science (B.Sc.).—John Foubister, M.A., Orkney; William Wilson Fyvie Aberdeen; John Gray, M.A., Forgue; Ian Quiller Orchardson, London; and William Slessor Simpson, M.A., Newburgh.

Degree of Doct[illegible] [illegible]ott Hoggs, M.B., Ch.B., Brigh[illegible] [illegible]don; *Robert Don[illegible] [illegible]adell Macdonald, M[illegible] and Alexander R[illegible]).

* [illegible]

Degrees of Bachelor of Medicine (M.B.) and Bachel[illegible] *Surgery (Ch.B.).—With First-class Honours:* †James Clark, Sorn, Ayrshire

With Second-class Honours: Francis Hérnaiman Johnson, Aberdeen, … *Ordinary Degrees:* … nderson, Gamrie, … e; Alexander Dyce … Davidson, London; … Farquhar, M.A., … Alexander Gibb, … M.A., Drumlithie, … Aberdeen; John … M.A., Aberdeen; … Kennedy, M.A., … West Bromwich; … Orkney; Herbert … William Alexander … ood, Peterhead.

D … *Master in Surgery* … Cardno, M.A., … Fraserburgh …

D … Aberd., Cabrach.

MEDICAL MAGISTRATE.—Mr. J. E. Panton, M.D. Durh., M.R.C.S. Eng., has been appointed a justice of the peace for Bolton.

UNIVERSITY OF OXFORD.—The Vice-Chancellor has nominated Mr. Arthur Thomson, M.A., Exeter College, Professor of Human Anatomy, to act during the absence of the Regius Professor of Medicine as his deputy.—The Board of the Faculty of Medicine gives notice that it has approved the examination in Group C (3) of the Final Pass School as an examination in physics.

CHILDREN'S COUNTRY HOLIDAY FUND.—The annual meeting of the supporters of this fund will be held at the Hôtel Métropole, London, on Thursday, April 28th, at 3.30 in the afternoon. H.R.H. the Duchess of Albany has promised to preside. The speakers will be Mrs. E. Garrett Anderson, M.D., Mr. William Crooks, the Lord Bishop of Kensington, Mr. W. Pett Ridge, M.P., and Mr. I. Zangwill.

DONATIONS AND BEQUESTS.—Mr. J. Earley Cook has by his will left legacies in reversion after Mrs. Cook's death or remarriage to the Metropolitan Convalescent Institution, £1000; to the London Hospital, £2000, with a present annuity of £60; to St. Thomas's Hospital, £200; to Bolingbroke Hospital, £100; to the Earlswood Asylum, £500; to All Saints' Convalescent Hospital, Eastbourne, £300; to the Seaside Convalescent Hospital, Seaford, £200; to the Deaf and Dumb Asylum, Old Kent-road, £200; to the Indigent Blind School, Southwark, £200; and to the Margate Infirmary, £200.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The election of examiners will be held on Tuesday, May 3rd, as follows:—Two examiners in anatomy, four in surgery, two in physiology and histology, one examiner in pathology and bacteriology, one in pathology, one in midwifery and gynæcology, one in biology, two examiners in ophthalmology, one examiner in sanitary law and vital statistics, two examiners in chemistry and physics, two in dental surgery and pathology, and two in mechanical dentistry. Candidates are requested to lodge their applications in writing with the Registrar, at the College, on or before Tuesday, April 26th, at 10 A.M.

MEDICO-PSYCHOLOGICAL ASSOCIATION.—The spring meeting of the South-Eastern division of the Medico-Psychological Association will be held at the West Ham Borough Asylum Goodmayes, Ilford, Essex, on April 29th. An inspection of the asylum and grounds will be made from 12 noon to 1.30 P.M., when the members of the association will take lunch with Dr. D. Hunter, the medical superintendent. During the afternoon Dr. F. W. Mott will give a lantern demonstration on the Significance of the Convolutional Pattern of the Human Brain, and Dr. D. G. Thomson will read a paper on the Nursing Bill from the Mental Nursing Point of View. Members will subsequently dine at the Café Monico, Piccadilly-circus, London, W. Dinner tickets, price 5*s.* each, can be obtained from the honorary secretary, Herts County Asylum, Hill End, St. Albans.

DEATH OF A CENTENARIAN.—It is announced that Mr. Alexander Alves, who died at Spalding on April 10th, was born in Edinburgh on Oct. 5th, 1803, and was therefore in his 101st year. He left Scotland when 23 years of age and for some years lived at Walthamstow, near London. He afterwards was employed as a bailiff and head gardener at Chislehurst in Kent until he was nearly 80 years of age.

PRESENTATION TO A MEDICAL PRACTITIONER.—Mr. Sidney C. Lawrence, M.R.C.S. Eng., L.R.C.P. Lond., D.P.H., lecturer and examiner of the St. John Ambulance Association and honorary surgeon to the Earls Barton division of that Association, has been presented with a pair of opera glasses as some acknowledgment of the valuable assistance which he has given to the cause of first aid and nursing at Earls Barton during the past seven years.

THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.—An entertainment has been arranged by Mrs. Edgar Speyer and Mrs. Carl Derenburg in aid of the nervous diseases research fund of the National Hospital for the Paralysed and Epileptic and will be given at the Æolian Hall, New Bond-street, London, W., on Friday, April 29th, at 9 P.M. The programme will consist of the Bach sonata for violin and pianoforte in B minor, Brahm's sonata for violin and pianoforte in A major, Brahm's pianoforte solo, and the César Franck sonata for violin and pianoforte. The entertainment is under the patronage of Her Royal Highness the Duchess of Albany.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Local Government Board: Medical Department.

THE estimates of the expenditure on the medical department of the Local Government Board have now been prepared. There is an increase of £324 in salaries, which now amount to £11,923, and an increase of £133 has been provided for in the National Vaccine Establishment, but the total sum asked for is considerably less than a year ago owing to reductions under the head of incidental expenses in the Vaccine Establishment. As was the case last year £1900 are asked for in respect of the auxiliary scientific investigation concerning the causes and processes of disease.

The Disposal of Sewage.

The following statement on the work of the Royal Commission on the Disposal of Sewage has been issued along with the estimate of the expenditure which will be incurred during the ensuing year: "This Commission was appointed in May, 1898, and on July 12th, 1901, they issued an interim report. On July 7th, 1902, they issued a second report, presenting reports on certain chemical and bacteriological investigations in relation to sewage disposal which had been made under the direction of the Commission. On March 2nd, 1903, the Commission presented a third report dealing with trade effluents and the setting up of rivers boards and a central authority for the purpose of settling disputes between manufacturers and local authorities and for the better protection of rivers and other waters. On Dec. 28th, 1903, the Commission presented a fourth report dealing with the dissemination of disease by means of contaminated shell fish and other evils caused by the discharge of unpurified sewage and trade effluents into tidal waters. This report contains the recommendations of the Commission for remedying these evils. The Commission have also presented with this report reports by their own officers on bacteriological examinations of shell fish and sea water, on land treatment of sewage, and on methods of chemical analysis, together with other reports. The systematic investigation of a number of artificial processes of purifying sewage for the purpose of ascertaining their relative value in different circumstances is still in progress. The Commission have not been appointed for any definite period and it is impossible to state with any degree of precision when they will be in a position to make a final report on the questions submitted to them. It may, however, again be pointed out that some of the questions can only be properly determined after careful and prolonged scientific research."

BOOKS, ETC., RECEIVED.

B … (SIMPKIN, … Bedford, … a Medical

Bergmann, J. F., Wiesbaden. (F. Bauermeister, 49, Gordon-street, Glasgow.)

[illegible] Auf klinischer Grundlage [illegible] pecialarzt für Nervenkrank- [illegible] 13s. 9d.

Ueber Natürliche und Künstliche Säuglingsernährung. Von Dr. Karl [illegible] hen. Price Pf.80, or 1s.

Lehrbu [illegible] Von Prof. Dr. Eduard Lang [illegible] Krankenhause in Wien. Price [illegible]

Praktischer Leitfaden der qualitativen und quantitativen Harnanalyse (nebst Analyse [illegible]. Für Aerzte, Apotheker, und Chemiker. Von Dr. [illegible] ent für Medizinische Chemie an der Wi [illegible] Price M.2.40, or 2s. 6d.

Handbuch der Geburtshulfe. In drei Bänden herausgegeben von F. von Winckel in Munchen. Erster Band, II. Hälfte. Price M.14.40, or 13s. 9d.

Otitis Media der Säuglinge. Bakteriologische und Anatomische Studien. Von. Dr. med. Hermann Preysing, Privatdozent an der Universität Leipzig. Price M.27, or £1 7s.

Atlas of Rare Ophthalmoscopic Conditions and Supplementary Plates to the Atlas of Ophthalmoscopy. By Hofrath Dr. J. Oeller, Professor in the University of Erlangen. Part II. (Printed in German and English). The text translated into English by Thos. Snowball, M.A., M.B. Aberd. Price M.8, or 8s.

Davidson, F., 140, Great Portland-street, W.

Sight Testing for the General Practitioner. By F. Davidson. Third edition. Price 2s. 6d. net.

Fischer, Gustav, Jena.

Experimentelle Untersuchungen zur Lehre von der Atrophie gelähmter Muskeln. Von Dr. Friedrich Jamin, Assistent an der Medizinischen Klinik. Price M 5.

Statistische Vergleichstabellen zur praktischen Koprologie bei fieberlosen Patienten. Fur Mediziner und Nahrungsmittelchemiker. Von Baron Dr. Oefele, praktischem Arzte fur Diabetes und andere Stoffwechselkrankheiten, zur Zeit in Bad Neuenahr. Price M.4.

Harrison and Sons, 45, St. Martin's-lane, W.C.

International Catalogue of Scientific Literature. Second Annual Issue. R, Bacteriology. MS. completed May, 1903. 1903 (October). Price 21s.

International Catalogue of Scientific Literature. First Annual Issue. N, Zoology. Part I., Authors' Catalogue; Part II., Subject Catalogue. MS. completed August, 1903. Vol. XVII., Parts I. and II. (February), 1904. Price, complete in two parts, 37s. 6d.

Hirschwald, August, Unter den Linden, 68, Berlin, N.W.

Sammlung Klinischer Abhandlungen uber Pathologie und Therapie der Stoffwechsel- und [illegible] gegeben von Professor Dr. Ca [illegible] Stadtischen Krankenhauses in F [illegible] den Einfluss der Kochsalzquellen (Kissingen, Homburg) auf den Stoffwechsel des Menschen. Von Dr. Carl Dapper (Bad Kissingen). Price M.1.20.

Hodder and Stoughton, 27, Paternoster-row, E.C.

Ophthalmological Anatomy. With some Illustrative Cases. By J. Herbert Fisher, M.B, B S. Lond., F.R.C.S Eng., Assistant Surgeon, Royal London Ophthalmic Hospital (Moorfields). Price 7s. 6d.

J. B. Lippincott Company, Philadelphia and London.

Pediatrics: the Hygienic and Medical Treatment of Children. By Thomas Morgan Rotch, M.D., Professor of Pediatrics, Harvard University. Fourth edition, re-arranged and rewritten. Price 25s. net.

King, P. S., and Son, 2 and 4, Great Smith-street, Victoria-street, Westminster, S.W.

London County Council. The Experimental Bacterial Treatment of London Sewage. Being an Account of the Experiments carried out by the London County Council between the Years 1892 and 1903. By Professor Frank Clowes, D.Sc. Lond., F.I.C., Chemist to the Council, and A. C. Houston, M.B., D.Sc. Price not stated.

Longmans, Green, and Co., London, New York, and Bombay.

Religion and Science. By P. N. Waggett, M.A. Price 2s. 6d. net.

The Old Riddle and the Newest Answer. By John Gerard, S.J., F.L.S. Price 5s. net.

Rebman, Limited, 129, Shaftesbury-avenue, W.C.

A System of Physiologic Therapeutics. Edited by Solomon Solis Cohen, A M., M.D. Volume VI [illegible] Education, including Massage [illegible] Mitchell, M D., Fellow of the [illegible] adelphia; and Physical Educa [illegible] Luther Halsey Gulick, M.D., I [illegible] the Public Schools of Greater Ne [illegible] by James K. Young, M.D., H [illegible] Walter L. Pyle, M.D. Price 12s. 6d. net.

Richards, Grant, 48, Leicester-square, W.

The Confessions of a Physician. By "V. Veresaeff" (V. Smidovich). Translated from the Russian (with the Author's permission) by Simeon Linden. Price 7s. 6d.

Sanitary Publishing Company, 5, Fetter-lane, E.C.

Résumé, Historical and Practical, with Notes and Comments on the Subject of Sewage Disposal. By W. H. Knight, M.S.I., Author of "*Diagrammettes*." Price 6d.

Saunders, W. B. & Co., 9, Henrietta-street, W.C.

Saunders' Year-book of Medicine and Surgery. Under the General Editorial Charge of George M. Gould, M.D. Vol. I., General Medicine. Vol. II., General Surgery. Price, per volume, 13s. net.

A Text-book of Legal Medicine and Toxicology. Edited by Frederick Peterson, M.D., President of the New York State C [illegible] Clinical Professor of Psychiatry, [illegible] Walter S. Haines, M.D., Professor of [illegible] oxicology in Rush Medical College, [illegible] net.

Scientific Press, Limited, 28 and 29, Southampton-street, Strand, W.C.

The Sanatorium Treatment of Consumption. By T. N. Kelynack, M.D., M.R.C.P., Physician to the Mount Vernon Hospital for Consumption and Diseases of the Chest, Hampstead and Northwood, London. Price 6d. net.

Burdett's Hospitals and Charities. 1904. By Sir Henry Burdett, K.C.B. Price 5s. net.

Spottiswoode and Co., Limited, 54, Gracechurch-street, E.C.

The Medical Register. Printed and Published under the Direction of the General Council of Medical Education and Registration of the United Kingdom. 1904. Price 10s. 6d.

The Dentists' Register. Printed and Published under the Direction of the General Council of Medical Education and Registration of the United Kingdom. 1904. Price 3s. 4d.

Thacker and Co., Limited, Bombay.

Legal Medicine (in India) and Toxicology. In two volumes. By Major Collis Barry, I.M.S., F.R.S.E., F.I.C., &c., Chemical Analyser to the Government of Bombay. Vol. I., second edition. Price not stated.

The Medical Times, Limited, 11, Adam-street, Strand, W.C.

Elementary Lectures on Errors of Refraction and their Correction. By Harold B. Grimsdale, M.B., B.C. Cantab., F.R.C.S., Assistant Ophthalmic Surgeon to St. George's Hospital. Price 2s. 6d.

Clinical Studies in Syphilis. By Arthur H. Ward, F.R C.S. Eng., Surgeon to the London Lock Hospital, Clinical Assistant in the Dermatological Department of St. George's Hospital. Price 3s. 6d.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Bond, Francis T., M.D. Lond., M.R.C S., F.R.S. Edin., has been re-appointed Medical Officer of Health to the Chipping Sodbury Rural District Council.

Carsberg, A. E., M.B., B.C. Cantab., has been appointed Certifying Surgeon under the Factory Act for the Bruton District of the county of Somerset.

Fruman, W. T., M.D. Durh., F.R.C.S., L.R.C.P. Lond., has been appointed Senior Assistant Physician to the Royal Berkshire Hospital.

Highet, John, M.D., C.M. Glasg., D.P.H., has been appointed Medical Officer to the Post-offices of Troon, Dundonald, and Symington.

Hill, P. E, M.R.C.S., L.S.A, has been appointed Medical Officer of Health for the Crickhowell Combined Districts.

Michell, John Charles, M.R.C.S. Eng., L.S.A. Lond., has been re-appointed Medical Officer of Health to the Lynton (Devon) Urban District Council.

Oliver, F. Hewitt, L.R.C.P. Lond., L.S.A., has been appointed Surgeon-Accoucheur to the City of London Lying-in Hospital.

Pritchard, W. L., M.B., C.M. Edin., has been appointed Certifying Surgeon under the Factory Act for the Brynmawr District of the county of Brecon.

Williams, Henrietta L D., M.B. Lond., has been appointed Senior Assistant Anæsthetist to the Royal Free Hospital, Gray's Inn-road, W.C.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Bradford Royal Infirmary.—Dispensary Surgeon, unmarried Salary £100 per annum, with board and residence.

Bridgnorth and South Shropshire Infirmary.—House Surgeon. Salary £100, with board and lodging.

Brighton, Royal Alexandra Hospital for Sick Children, Dyke-road.—House Surgeon. Salary £80, with board, lodging, and washing.

Brighton, Sussex County Hospital.—Pathologist. Salary £300 a year.

Evelina Hospital for Sick Children, Southwark.—House Physician. Also House Surgeon. Salary £80 respectively, with board, residence, and washing.

Fife District Asylum, Cupar-Fife.—Junior Assistant Medical Officer. Salary £100 per annum, with rooms, board, and attendance.

Hospital for Sick Children, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

LEEDS HOSPITAL FOR WOMEN AND CHILDREN.—Resident House Surgeon for six months. Salary at rate of £80 per annum, with board.

MANCHESTER, ST. MARY'S HOSPITAL [illegible] Medical Officer. Salary £65 per a [illegible]

MARGARET-STREET HOSPITAL FOR THE CHEST, 26, Margaret-street, [illegible]

[illegible] t Surgeon as Junior [illegible] Salary at rate of [illegible] d and residence. [illegible] t Medical Officer [illegible] Kent. Salary £250 [illegible]

NORFOLK AND NORWICH HOSPITAL.—Assistant House Surgeon for six months. Honorarium £20, with board, lodging, and washing.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Surgeon. Salary £100, with board, lodging, and washing.

OXFORD, RADCLIFFE INFIRMARY.—Surgeon.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Physician, also House Surgeon, both for six months. Salary at [illegible]

ROY [illegible] n Elemen- [illegible] under the [illegible] Anatomy [illegible] the Court [illegible] Clinical Assistants.

ST. [illegible] er of Health. Salary [illegible]

SEA [illegible] Greenwich, S.E.— [illegible] Also Junior Resident [illegible] Both with board, residence, and washing.

SOUTH AFRICA, ROBBEN ISLAND LUNATIC AND LEPER ASYLUM.—Senior Medical Officer. Salary £600 per annum. Also Second [illegible]

Births, Marriages, and Deaths.

BIRTHS.

FAGG [illegible]

HOFF [illegible]

KIRT [illegible] boy and girl.

WELD.—On April 12th, at Shakespeare-road, Bedford, the wife of Captain Weld, R.A.M.C., of a son.

MARRIAGES.

KRAUS—RIX.—On April 10th, in Vienna, Dr. Fred. Kraus, jun., son of Dr. J. Kraus, sen., "Duke of Brabant" House, Carlsbad, Austria, [illegible] enna.

[illegible] ch, Hillingdon [illegible] W., to Helen [illegible] Harley-street.

DEATHS.

CHAMBERS.—On April 13th, at his residence, "The Lodge," Buckhurst Hill, Essex, and formerly of 249, Hackney-road, John Chambers, [illegible] year. Friends please accept this (the [illegible]

[illegible] idence, Merrion square, Dublin, Sir [illegible]

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A LOCUM-TENENT AND HIS PRINCIPAL.

To the Editors of THE LANCET.

SIRS,—Can you advise me how to act in the following circumstances? Being ill, I engaged a locum-tenent (A) with a view to purchase the practice or a share of it. Discovering after a time that A was not in a position to purchase, an assistantship was proposed. A making objection to signing the bond I put a stop to negotiations and gave him his *congé*. He had been with me nine weeks. Since then A has taken rooms in the neighbourhood and has continued to attend certain patients of mine on his own behalf, showing round a testimonial he had received (from a patient of mine) and stating that I was old and past work and inviting them in the circumstances to employ him. He has also given out that he has purchased half my practice and that he is doing all the work. Have I any redress? With apologies for troubling you, I am, Sirs, yours faithfully,

BETA.

*** Our correspondent's only remedy is a legal one. If he can prove his allegations he would certainly also convict the locum-tenent of unprofessional conduct, but we doubt if the General Medical Council would regard the conduct as constituting "infamous conduct in a professional respect." A lawyer might, however, advise Beta that the publication of the testimonial in question was a libel. If Beta could convict Alpha of uttering a libel the unfair rivalry would not only cease but the General Medical Council would have a definite offence before it and might proceed to remove the offender from the Register.—ED. L.

HOLMAN TESTIMONIAL FUND.

A FURTHER list of contributions has been forwarded to us by the honorary treasurer of this fund, Dr. John H. Galton, Chunam, Sylvan-road, Norwood, London, S.E.:—

	£	s.	d.		£	s.	d.
Dr. J. Ford Anderson ...	1	1	0	Dr. F. W. Pavy, F.R.S.	2	2	0
Mr. E. Parker Young ...	1	1	0	Mrs. E. Garrett Anderson, M.D.	1	1	0
Sir Anderson Critchett...	2	2	0	Dr. W. G. Vawdrey Lush	1	1	0
Surgeon-Major John Ince, I.M.S. (retired)	2	2	0	Dr. J. Gordon Black ...	1	1	0
Dr. Frederic Bagshawe	2	2	0	Lord Richard Browne ...	2	2	0
Dr. P. H. Pye-Smith F.R.S.	2	2	0	Dr. F. Neild	2	2	0
Dr. H. Cooper Rose ...	1	1	0	Mr. A. Pearce Gould ...	2	2	0
Dr. Walter Rigden.. ...	1	1	0	Mr. A. A. Lipscombe ...	0	5	0
Dr. J. Dundas Grant ...	1	1	0	Dr. Thomas Eastes ...	2	2	0
Lord Lister, O.M., F.R.S.	5	5	0	Mr. George Eastes... ...	0	10	6
Dr. John Tanner	5	5	0	Mr. W. H. Roots	1	1	0
Dr. Philip Frank ...	2	2	0	Dr. George Oliver	2	2	0
Mr. A. G. Rogers	2	2	0	Sir B. Walter Foster, M.P.	1	1	0
Mr. Edmund Owen ...	2	2	0	Mr. Charles A. Aikin ...	5	5	0
Dr. Charles Parsons ...	2	2	0	Mr. W. H. May	3	3	0
Dr. A. E. Sansom	2	2	0	Dr. G. R. F. Stilwell ...	0	10	6
Sir Dyce Duckworth ...	2	2	0	Miss A. J. Wilkinson ...	1	1	0
Mr. H. W. Kiallmark ...	1	1	0	Miss J. M. Wilkinson ...	1	1	0
Dr. W. A. Brailey	1	1	0	Dr. Evan Jones, J.P. ...	1	1	0
Mr. H. Langley Browne	1	1	0	Dr. Henry Barnes, J.P.	2	2	0
Dr. J. Moorhead	1	1	0	Dr. Charles Caldecott ...	1	1	0
Dr. J. Barr	1	1	0	Mr. Walter Whitehead...	1	1	0
Dr. Frank M. Pope... ...	1	1	0				

Considering Dr. Holman's great public services to the medical profession there should be no difficulty in obtaining the sum necessary to commemorate his labours in a worthy manner.

THE INSTRA WARMER.

THE essential feature of this handy local warming apparatus is the material used in it for the maintenance of slow combustion. The warmer consists of a metal case into which a rod of fuel is placed [illegible] The [illegible] of an [illegible] tilla- [illegible] the interior space provided for the fuel. The apparatus is quite useful and effective when local warmth is desired, as for the hands or feet in cold weather. It may obviously have a number of applications and has been used for medical purposes. A specimen of the patent Instra Warmer was sent to us by Messrs. J. S. Barwick and Co., 6, Strand-on-the-Green, Chiswick, W.

THE FACTORY GIRLS' COUNTRY HOLIDAY FUND.

THE hygienic, educational, and social benefits which this admirably conducted fund confers annually upon some 3000 working girls of London are clearly set *forth in the report of the fund for the year* 1903 which has just been issued. We have several times urged the claims of this fund and pointed out the good which it does for the workers in our great metropolis and the effect which the health of these girls in the natural course of things may have upon the coming generation. The number of women and girls sent away during 1903 was 3600, an increase of 400 as compared with the figures for 1902. The amount contributed by the girls towards their holidays in 1903 was £1013, as compared with £784 in the previous year. "Much as we should like all working people to be able to provide their own holiday," say the committee, "we do not feel justified in keeping hundreds of over-worked, and often sickly, girls waiting for years in London until their wages enabled them to pay the whole instead of part of the cost of the much-needed rest and change." Nevertheless, the fund waits and hopes for a day when its existence will have become unnecessary. In the meantime the most valuable part of its work is the quiet but effectual preparation and education of our working girls for the coming of that happy day. Subscriptions and donations should be sent to the honorary treasurer, Mrs. Bedford, St. Peter's Rectory, Saffron-hill, London, E.C. It may be pointed out that as arrangements for these holidays have to be made some time beforehand subscriptions sent early in the year are greatly valued by the committee.

DR. J. T. C. CONRY'S DEFENCE FUND.

To the Editors of THE LANCET.

SIRS,—Will you kindly insert the appended list of contributions to the above received since April 5th? Unfortunately, Dr. Conry was not a member of either of the Defence Associations and has consequently had to bear the whole of his costs unaided. The amount received to date represents only a small proportion of what he was called upon to pay. In this connexion may we quote from the kind letter of a contributor of 5*s.*? "As I think that in these cases small subscriptions (which all can afford) should be given by every man in practice to mark his support of a falsely accused brother I therefore enclose an order for the small amount of 5*s.* ...... I would suggest that in the letter which I presume you will send that you will emphasise this point of small but general subscriptions, as many who cannot afford their guineas are often deterred from sending amounts which look so paltry in a list of big subscriptions, but whose mite expresses as much sympathy as the bigger amount."

We are, Sirs, yours faithfully,
EDWIN T. ENSOR.
162, Ladbroke-grove, W., April 12th, 1904. WALTER L. ROBERTS.

	£	*s.*	*d.*		£	*s.*	*d.*
Acknowledged	14	3	6	Dr. R. B. Gorsuch	0	5	0
Dr. F. de Havilland Hall	1	1	0	Dr. James Hamilton ...	0	5	0
Dr. A. R. Hamilton Bland	1	1	0				
Mr. R. M. Hugo	1	1	0	Total	18	17	6
Mr. John S. Crone	1	1	0				

A COOLING CUSHION.

WE have received from Messrs. Von Saal and Co., 9 and 10, Australian-avenue, E.C., a specimen of a cooling pad which it is said gives relief in certain kinds of headache and in sleeplessness and fatigue. The cushion consists of a pad containing a spongy material inclosed in a suitable case. On one side of the case is a waterproof sheet while the other side consists of chamois leather studded with several rows of metallic wires. The pad is dipped in cold water before application to the surface of the body, the wires coming into contact with the skin. On application a decided sensation of cold is experienced which in some instances may be useful in relieving certain local conditions. The pad is light and pliable and adaptable to any part of the body, and would seem to possess some of the advantages claimed for it. The metal bars or wires would appear to conduct the heat of the part to which the pad is applied to the moistened sponge where it dissipates. By this arrangement the cooling properties of the pad are assumed to last for some time during a single application.

UNAUTHORISED TESTIMONIAL.

To the Editor of THE LANCET.

SIR,—Last year you called attention to a testimonial purporting to be given by me in favour of "Dr. Whitefoords Pills." I wrote a repudiation of it at the time which possibly never reached you since I have not seen the contradiction of the authority for the "testimonial" in your columns. As I find that it is again being circulated will you allow me to clearly indicate that I have neither given nor authorised in any way such testimonial to anyone.

Truly yours,
1, Elm-court, Temple, E.C. H. S. SCHULTESS YOUNG.

⁂ In our issue of March 21st, 1903, we mentioned that a person named Whitefoord, whose case had been watched by Mr. Schultess Young in a case of procuring abortion (and who had been struck off the rolls of the medical profession for committing that very offence), was circulating a testimonial from Mr. Young to the merits of a quack pill. We received from Mr. Young no repudiation of the honour thrust upon him by his client. Three months later, in our issue of June 27th, we reported Mr. Young as defending Whitefoord on a charge of falsely pretending to be on the Medical Register, so that Mr. Young does not seem to have cherished any resentment against the circulator of the testimonial, although now, a year later, he asks us to publish a letter denying that he ever gave it.—ED. L.

A SERIOUS CHARGE.

A PERSON who was arrested at Southampton last week, and subsequently released upon a small bail, is said to possess medical qualifications but his name does not appear on the Medical Register. He is accused of having impersonated Mr. Charles Henry Cormac, whose address in the Medical Directory for 1903 was "uncommunicated," but who is included in the Medical Directory for 1904 in the list of Practitioners Resident Abroad. The accused, whose real name is given as Hurstwick, claims to hold qualifications gained in Glasgow and Heidelberg, and explains that he has signed a death certificate with Mr. Cormac's qualification derived from the Royal College of Physicians of Ireland through inadvertence. We suppose that we shall hear later if Mr. Cormac's name, as well as his diploma, has been assumed through carelessness and with no intent to deceive.

MEDICAL CERTIFICATES AND SCHOOL AUTHORITIES.

THE medical men of Rugby unanimously refuse to give medical certificates for children in case of their absence from school. On April 12th Mr. Busson was summoned at Rugby police-court for his child being absent from school. Mr. Thomas Johnston, the medical attendant, was subpœnaed on behalf of the defendant and on his evidence the case was dismissed with costs against the school authorities, Mr. Johnston being allowed a fee of 10*s.* 6*d.* We do not know what the relations between the medical men of Rugby and the school authorities of that town have been, but we presume from the fact that the medical men have decided to give no certificates that the school authority has acted in the same foolish way in which for some time the moribund London School Board used to do. We always advised London medical men never to give a certificate for a school board but to tell the parents of the child that they would attend the police-court if necessary. In several cases where this was done the school board failed to get a conviction and the same failure obtains, it would appear, at Rugby.

AN ILL-ADVISED BID FOR PRACTICE.

To the Editors of THE LANCET.

SIRS,—It has been suggested to me to send you the inclosed. It is a discredit that anyone with an English diploma should be permitted to issue such circulars.

I am, Sirs, yours faithfully,
H. WILLINGHAM GELL, M.A., M.B. Oxon., M.R.C.S. Eng.
Hyde Park-square, W., April 6th, 1904.

[INCLOSURE.]

6, Hertford-street, Mayfair, W., March 16th, 1904.

DEAR SIR,—I take the liberty of enclosing you one of my cards, believing that many members of the medical profession would be glad to learn of a dentist who practices *strictly* from "the standpoint of saving the natural teeth."

I may also add that I make a speciality of crowning, bridging and contour work generally, as well as treating all conditions of the mouth and teeth.

I shall be very pleased if at any time I can place my services at your disposal. I am, very sincerely,
To H. W. Gell, M.R.C.S. L. N. SEYMOUR, D.D.S., L.D.S. Eng.

⁂ Mr. L. N. Seymour, who has recently obtained a place on the English Dental Register, and who styles himself "American Dentist" on his card, is very ill-advised to intrude in this manner upon strangers.—ED. L.

THE LEOPARD SKIN.

WE have received a signed artist's proof of Mr. I. Snowman's picture, "The Leopard Skin," which was exhibited in the Royal Academy last year. The picture is the "bonus picture" which has just been issued to their clients by Bovril, Limited. Purchasers of Bovril receive coupons of face value varying with the size of the bottle purchased until coupons to the aggregate face value of a guinea have been accumulated when they can exchange them for a copy of the picture. The picture, it may be remembered, represented the various emotions aroused in a highly decorative group of children upon first being confronted with the new drawing-room hearthrug—a leopard skin, head, claws, and tusks complete. The reproduction has been carefully executed.

◆

Touting for Patients.—The author of the communication bearing this title has not sent his address, his name is not legible, the rules of the medical aid association are not inclosed, and he offers no proof of the distribution to the patients of other medical men of the offending circulars. We can notice the matter if the omissions are rectified.

M.R.C.S.—Among the smaller and less expensive works are "Practical Methods of Urine Analysis" (London: The offices of the *Chemist and Druggist*), Dr. E. Gérard's "Traité des Urines" (Paris: Vigot Frères), and Dr. H. Aubrey Husband's "Examination of the Urine" (E. and S. Livingstone, 15, Teviot-place, Edinburgh).

D. B.—We do not prescribe either medicines or cosmetics for patients. Our correspondent's medical man can advise her as to whether she requires an eye-wash, and might be able to give an opinion as to the advisability of her bleaching her hair.

Anon.—We have no information of the stuff called "the priceless cure," but if our correspondent likes to send us some we will analyse it. The pamphlet shows the proprietor to be the usual quack.

Hope Deferred, who has not sent his name and address, should consult his medical man. The condition, though obstinate, is curable.

R. B. S.—We are unable to verify the quotation and our correspondent has omitted to mention what preparation is being advertised.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (18th).—London [illegible] 30 P.M., St. Thomas's (3.30 P.M.), St. [illegible] 2 30 P.M.), Middlesex (1.30 P.M.), [illegible] (2 P.M.), [illegible] oho-square [illegible] (4 P.M.), [illegible] M.), London [illegible]

TUESDAY (19th).—L[illegible] Thomas's (3 30 P.M. [illegible] minster (2 P.M.), [illegible] (2 P.M.), St. Geo[illegible] (2.30 P.M.), Cancer [illegible] (9.30 A.M.), Royal [illegible] Throat, Golden sq[illegible] (2 P.M.).

[illegible]

THURSDAY (21st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. [illegible] Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9 30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRI[illegible] Golden square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (23rd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9 15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.). Throat, Golden-square (9.30 A.M.), Guy's (1 30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (19th).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 30 P.M. Papers :—Dr. A. E. Wright: On the Value of Comparative Examinations of Blood and Urine —Dr. Cantlie and Prof. Hewlett: The Bacteriological Findings in a Case of Climatic Bubo. Dr. J. H. Horder: A Case of Pyocyaneous Pyæmia following Ear Disease

CHELSEA CLINICAL SOCIETY (Chelsea Dispensary, Manor-street, King's road, S W.).—8.30 P.M. Communications: Sir Isambard Owen: A Case of General Atheroma in which an Aortic Aneurysm of which there was no Symptom was detected by Radioscopy, and in which a Malignant Ulcer of the Stomach also existed without symptom (with specimen). Dr. W. Ewart: A Demonstration of some of the Results obtainable by Percussion. Other Clinical matters.

WEDNESDAY (20th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Exhibition of Pond Life.

FRIDAY (22nd).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.)—8 P.M. Exhibition of Clinical Cases followed by Discussion. Patients will be in attendance from 8 P.M. to 9 P.M.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (18th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street W C)—4 P.M. Dr. J. Galloway: Clinique (Skin). 5 15 P.M. Mr. B. G. A. Moynihan: Gall stones and their Surgical Treatment.

TUESDAY (19th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W C).—4 P.M. Dr. J. Taylor: Clinique (Medical) 5 15 P.M. Mr. J. Cantlie: Some Intestinal Ailments and their Treatment.

WEDNESDAY (20th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W C.).—4 P.M. Mr. H L. Barnard: Clinique. (Surgical) 5 15 P.M. Dr. D Grant: Some Common Errors in the Diagnosis and Treatment of Diseases of the Nose.

NORTH-EAST LONDON POST GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Mr. R. P. Brooks: External Diseases of the Eye.

THURSDAY (21st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.) 5 15 P.M. Mr. J. Clarke: Circumcision.

FRIDAY (22nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.)—4 P.M. Mr. N. MacLehose: Clinique. (Eye).

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

Will Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are :—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, MR CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 14th, 1904.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rain-fall	Solar Radia in Vacuo	Maximum Temp Shade	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
April 8	29 94	S W.	0 01	79	63	45	46	47	Raining
" 9	29 90	W.	...	96	57	47	51	53	Raining
" 10	30 00	W.	...	83	55	44	40	44	Cloudy
" 11	30 05	WNW	...	97	58	40	42	46	Fine
" 12	29 86	S E	..	103	62	45	46	50	Cloudy
" 13	29 39	S W.	0 15	103	59	50	53	54	Raining
" 14	29 60	S.	...	110	65	47	51	53	Cloudy

During the week marked copies of the following newspapers have been received:—*Cork Constitution Cork Examiner, Aberdeen Daily Journal Aberdeen Free Press (Weekly), Westminster Gazette, Carlisle Journal, Dublin Evening Mail, Daily News, Surrey Advertiser, Bristol Mercury, Dublin Express, Morning Post, Sanitary Record, Local Government Chronicle, Mining Journal Hertfordshire Mercury, Burton Chronicle, Army and Navy Gazette, The Tuam People (Ireland), Yorkshire Daily Observer, &c.*

Communications, Letters, &c., have been received from—

A.—Mr. J. Albachary, Berlin; Dr. F. Arnold, Pretoria; Anderson's College Medical School, Glasgow, Secretary of; Aerators, Ltd., Lond.; A. C. H.; Admiralty, Medical Department of, Director-General of; A. B.

B.—Mr. J. W. Benson, Lond.; Messrs. J. Beal and Son, Brighton; Dr. H. W. Bruce, Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; Messrs. John Bale, Sons, and Danielsson, Lond.; Mr. G. F. Blake, Dublin; Dr. C. W. Buckley, *Buxton*; Bolingbroke Hospital (Incorporated), Lond., Hon. Secretary of; Mr. C. L Bedford, Lond.; Mr. E. Burney-Young, Lond.; *Birmingham Daily Post.*

C.—Mr. F. W. Clarke, Chorlton-cum Hardy; Cortland Wagon Co., Lond.; Mr. Ralph B. Canning, Lond.; Dr. Russell, Coombe, Exeter; Mr. E. F. Coghlan, Lond.; Children's Country Holidays Fund, Lond., Secretary of; Cambridge Graduates' Medical Club, Lond.; Messrs. A. H. Cox and Co., Brighton; Dr. H. J. Cotton, Lond.

D.—Mr. E. Darke, Lond.; Dr. F. Dittmar, Scarborough; Denver Chemical Manufacturing Co., Lond.; Dr. Andrew Duncan, Lond.

E.—Messrs. Elliott, Son, and Boyton, Lond.; Mr. C. H. Eden, Wimbledon.

F.—Messrs. Fairchild Bros. and Foster, Lond.; Messrs. J. S. Fry and Sons, Bristol; Dr. A. J. Fairlie Clarke, Birmingham; Mrs. Agnes Ferris, Wickford; Dr. A. Freudenberg, Berlin; Rev. Montague Fowler, Lond.; Fife District Asylum, Cupar, Medical Superintendent of.

G.—Dr. Dundas Grant, Lond.; Mr. Hastings Gilford, Reading; Mr. W. C. Gent, Lechlade; Dr. W. G. Groves, Woodford.

H.—Messrs. Haworth and Co., Manchester; Haydock Lodge, Newton-le-Willows, Medical Superintendent of; H. B.; Messrs. T. Hasell and Co., *Lond.*; Mr. Hamilton Hall, Fordcombe; Dr. Wm. Hunter, Hong Kong; Messrs. Henman and Cooper, *Birmingham*; Mr. J. Heywood, Manchester.

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The Hunterian Lectures
ON
FRACTURES OF THE SKULL.

Delivered before the Royal College of Surgeons of England on Feb. 29th and March 2nd and 4th, 1904,

By LOUIS BATHE RAWLING, M.B. Cantab., F.R.C.S. Eng.,
SENIOR DEMONSTRATOR OF ANATOMY, ST. BARTHOLOMEW'S HOSPITAL.

LECTURE III.[1]

Delivered on March 4th.

Implication of Nerves in Basic Fractures.

Mr. President and Gentlemen,—I have already shown that fractures of the base tend to involve many of the basic foramina. The nerves, however, which make their exit through these foramina are protected by strong dural sheaths, which fact accounts for their frequent escape from injury. Nevertheless, many of the nerves are liable to injury and I propose, therefore, to discuss briefly each nerve in turn with respect to this special liability, indicating the particular fracture present, with the result and prognosis.

1. *The olfactory nerve.*—The great majority of fractures involving the anterior fossa pass through the weak cribriform plate of the ethmoid and necessarily injure the fine filaments of the olfactory bulb. The bulb itself may be lacerated, with or without injury to the neighbouring parts of the under aspect of the frontal lobes. Such an injury may also be produced as the result of a blow over the occipital region, an exemplification of laceration by contre-coup. Sir Prescott Hewett considered that loss of smell is most frequently the result of blows on the back of the head. My experience, however, goes to prove that anosmia, unilateral or bilateral, transient or permanent, results almost invariably from direct fractures involving the cribriform plate. The actual proof of an immediate loss of smell is difficult to arrive at since the nares are usually blocked by blood clot, &c., but a careful examination at all stages of the illness and of the convalescence shows that temporary loss of smell is common, whilst permanent anosmia is rare.

2. *The optic nerves.*—Cases have from time to time been recorded of complete and sudden blindness of one eye following a severe head injury, and at first sight this result is not easily explained, since the great majority of fractures in the vicinity of the optic foramina tend to pass to or from the cribriform plate between the two foramina or more externally through the sphenoidal fissure. Small fissured fractures not infrequently radiate to the optic foramina, but they are usually of so slight a nature as to be incapable of causing any gross lesion of this nerve. No doubt hæmorrhage into the sheath of the optic nerve is responsible for a certain small proportion of these cases but taking into consideration the very common existence of a fracture through the base of the anterior clinoid process, and the frequent dislocation of the fragment, it is highly probable that the loss of vision is secondary to a fracture tearing off the corresponding anterior clinoid process, the fragment compressing or tearing the optic nerve beneath. These cases are so rare that I am only able to put this forward as a suggestion.

3 [illegible] *the* [illegible] *fifth* [illegible] the outer wall of the cavernous sinus is never subject to such injury as to result in anæsthesia of the parts supplied by all three of its terminal divisions. The extravasation of blood into the peri-orbital tissues may, however, result in a complete loss of function of one or more of its branches and cases are recorded where there has been complete anæsthesia of both cornea and conjunctiva with subsequent ulceration and sloughing. The nasal branch may alone be implicated as the result of a fracture involving the cribriform plate and the supra-orbital and supratrochlear divisions may be damaged by a fracture of the vertical plate of the frontal bone. When the anæsthesia is the result of pressure from extravasated blood the prognosis is favourable, but when a nerve is involved in the fracture the anæsthesia is generally permanent. The *third* nerve is similarly liable to injury in its orbital course, the only peculiarity being that some of its branches are picked out and the others left uninjured. The *fourth* nerve is occasionally involved but always in conjunction with other nerves.

The second and third divisions of the fifth nerve.—The foramen rotundum and the foramen ovale lie anterior to the petro-sphenoidal suture, along which suture most middle fossa fractures pass. These two nerves consequently escape direct injury, though they may rarely be involved, together with the first division of the fifth nerve, through implication of the Gasserian ganglion. In 1852 H. Lee[2] reported a case where seven weeks after the injury the following symptoms were present: anæsthesia of the left face and forehead, anæsthesia of the anterior two-thirds of the tongue on the left side, anæsthesia of the left nostril, weak left masticatory muscles, and opaque left cornea. The fracture peculiar to such cases is one in which the terminal part of the apex of the petrous bone is broken off in an antero-posterior direction, the fracture traversing the cavum Meckelii. These fractures are rare and I have only seen two cases.

The sixth nerve may be either compressed, in conjunction with other nerves, by extravasated blood during its passage forwards from the cavernous sinus or it may be the only nerve paralysed, with consequent abductor paralysis of the eyeball. Such cases are not uncommon and this isolated paralysis of the sixth nerve results from the implication of the nerve as it laterally grooves the dorsum ephippii, which process is occasionally torn across in a fracture passing from one middle fossa to the other. The paralysis is generally unilateral, the fracture crossing the dorsum ephippii in an oblique direction.

The seventh and eighth nerves.—There can be no doubt that the seventh nerve is more commonly involved than any other nerve in basic fractures owing mainly to its complicated intrapetrous course. Köhler records 22 cases in 48 cases of fractured base; Bidwell records 15 cases in 106 cases of fractured base; and Battle records 15 cases in 168 cases of fractured base. My own experience leads me to the view that Köhler's statistics are the more accurate, as 24 cases of facial paralysis, partial or complete, were seen in 60 cases of fractured base, 12 in 32 cases that recovered and 12 in 28 fatal cases.

The question of facial nerve implication is so bound up with auditory symptoms that the two subjects must be treated together and classified into two main groups: (1) early and partial paralysis of the facial nerve, accompanied by a variable degree of deafness; and (2) early and complete paralysis of the facial nerve, accompanied by complete deafness. In the first group are included the great majority of middle fossa fractures, such fractures tending to involve the auditory region, and evidenced, amongst other symptoms, by hæmorrhage from the external auditory meatus. A greater or lesser degree of facial paralysis is usually present, not always obvious at first sight, but requiring a careful scrutiny and comparison of the two sets of facial muscles. The fracture passes inwards along the roof of the external auditory meatus towards the junction of the anterior and internal walls of the middle ear, the membrane undergoing a variable degree of destruction with or without dislocation of the ossicles. The fracture then passes inwards to the region of the petro sphenoidal suture in such a manner that the geniculate ganglion of the facial nerve is exposed and laid bare on the anterior aspect of the posterior fragment. The main trunk of the nerve consequently escapes injury except in the region of the genu, where it may be compressed by blood clot sufficing to produce a partial temporary loss of function. In most cases the clot is entirely absorbed and a complete recovery can be expected. The degree of deafness varies according to the extent of damage done to the membrane and ossicles, such being most extensive when the injury results from a direct blow over the auricular region. In many cases, however, the recovery is complete. In the second class of cases the fracture is quite different. Usually the result of a blow on the occipital region, the fracture traverses the thin cerebellar fossa to the outer margin of the jugular foramen. Thence the fracture cuts

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[1] Lectures I. and II. were published in The Lancet of April 9th (p. 973) and 16th (p. 1034), 1904, respectively.

[2] Medical Times and Gazette.

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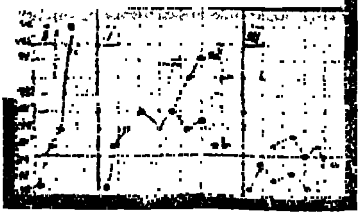
should explain, perhaps, that I am excluding for the present any alteration in temperature due to the onset of septic or pulmonary complications. 5. The rise of temperature is not dependent on any special bony lesion, since the same changes are seen in fractures of the vault and in fractures of the base, anterior, middle, or posterior fossa. 6. *Laceration or contusion of the brain is generally present.* The almost constant presence of some injury to the cerebral substance gave origin to the old theory that the temperature changes are secondary to brain laceration. Against this view, however, several facts can be brought forward: (*a*) Laceration is not always present even when the temperature runs high. In two cases, for instance, the temperature rose to 106° and yet there was no sign of contusion or laceration. (*b*) Laceration, even when extensive, is not necessarily followed by any elevation of temperature. (*c*) The elevation of temperature is absolutely independent of laceration of any particular area. Richet[2] arrives at the conclusion that two hypotheses present themselves, accounting for the elevation of temperature, between which it is difficult to decide. Either there are certain temperature regulators in the encephalon which when excited become stimulated in function, or else the cortical injury acts in a sort of reflex manner on the regulatory centres situated in the pons or in the bulb. Attention is also drawn to the experiments of Lorin and van Benedin who, after excising the two cerebral hemispheres of a pigeon, showed that the heat regulatory power was preserved unaltered, proving that the corpus striatum is probably not the head office of the heat-regulating apparatus. Till, therefore, more evidence comes to hand with regard to heat regulation in general and the effects produced by injury, one cannot go beyond the broad statement that practically all severe cases of head injury show definite thermometric changes, the elevation of temperature not resulting from any special lesion of bone or of cortex but being probably due to the influence of the injury on the heat-regulating centres in the region of the pons or bulb, the temperature progressively rising as the cardiac and respiratory centres fail.

The next point to consider is the value of the temperature chart with regard to the prognosis of the case. All cases of fractured skull can be divided into three main groups, according to the thermometric changes, excluding any alterations secondary to septic, pulmonary, or other complications.

Group 1.—The temperature, at first subnormal, undergoes a steady and progressive rise. The prognosis is most unfavourable.

FIG. 18.



The temperature charts of the three typical groups.

Group 2.—The temperature, at first subnormal, rises gradually to 101° or 102° and then for a short time remains steady. This hesitation marks the crisis of the case, a further rise indicating a probable fatal result, whilst a fall in temperature offers hope of future recovery.

Group 3.—The temperature, at first subnormal, remains at that level, or rises to about normal without any subsequent further elevation. In the former case the patient, owing to the severity of the injury, never recovered from the stage of collapse, whilst in the latter case the injury was of so comparatively slight a nature that the stage of shock, being neither prolonged nor deep, was not subsequently followed by the stage of reaction.

These three groups of thermometric changes are so constant that I regard the temperature chart as the surest and as an almost infallible guide to the prognosis of the case. With regard to any alteration of temperature on the two sides of the body, in spite of an occasional relative increase of temperature on the side opposite to the injury, I have not been able to satisfy myself that such changes are sufficiently constant as to be of any diagnostic value.

CHANGES IN THE FUNDUS OCULI.

In 1887 Edmunds and Lawford published a paper in which attention was first drawn to this subject and statistics were given stating that optic neuritis was present in 12 out of 24 cases of head injury. A subacute basal meningitis was considered to be the cause of this neuritis. In 1890 Battle gave details of 17 cases, in five of which optic neuritis was diagnosed, and he suggested as a cause laceration of the under aspect of the frontal lobes. On reading these statements two questions must arise. Firstly, Are the explanations offered satisfactory; and secondly, Why should optic neuritis develop in cases of head injury uncomplicated by secondary septic infection? These points induced me to examine all cases that came under my notice, an examination of the fundus being carried out at all stages of the illness, with the result that two distinct varieties of fundus change were seen: (1) a disc with normal outline, the fundus, however, showing marked engorgement of the retinal veins, with small arteries; and (2) a fundus presenting all the signs of true optic neuritis. This latter variety was seen only in those cases which subsequently succumbed from septic meningeal infection, whilst the venous retinal engorgement was of common occurrence.

Now, one of the most striking features in the post-mortem examination of cases of head injury is the great engorgement of the superficial cerebral veins and this venous congestion is seen equally in fractures of the vault and in fractures of the base, with or without brain laceration, and also in cases of mere concussion only. The retinal engorgement is early in onset, being frequently seen within a few hours of the injury and long before any true optic neuritis could develop. It is most marked when the injury involves the anterior segment of the skull and it is not necessarily accompanied by laceration of the under surface of the frontal lobes. It is, however, most common when a fracture traverses the sphenoidal fissure or involves the cavernous sinus. As the patient improves, so also does the congestion diminish in direct ratio, any later development of true optic neuritis indicating the onset of an acute or of a subacute meningitis. I regard, therefore, this retinal venous engorgement as part and parcel of the general cerebral venous stasis, the condition being of no great clinical value with regard to the presence or absence of any fracture. Dr. Fleming has recently pointed out that retinal hæmorrhages are almost invariably present in basic fractures and, further, that when the subarachnoid hæmorrhage and venous congestion are unilateral the retinal hæmorrhages are mostly confined to the affected side. The subject of "optic atrophy" has been briefly discussed under "implication of nerves."

BRAIN LACERATION; CONCUSSION AND COMPRESSION.

Of all complications of fracture of the skull injury to the brain substance must be regarded as of the greatest importance, for on the presence or absence of such a lesion the ultimate result in the majority of cases depends. Some contusion or laceration of the brain is almost invariably present when the injury results from a fall from a height, the lesion varying from a mere bruising of the cerebral cortex, with extravasation of blood and serum into the subarachnoid space and into the meshes of the pia mater, to complete laceration of certain of the cortical areas. No part of the brain can be said to be exempt from such injuries, for though it *is far more common to find* laceration of the frontal and temporo-sphenoidal poles, yet one not infrequently finds laceration of the Rolandic area, of the occipital poles and cerebellum, and even of the deep nuclei of the brain. The relative frequency with which these various areas are injured is: (1) the anterior and inferior aspect of the frontal poles; (2) the anterior aspect of the temporo-sphenoidal poles; (3) the Rolandic area; (4) the occipital poles; (5) the cerebellum; and (6) the deep nuclei and the deep cortex.

Laceration may be seen directly beneath the seat of primary osseous injury or on the surface of the brain over an area exactly opposite to that at which the injury was received. Various theories have been brought [illegible] to across the petrous bone, external to the internal auditory meatus, and terminates usually by comminuting the tegmen tympani. It is in this transpetrous course of the fracture that the irreparable damage is done, for not only is the facial nerve cut clean across in the region of the genu but the auditory apparatus is also severed into two parts. The exact line of the fracture is shown in Fig. 15. The outer fragment is the more interesting and the next two figures explain in detail the parts involved. Fig. 16 shows the open mouths of the semicircular canals, the outer parts of the fenestra ovalis, of the promontory and of the fenestra rotunda, and the exposed mastoid antrum, whilst the malleus, the incus, and the membrane are absolutely uninjured. In Fig. 17 the comminution of the tegmen is more extensive but otherwise the parts exposed are similar to the preceding

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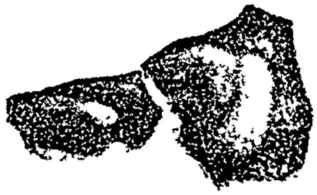
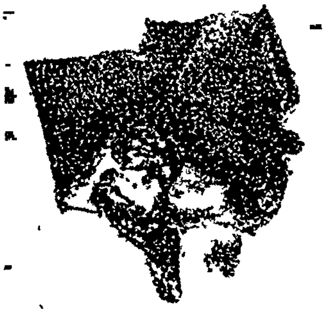
[2] Dictionnaire de Physiologie.

FIG. 15.



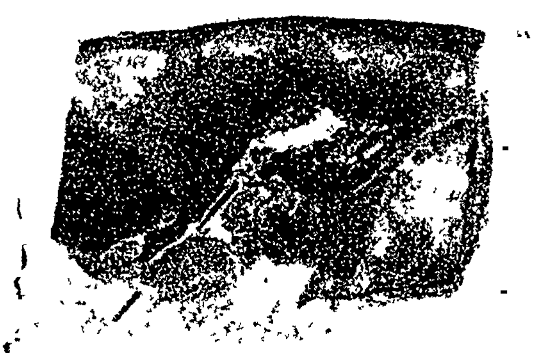
Right petrous bone, showing a fracture running in the antero-posterior direction. The internal auditory meatus is seen.

FIG. 16.



The outer fragment of the same specimen viewed from the inner side showing the semicircular canals, the facial aqueduct, the ossicles, and the membrana tympani.

FIG. 17.



A more extended fracture of the right petrous bone. This specimen also shows the inner aspect of the outer fragment together with the mastoid antrum, a probe in the facial aqueduct, the ossicles, the membrana tympani, the semi- rcular canals, the internal carotid artery, a probe in the tachian canal, and the foramen ovale.

ddition, however, the specimen shows that the
lves the petro-sphenoidal suture, passing
foramina ovale and spinosum but anterior to
the horizontal part of the internal carotid artery. The long probe is passed along the Eustachian tube and the smaller is insinuated into the horizontal part of the aqueductus Fallopii. In these cases, therefore, though the facial paralysis and deafness are both complete and permanent, there is no external auditory hæmorrhage.

Two points further need reference, the first being the rare variety of fracture described by Léon Boullett in 1878, under the title of "fracture of the mastoid portion of the temporal bone" secondary to direct blows on the mastoid process, with a consequent separation of that process from the rest of the skull, the facial nerve in the descending part of the aqueduct usually being injured. Lastly, *late* paralysis of the nerve is occasionally seen after the lapse of a few days, secondary either to a septic infection with an ascending neuritis or to the organisation of the blood clot around the genu of the nerve. The diagnosis between these two conditions is simplified by the presence or absence of pyrexia, rigors, vomiting, &c.

The ninth, tenth, and eleventh nerves.—The jugular foramen lies in the path of more than one line of basic fracture. The nerves, however, are well protected and usually escape injury. Cases are now and again seen in which the result is less favourable, the following being a brief abstract of such a case. The patient was admitted with a fracture of the posterior part of the parietal bone and for four days, beyond restlessness, no special symptoms were evident. On the fifth day there was a sudden attack of severe dyspnœa with diaphragmatic respiration only. The conditions improved till the sixth day, when he was again seized with another attack of acute dyspnœa, accompanie by dysphagia, during which death occurred. The exa
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or dilatation on this side (Surminski, Langendorff), or (3) that on the side with the ganglion the dilator is inhibited (Kowalewski).

After the local application of eserine to the eyes of a kitten the pupil is smaller on the side from which the superior cervical ganglion has been removed so long as the kitten is quiet, but slight dyspnœa will cause the pupil to become almost maximal, though the normal control pupil is very [illegible] when the sphincters [illegible] instead of under the [illegible] pupillo-dilatation must, therefore, result from an actual increase of tone in the dilator on the side without the ganglion. This increase of tone may be directly demonstrated in the nictitating membrane and lids. The paradoxical effect is therefore due to an increased excitability of the contractile tissues on the side without the ganglion (Lewandowski, Anderson). The great accentuation of the paradoxical effect seen under anæsthesia does not occur until dyspnœa arises. If only the [illegible] paradoxical effects occur much [illegible] unced. The paradoxical effects [illegible] not inhibit the automatic ex[illegible] tissues with which it is still [illegible] cannot inhibit the paradoxical [illegible] nerve, since the effect will still persist in bright sunlight for more than a minute.

Inhibition of antagonists.—It is known that in the case of the ske[illegible] panied [illegible] group ([illegible] probable that constriction of the pupil through the third nerve should be accompanied by simultaneous active inhibition of the dilator, also carried out through the third nerve by means of inhibitory dilator fibres. And, indeed, [illegible] consideration of the electrical [illegible] contraction of the sphincter, [illegible] happened. Anderson (1903), however, has [illegible] view. Thus, [illegible] of the sphinc[illegible] may arise a[illegible] hibition of the sphincter [illegible]

The iris is not under [illegible] the motor nerves are invariab[illegible] by reflex stimuli or by wh[illegible] i.e., association with other voluntary or involuntary movements.[2] There are two chief reflexes and two chief synkineses or associated movements: (1) the light reflex; (2) the accommodation synkinesis; (3) the sensory reflex; and (4) the cerebral synkinesis.

The light reflex.—This is carried out entirely through the mechanism of the constrictor centre. Of the afferent paths we know very little for certain. The fibres are contained in the optic nerve and they arise from all parts of the retina. The optic nerve contains large and small fibres; it is possible that the large fibres are concerned with visual sensations and that some of the fine ones are afferent pupillo-constrictor fibres. The opposite view has also been advanced. It is certain that the pupillary fibres undergo partial decussation in the chiasma and enter the optic tracts. It is also certain that they do not enter the lateral geniculate body but leave the tract to pass by a path which is as yet conjectural to the third nucleus. The tone of the constrictor centre is kept up by constant afferent impulses along this tract; it is possible that it also possesses inherent tone The tone is probably continually depressed by less effectual impulses along the fifth and other sensory nerves.

The accommodation synkinesis—This is a constrictor effect commonly associated with accommodation. It is more nearly related, however, to the convergence which normally synchronises with accommodation, since it is possible to accommodate without inducing constriction of the pupil, whereas this invariably occurs during convergence. Very little is known about this phenomenon; even the views stated are open to doubt, but there can be no doubt that it is not a true reflex but a case of associated movement. The same remark applies to the well-known lid-closing phenomenon.

The sensory reflex.—This is a dilator reflex induced by tactile, pathic, and other sensory stimuli. It is a complex effect exhibiting a primary rapid dilatation due to augmentation of the dilator tone through the cervical sympathetic followed by a second dilatation rapid in onset but very slow in its disappearance due to inhibition of the constrictor tone. When originated through spinal sensory nerves the afferent impulses are carried up in the posterior columns of the cord.

The cerebral synkinesis is also a complex phenomenon and cannot be considered a true reflex. It is induced by psychic stimuli—e.g., fear, &c.—and also by concentration of thought upon a bright light or a dark room. It is also largely an associated movement, accompanying eye movements which may be themselves due to sensory impulses. The pure psychic reaction, entirely caused by ideas of light and shade, was described by Haab (1886), though Beer had long before discovered that he was himself able to alter the size of his pupils in this manner; it may account for some cases in which persons have apparently been able to alter their pupils at will. The phenomenon is unaccompanied by any obvious movement of the eyes and therefore cannot be called a synkinesis; it is, in fact, a *psychokinesis*. The reaction has recently been called in question by Bumke (1903) and it must be admitted that it is very difficult to exclude the many sources of error, of which accommodation is the most probable and difficult to avoid.

I propose now to discuss in detail my observations on the relationship of the cerebral cortex to the movements of the pupil, devoting such time as remains to the results of other recent researches.

Fontana, as long ago as 1770, showed that in the cat, even under the strongest light stimulus, the pupils dilated widely if the animal was frightened by a loud noise. A child's pupil can also be made to dilate, even during ophthalmoscopic examination of the macula, by a loud sound, such as clapping of the hands. Raehlmann and Witkowski consider that psychic impulses assist in maintaining the tone of the dilator centre, accounting for the constriction of the pupil during sleep by their absence. Schiff and Foa (1869) first stimulated the cerebrum by electricity and obtained dilatation of the pupils from stimulation of the anterior four-fifths, and of the cerebellum only by strong stimuli. They attributed the effect to the sensibility of the brain. Hitzig (1871) sometimes obtained constriction of both pupils, but generally dilatation; rarely only one pupil reacted. Similar experiments have been carried out by Bochfontaine (1875), Danilewski (1876), Luciani and Tamburini, Grunhagen, Bessau, Ferrier, Horsley and Schäfer, Schäfer, Beevor and Horsley, Grunhagen and Cohn, Katschanowski, François-Franck and Pitres, Mislawski, Bechterew and Mislawski, and Braunstein. In most of these cases the observations were incidental during research directed to some other object In all dilatation was much more easily induced than constriction and no accurate localisation was effected [illegible]

Most observers have regarded [illegible] but little attention has been [illegible] Thus Ferrier includes dilatation [illegible] from the submaxillary gland, [illegible] pressure, and "other indications of general reverberation throughout the organism." He regards them as "merely complications and not as results of localised cortical stimulation". On the other hand, Bechterew and Mislawski conclude that "stimulation of the given regions of the cortex and of the optic thalami has hit off the central endings (Verlungerungen) of the cervical sympathetic" and that "the chief reflex centre for the secretion of tears lies in the optic thalami, and that there too are found the central tracts of the cervical sympathetic, their prolongations (Fortsetzungen) being continued thence to the cortex." [illegible] causes François-Franck [illegible] lation. [illegible] of dilatation of [illegible] ion of One is a special [illegible] definite foci in the cortex and also obtained from excitation of the underlying fibres of the corona radiata and internal capsule. The other accompanies epileptoid convulsions [illegible] every part of the [illegible] —bite [illegible] the [illegible] of [illegible] by [illegible] ntaine. He perhaps [illegible] lumental distinction, [illegible] ts induced through [illegible]

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[2] The corresponding term for the association of [illegible] associated ideas, would obviously be "synpsychosis."

I have not paid much attention to any movements other than those of the eyes and pupils. Dilatation of the pupils is often obtained without any movement of the eyes or body. I have usually found that a slightly stronger stimulus is necessary to evoke it than that which is required to produce movement from excitation of the arm or leg areas, or the same strength of stimulus may suffice if the animal be slightly less under the influence of the anæsthetic.

(*a*) *Cat.*—In the cat dilatation of the pupil can be obtained from a considerable area in the neighbourhood of the crucial sulcus and from a considerable area of the occipital region. As the result of many experiments it is found that the mesial surface of the hemisphere near the crucial sulcus (prorean and presplenial convolutions) gives the most marked effect, but I have also found that the anterior part of the third or median convolution (coronal or anterior supra-Sylvian) gives a very constant effect. In one or two instances there was a transitory constriction of the pupils before the dilatation from this area. Ferrier obtained constriction of the pupils and divergence of the eyeballs from this spot in the dog but I have not observed the latter effect in the cat.

My experiments were made principally upon cats; a few dogs and one monkey were also used. The animals were anæsthetised with ether, the degree of anæsthesia varying, but always being amply sufficient to cause insensitiveness to pain. The qualifying terms used apply to the condition of excitability of the motor areas of the cortex to stimuli of moderate severity, as shown by movements of the limbs of the contra-lateral side. "Epileptoid convulsions" is the term used to express the violent general movements which often follow stimulation of the motor area after exposure of the brain to air or prolonged or frequently repeated excitation. This condition is quite compatible with complete anæsthesia. The cervical sympathetics were either cut or isolated on one or both sides. In the dog the vago-sympathetic was treated as a whole. This was also done sometimes in the cat to insure the complete division of all sympathetic fibres. In some experiments the superior cervical ganglion was extirpated to eliminate any dilator fibres which might reach the ganglion by any hitherto unknown course Section of the sympathetic was usually followed by a distinct moderate constriction of the corresponding pupil but this was certainly not invariably the case. Absence of a tonic dilator influence is probably in these circumstances due to the condition of anæsthesia of the animal. I need not enter into further details of the operative procedures, which were those usually employed in cerebral physiology. It was important to keep the light falling upon the eyes as constant as possible throughout the experiment. It is easy in the cat's eyes to direct one's attention to the horizontal meridian. The constricted pupil being a vertical slit, the distance from the centre to the periphery can be divided into four imaginary parts, the pupil being said to be a quarter, a half, three quarters, or fully dilated.

In the occipital region what may be called the focal spot is in the posterior part of the third or median convolution (posterior supra-Sylvian convolution). I have not observed any constriction of the pupil here, as described by Ferrier. François-Franck, however, obtained a transitory constriction from this spot, followed by dilatation, exactly like that which I describe for the coronal gyrus. It is therefore probable that there are foci for pupil-constriction both in the frontal and occipital areas but that they are masked by the dilator effects which are much more readily produced. One may compare with this the greater representation of lateral eye movements over any other eye movements in the cortex.

Only the results which are deduced from a large number of carefully planned experiments can be considered trustworthy, more particularly in deciding between areas which give a positive result independently of epileptoid convulsions. These are very readily brought about by repeated excitation of the same or closely neighbouring areas owing to the increased excitability of the cortex which is thereby induced. The condition of anæsthesia is also of the utmost importance. If this is deep the pupils remain immobile. If it is too light dilatation is obtained from almost every part of the cortex, at any rate when bodily movements occur. The resul[illegible] only reliable when the anæsthesia is moderate [illegible] The areas are very much the same in the dog a[illegible] This animal is less suited for the purpose b[illegible] rarity of dogs with light-coloured irides, and a round pupil is less easy to detect slight variations upon than the slit-like one of the cat. In the dog I obtained a very marked effect from the precrucial gyrus, but I failed to observe any convergence of the optic axes as noted by Ferrier.

(*c*) *Monkey.*—I have done only one experiment of this nature upon the monkey. I found it much the easiest animal to work with and it gave very definite results.

I conclude from these experiments that previous section of the cervical sympathetic diminishes the effect but by no means abolishes it. When both cervical sympathetics are intact the dilatation of the pupil when well marked is accompanied by all the usual effects of excitation of the nerves themselves—viz, retraction of the nictitating membrane, widening of the palpebral aperture, and projection of the eyeball; to these Bechterew and Mislawski add secretion of the lacrymal gland, but this I am unable definitely to confirm. All these effects are abolished by previous section of the sympathetics except the dilatation of the pupils, and this is diminished. Whereas when the nerves are intact full dilatation of the pupils may occur, especially during epileptoid convulsions, after they are divided the pupils rarely become more than three-quarters dilated. The effect is very well seen if one nerve is divided, the other being intact. In this case the two pupils move synchronously and apparently to the same extent, except that they start unequal, the one on the divided side being the smaller. François-Franck is therefore certainly wrong in asserting that the pupillary dilatation is unilateral if one sympathetic has been cut. He certainly admits a slight degree of dilatation, which he attributes to dilator fibres running another course, probably in the trigeminal. I have eliminated this possibility by dividing the fifth nerve intracranially and still obtaining the undiminished effect. To eliminate the possibility of other dilator fibres reaching the superior cervical ganglion I have as already stated, extirpated it. The pupil on the side from which the ganglion was removed was slightly but appreciably smaller than on the side on which the vago-sympathetic was cut.

I have found that section of the third nerve intracranially after previous division of the cervical sympathetic causes the pupil to become immobile, about three-quarters dilated Stimulation of the cortex has then no effect upon it. Complete section of the corpus callosum has no effect upon the result of exciting the cortex. The bilateral effect is therefore not due to the stimulus acting through the opposite cortical areas but to its acting upon lower centres, but whether the optic thalami, or the superior colliculi, or the subcollicular nuclei I am not prepared to say, but probably upon the last mentioned. Stimulation of the anterior and posterior parts of the corona radiata and internal capsule containing the fibres derived from the cells of the frontal and occipital area leads to bilateral dilatation of the pupils. I have generally found a stronger excitation necessary, but this may be due to the fact that stimulation took place at the end of prolonged experiments. In one case I obtained a very marked constriction of the pupils with strong convergence of the eyeballs from stimulation of the posterior part of the internal capsule.

A point of great interest arising from these experiments is the question of the mechanism whereby dilatation of the pupils can occur in the absence of the usual dilator tract. Two explanations offer themselves—viz., inhibition of the tonic action of the third nuclei and dilatation brought about by vascular changes in the iris. An extremely interesting observation by Sherrington may be mentioned in this connexion. In bringing physiological experiment to bear upon current theories of the emotions, he performed "appropriate spinal and vagal transection" in the dog to eliminate "the sensation of all the viscera three-quarter muscles below the shoulder." He says: "The eyes were well opened, and the pupil distinctly dilated in the paroxysm of anger. Since the brain had been by transection shut out from discharging impulses via the cervical sympathetic the dilatation of the pupil must have occurred by inhibition of the action of the oculo-motor centre." It is said that after the optic nerves have been cut dilatation of the pupil is not obtained upon section of the third nerve, and hence tonic action of the third nuclei has sometimes been denied. There can be no question, however, that it exists when the optic nerves are intact, as in my experiments. The immobility which follows section of both the third and the sympathetic is strong evidence in favour of the inhibition theory. It must be noted, however, that the blood pressure was probably very low at this stage of the experiment.

We have seen that dilatation of the pupil is still obtained after section of the sympathetic. No vaso-motor fibres are known to run to the iris except by way of the sympathetic, and even if such exist the experiments of Langley and Anderson tend to show that vascular effects are inefficient to bring about the dilatation observed. Moreover, it is well known that changes in blood pressure may occur from stimulation of various parts of the cortex, whereas pupil dilatation only occurs from certain localised spots in the absence of the epileptoid state. It seems justifiable from these considerations to regard the effect as another example of direct inhibition of the oculo-motor nerves from the cortex.

There is no lack of evidence as to the presence of fibres connecting the cortex with the mesencephalon and some of these must be regarded as the ones concerned in the pupillary effects. We may leave out of the question the dilatation of the pupil which accompanies the epileptoid state, for this is undoubtedly of an extremely complex nature, requiring special investigation. Confining our attention to the more specialised results obtained from the oculo-motor area in the posterior part of the frontal convolutions which are to be looked upon as part of the fronto-parietal motor or kinæsthetic area and quite distinct from the more anterior or so called prefrontal area, and to the results obtained from the oculo-sensory or visual area in the occipital convolutions we find definite anatomical connexions with the lower centres.

The pallio-tectal or cortico-mesencephalic system of fibres has recently been thoroughly investigated by Dr. C. E. Beevor and Sir Victor Horsley. *It is noteworthy that no fibres* were found passing to the mesencephalon from the frontal region—i.e., from the area of cortex in front of the excitable cortex. From lesions of this part there was marked degeneration of the fronto-thalamic fibres previously described by Déjerine; the only mesencephalic centre to which fibres could be traced was the upper or anterior part of the locus niger. No fibres, therefore, go to the tectum. A large number of fibres could be traced from the excitable cortex to the corpora quadrigemina and mesencephalon, especially to the superior colliculus. This was very marked in the cat, much less so in the monkey. The fibres *from the oculo-*motor areas have not yet been specially investigated.

The results from lesions of the occipital lobes were particularly striking and confirmed Edinger's researches on birds. In proportion as more of the area of the cortex containing Gennari's streak is involved in the lesion the number of degenerated fibres passing to the colliculus increases. The fibres are large and stand out distinctly from the medium-sized occipito thalamic and occipito-geniculate fibres and from the small callosal fibres and fine collaterals which enter the corona radiata in large numbers. Some of the occipito-tectal fibres pass among the fibres of Gratiolet's radiation, others run through the mesial region of the inferior longitudinal bundle. All the fibres are distributed to the whole breadth of the stratum griseum profundum of the superior colliculus. Which of these fibres are concerned in the pupillary phenomena, and whether they pass, any of them, directly to the superior pupillo-dilator centre or to the pupillo-constrictor centre, or only by intermediate connexions, must be left for future research to determine. I have already shown that the cortical pupillo dilatation is a complex event, strikingly resembling the ordinary sensory dilator reflex in that it is accompanied by all the usual *effects of stimulation of the cervical sympathetic as long* as that path is intact, but that it also occurs, deprived of the other sympathetic effects, when this nerve is divided. The evidence is therefore in favour of a more circuitous course, or at any rate of multiple and complicated interconnexions.

There is evidence that pupillo constriction can also be elicited from stimulation of the cortex. Ferrier obtained it from stimulation of the anterior and posterior limbs of the angular gyrus in the monkey, but this observation is probably incorrect. I have already stated that I failed to confirm the same observer's result from the third external or coronal convolution in dogs. In pigeons Ferrier found intense constriction of the
middle of the convexity
obtained marked constriction
of the quadrate lobule in monkeys. This brings us to the consideration of the exact nature of the phenomena. The view of Bechterew and Mislawski, that we have here the central prolongations of the cervical sympathetic is, *a priori*, highly improbable, or, at any rate, a misleading explanation of the results; indeed, the continuance of the dilatation after section of the cervical sympathetic proves that it can only be partially true. So, too, it is unlikely that we are dealing with "centres" for the pupils in the ordinary sense of the term We have found that the effect is most specifically obtained from the areas which are most concerned with ocular movements whether from the motor or the sensory side; moreover, it would seem that the effect is indissolubly connected with those movements and does not occur in their absence, hence it is most reasonable to conclude that the phenomenon is an associated effect. As regards the so-called sensory areas—i.e., the visual centres in the occipital cortex—it is probable that the attention plays some part. We produce, by artificial excitation, some strong but probably ill-defined visual sensation which arouses the attention and leads to the appropriate movement of the head and eyes towards the direction from which the stimulus seems to proceed. The sensation is strong and sudden and is accompanied by dilatation of the pupils in no physiological sense other than the expression of emotion.

THE EPIDEMIOLOGY OF ENTERIC FEVER AND CHOLERA IN HAMBURG.[1]

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IN order to understand aright the epidemiology of enteric fever and cholera in Hamburg it is necessary to have a clear picture in one's mind not only of the topography of the town but also of the topographical arrangement of the surrounding district, for the reason that the particular conditions of our locality are in a special manner favourable to the diffusion of enteric fever and cholera from the town to the country and from the country to the town. Hamburg, as you are aware, is situated in the great North German lowland, which is of diluvial origin, made up of glacial drift, sand, clay, gravel, and erratic boulders, scattered pell mell, overlying the tertiary formation, and in many places rising like a plateau to a height of 50 metres and more above the level of the sea. This formation, which is, comparatively speaking, poor in water, is termed by us the "geest." At the sea coast and mouths of rivers lies the alluvial formation, "the marsh," which extends in front of and beyond the "geest." It is, however, only met with in those parts where there are an ebb and flow—that is to say, only at the North Sea, not at the Baltic. These marshes consist of the sediment deposited by large rivers which empty themselves sluggishly into the sea by wide mouths. It is only through the activity of man in building "dikes" or embankments that they are made habitable and secure against floods. In some places they form islands between numerous water-courses; in others they form a wide boundary to the "geest," covering miles of flat expanse at sea bays and mouths of the river. Hence it is clear that the part of the estuary of the Elbe, as far as above Hamburg, once formed a deeply indented bay (Fig 1 gives a picture of these conditions). The marshes are very damp and are intersected by numerous drains which at low tide empty themselves into the river by means of sluices. A somewhat larger drain which flows parallel with the embankment goes by the name of the "Wetterung." The dwelling-houses lie on the inside of the embankment, between it and the "Wetterung," at irregular intervals, in even rows, extending for miles. The fertile land lying behind is used for feeding cattle and growing vegetables.

As naturally follows from such an arrangement of the houses, every kind of refuse from the dwellings, cattle-stables, and dunghills very easily finds its way into the "Wetterung," which at the same time is used for drinking and domestic purposes. For all water from the marsh wells contains so much iron that it cannot be used for drinking purposes. And in cases where the "Wetterung" is not used water is taken from the river outside the embankment, which also cannot be regarded as free from pollution. Those houses are best off that collect rain water from the roof in underground cisterns. You can understand that, in such circumstances, grave insanitary conditions easily arise, although the people in many of the marsh districts are often of almost "Dutch cleanliness." When enteric fever occurs in these districts it can only be stamped out by slow degrees and with much difficulty. In former times it never died out altogether. When the people of Schleswig-Holstein spoke of marsh fever they usually meant enteric fever and not malaria. Such infected marsh villages are at the present day also the source whence the disease is being continually re-imported into the town, especially when these villages are close to a big town, such as Hamburg, with which they keep up regular intercourse in pursuing their market trade, bringing all kinds of goods to the town, more particularly articles of food which have come in contact with infected water in the "Wetterung" and are consumed in a raw state. Mention must first of all be made of milk, which is conveyed in vessels which have been previously cleansed and washed in marsh ditch water; further, different kinds of vegetables, salads, radishes, and fruit, which are probably stored in the drains (or ditches) to keep them fresh till market day.

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[1] A paper read before the Epidemiological Society on March 18th, 1904.

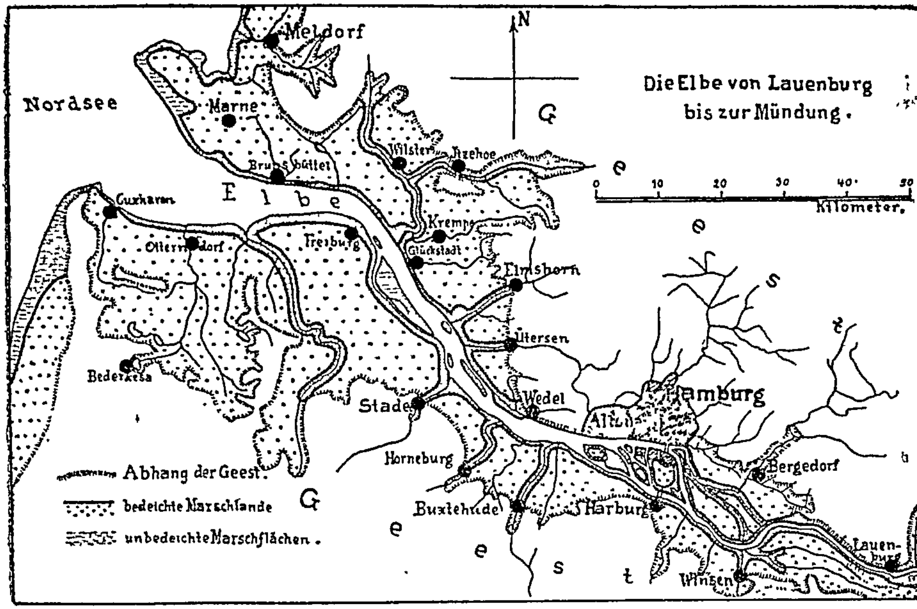
In bringing forward these circumstances it is, of course, not implied that the "geest" is altogether free from enteric fever. There, too, the disease may be imported, the wells infected, and from them in its turn the milk also. Still, such cases are much rarer there and when they occur are more localised and therefore easier to suppress. Moreover, in the course of time decided improvements have been made in the marsh, particularly by the improvement of the water-supply. This has been effected partly by teaching and introducing methods to free the water of the different wells from its iron, thereby making it usable, and partly by the establishment of central water-supplies from deep-bore wells giving very good water. In addition to this various precautionary measures in connexion with the position of privies, dung-heaps, and slaughter-houses, with the handling of milk and other articles of food, have contributed to the improvement of the sanitary conditions of the district. Still, there can be no doubt that the marsh villages, in spite of all precautions, are continually running risks and are at the same time a constant source of danger to the town.

I believe that in this country also you have small districts at the mouths of the Humber, Trent, Ouse, &c., where the conditions are similar. Dr. R. J. Reece, in a report of August, 1903, to the Local Government Board, described the sanitary conditions in Thorne rural district exactly as we know them to be with us in our marshes. This state of things on the continent is not confined to the neighbourhood of Hamburg but exists also along the whole of the North Sea coast from Schleswig as far as Holland and Belgium. And with slight alterations the conditions in the towns situated in the marsh are the same as those in the country districts. Hamburg was founded by Charles the Great as an advanced seat for a bishopric among the heathen and was built on an elevation in the "geest," or high land, between marshy plains which were not banked in. But soon as temporal interests became more and more important (together with the spiritual interests) the buildings extended into the marshes. And the more the population turned its attention to commerce and shipping the more did the town extend in the direction of the stream into the marshes. Thus at the present day a considerable portion of the town lies in the marsh where houses may only be built after numerous props have been driven deep into the ground for support. These marsh portions of the town have developed from banked-in marsh islands called "Polder," and they are still intersected by numerous water-courses which in Hamburg go by the name of "fleete." They represent exactly the same thing as the "grachten" in Dutch towns or the canals in Venice, with the only difference that in the latter town there is no flowing fresh water but only the salt water of the Adriatic. These Hamburg navigable canals in former times received all refuse from the houses abutting on them and at the same time served as sources of water-supply. We have still old pictures showing this state of things. It is therefore pretty certain that the sanitary conditions in the town were formerly very unfavourable, although definite details are wanting. The danger was not suspected and the value of cleanliness was not recognised till the year 1831, when cholera came and opened our eyes, as well as those of the whole world, to the danger. It was then that your country took the lead, showing a good example, and teaching how towns might be kept sanitary by means of good drainage and good water-supply, and Hamburg was the first continental town to profit by your English experiences. In 1842 our town was visited with a devastating fire, lasting three days, laying in ruins a very considerable portion of it. It was then we turned to your countryman Lindley (who died only lately at a good old age) and he provided not only the newly-built parts of the town but also the remaining old parts of it spared by the fire with a general system of sewerage and a central water-supply, both of which were completed towards the end of the "forties." This was the beginning of improvement in the health of the city and I will show you later, from the curves of enteric fever and cholera, how favourably both measures have acted, in that they not only improved the drinking water but also led to a greater cleanliness in every respect—in house and yard, in kitchen and cellar, in clothing and care of person. We can thus account for the steady decline of tuberculosis in Hamburg since the great fire, to which fact Dr. H. T. Bulstrode recently drew public attention. Unfortunately, this steady progress in sanitation has not continued, because, as is well known to you—and as I am just going to show you in detail—the central water-supply had serious shortcomings.

Before entering on this important part of the subject I should like to speak shortly of the shipping conditions which greatly resemble the conditions in the country districts described above. In so doing I will except the sea-going vessels which, as a rule, have good drinking water on board and the passengers and crew of which do not easily come in contact with the river water. But it is quite another thing with the river craft which come into Hamburg in great numbers from the wide river path of the Elbe and from the Oder and Vistula which are connected with the Elbe by means of canals. There are often as many as 800 and more of such large river craft in the harbour, each of which is manned by a family—a skipper with his wife and children and one or more hands. In spite of all precautionary measures and regulations on the part of the authorities those on board allow their dejections to go into the river from which they at the same time draw their drinking water. Although the habits and mode of living of these people are gradually improving yet they still leave much to be desired and you will understand of what importance it is to a town for the epidemiology of enteric fever and cholera when a very great number of such ships lie close together in its harbours. Naturally, similar dangers arise from the still more numerous small tugs, lighters, barges and boats, and from the numerous businesses and occupations carried on at the water's edge. Nevertheless, these take a secondary place in comparison with the dangers which arise from the river craft, because in all those other cases only men are occupied and that, too, only during the daytime, whereas here women and children are also concerned who have less discernment and who live day and night on the water and can easily, unperceived, take advantage of early morning and late evening to pollute the river.

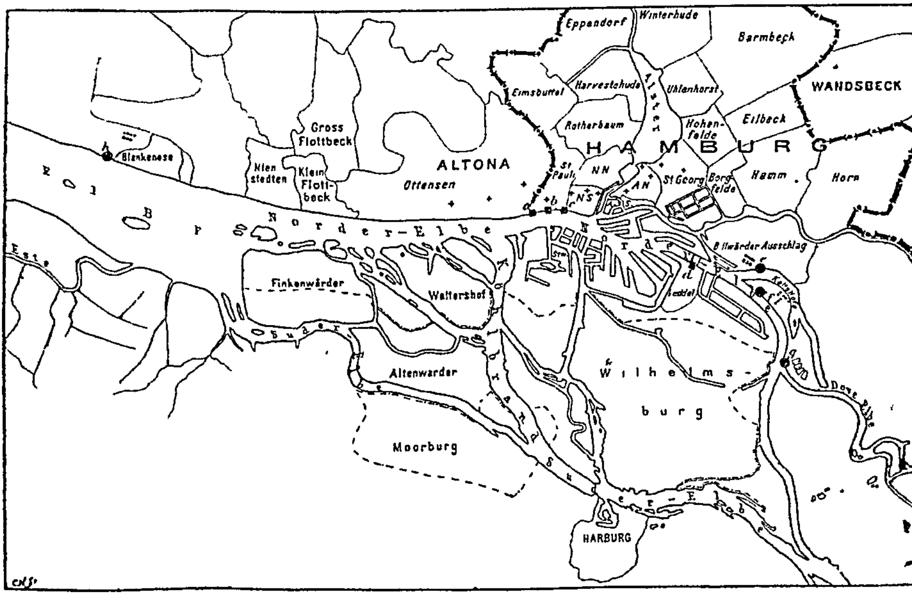
After this digression I return to the subject of the water service. The water for the central service was from the very beginning taken from above the town, where it was stored but not filtered. This was a marked improvement on the previous state of affairs, as at low tide the fresh water from the upper part of the river was taken in, and as even in high tide the river at this spot was not nearly so polluted as near the town and in the water-courses of the town, where it receives the unpurified sewage of the whole city. Nevertheless, the innate danger consisted in this: that in the case of a low level of water in times of drought, or in the case of spring tides raised higher by the winds, the tidal wave, which carries with it all refuse out of the harbours and sewers, can come much higher up stream than is usually the case. Consequently, part of the polluted material from the town, although in a modified or rarefied form, might reach the intake and enter the pipes. This danger became gradually greater and greater, although the intake was taken higher up the stream. The town at the time of the fire of 1842 numbered about 160,000 inhabitants; in 1884 about 440,000; and in 1903, 740,000. In consequence, as time went on, more and more sewage was emptied into the Elbe; the town buildings and harbours extended farther up the stream, the shipping increased year by year, and regulation works were built, the object of which was to deepen the water-way and to bring more water into the harbour for

FIG. 1



Map of the Elbe from Lauenburg to the mouth, showing (1) the boundary of the "geest" or high land (Abhang der Geest); (2) embanked marsh land (bedeichte Marschlande); and (3) unembanked marsh plains (unbedeichte Marschflächen).

FIG. 2.



Political boundaries of Hamburg. These coincide with the "water area."

ships with a deeper draught. All these circumstances contributed to allow sewage more easily and more frequently to make its way to the intake. Not till the introduction of the central sand filtration in 1893 were all these dangers at an end. I will not take up your valuable time with the details of the development of this state of things which passed through many stages and involved many battles, nor will I trouble you with the proposals to remove the intake still higher up stream. It might not even interest you. For the present purpose you have enough with what I have told you and with that which you can deduce for yourselves from the plan (Fig. 2). I should only like to add that the area of the piping of the water service coincides with the political area of the town. The political boundaries coincide exactly with the boundaries of the water service. On the east, the Prussian town of Wandsbeck, which at the present time has about 30,000 inhabitants, joins on to Hamburg without any visible line of demarcation. This town of Wandsbeck has waterworks of its own supplied from inland lakes in Holstein. On the west of Hamburg lies the Prussian town of Altona, with at the present time about 168,000 inhabitants, which, like Hamburg, gets its water from the Elbe. The waterworks which were built by your fellow countryman, Thomas Hawksley, during the years 1857–59, lie ten kilometres below the town and take therefore the river water polluted by the sewage from both large towns—Hamburg and Altona. Since the opening of the works in 1859 the water has been carefully filtered. Pipes from these works supply the town of Altona almost as far as the political boundaries of Hamburg. In Fig. 2 these boundary lines are shown very distinctly. It is interesting to observe how first one and then the other of the two water services were infected with enteric fever. In the case of the Hamburg service it might happen at any moment; in the case of the Altona service only when the filters were found wanting or when unfiltered water was pumped into the mains. Each of these mishaps occurred often during the first few years of working because the technical detail of filtering had first of all to be learnt and then put into practice, and also because, acting without knowledge of the hygienic dangers of unfiltered water from the Elbe, no care was taken to avoid supplying unfiltered water when repairs were being executed. At that time in the filtration of water attention was paid chiefly to the æsthetic purifying of it alone. In subsequent years all cases of failure in the efficacy of the filters are in all probability to be regarded as due to frost in hard winters. The water in the open filters freezes and the coating of ice makes it impossible to cleanse the top layers of the filtering sand, as is otherwise done at regular intervals by carefully removing the slimy layer which has been deposited on the sand and which in time stops up the pores of the filter. When a hard frost came as long as the better modern methods were unknown the authorities were obliged to use all kinds of extreme measures to make the filters pervious and very often the function of them was heavily damaged by those measures.

Here I show you two diagrams which represent the number of monthly attacks of enteric fever in Hamburg and Altona for the years 1883–85, calculated per 10,000 inhabitants. During these years we had in Hamburg different large epidemics of enteric fever which you will see occurred as a rule in autumn, if not in winter itself, and they repeatedly overlapped into the following year. Altona did not share in these epidemics, at the most only in so far as is easily explained by the close intercourse between the inhabitants of the two towns. But when the epidemic in Hamburg receded it began to increase in Altona (but much more severe, much more sudden, and rising to greater heights than in Hamburg), only to fall again very rapidly. Sometimes an epidemic would break out in Altona when none preceded it in Hamburg. This happened in the beginning of 1891 and 1892, while, *vice versâ*, there were epidemics in Hamburg which left Altona untouched—as, for example, in the autumns of 1889 and 1892. It cannot, therefore, be assumed that enteric fever always broke out in the low-lying Altona whenever Hamburg sent an unusually great number of enteric bacteria through the sewers into the Elbe. But we must conclude that the part of the Elbe running past these two towns was in a constant state of infection and that enteric fever broke out in Altona when the filters did not properly perform their functions owing to hard frost in January and February. On the other hand, outbreaks of enteric fever occurred in Hamburg when the water in the Elbe was low, in the autumn of dry years, which led to the tidal wave coming unusually far up the river, bringing with it, as far as the intake of the town waterworks, a large quantity of Elbe water polluted by enteric discharges. Such dry seasons occurred in the years 1885, 1886, 1887, and 1892; while, on the other hand, the dry season of 1883 brought with it no appreciable increase of enteric cases, for the reason that at that time an alteration of the river bed which was to shorten the path of the tidal wave was not yet completed. Only by these circumstances can we explain how it is that in these two towns, merging into one another without any definite line of demarcation, enteric fever ran such different courses. The epidemic in Hamburg, with a gradual rise and gradual fall, lasted nearly eight months; in Altona, with the exception of the winter 1887–88, the epidemic, in the form of severe explosions, lasted only one or two months and was at its height at a period several months later than in Hamburg. But in both towns the whole area of the water service was always attacked practically in the same way. From the drawing I show, which represents the state of things in the winter 1887–88, you will see how matters stood within the borders of Hamburg and Altona. On the left lies Altona territory, on the right Hamburg territory, separated by the characteristic boundary line. Below, the Elbe is indicated. Each of the 12 areas represents the state of affairs in series of monthly averages. You will see that in July, 1887, and June, 1888, at the beginning and end of the series, on both sides alike there was but little enteric fever: only from two to five cases per 10,000 inhabitants. Matters stand thus in Altona up to November, whereas in Hamburg the number of cases goes on increasing till in December it is at its height—26 per 10,000 inhabitants. Then comes the decrease, so that by March the same conditions are reached as in the preceding July. The very month Hamburg is free from enteric fever Altona is attacked most severely; likewise with 26 cases per 10,000 inhabitants, the increase in the number of cases beginning the preceding November. And exactly the same thing occurred in other winters up to 1893. Since then the central system of filtration has been introduced in Hamburg; and here, as well as in Altona, we have learnt to master the difficulties during the period of hard frost. Since that time large epidemics of enteric fever have not occurred in either town. But isolated cases of enteric fever have remained—viz., about three or four per annum per 10,000 inhabitants, from 200 to 300 cases, with, approximately, 30 deaths. Among these there may be many cases that are wrongly diagnosed as enteric fever, as diagnosis is not always very easy, and young medical men have no longer much opportunity of becoming acquainted with the disease. On the other hand, many slight cases may escape detection which are of no clinical interest and which are not recognised as enteric fever but which may nevertheless have been important factors in the spread of the disease.

Thus the number of reported cases may be approximately correct. Nearly a third of these can, as a rule, be shown to be imported, chiefly from North American ports and from small villages in the mountains or by the sea, where families go to recruit during the summer holidays, never heeding that in many of these places the sanitary conditions leave much to be desired. Another considerable series of cases can be directly traced to the Elbe; they concern skippers and boatmen on the river craft in the Elbe or workmen who work at the water side. Then we have had in some years groups of cases which, with more or less probability, could be traced to infected milk from a particular milk service or from one particular farm in the neighbourhood. Lastly, there are always cases which are obviously directly infected—for example, among sisters and brothers in small dwellings or among nurses in hospitals. After subtracting all these cases there still remain 100 or even more which cannot be traced to any known source of infection. Naturally, however, one can easily content oneself with the assumption that, considering the intercourse between the inhabitants of a large city, nothing is to be wondered at. The incubation period is from two to three weeks, so how can the person always remember how, where, or when he may possibly have exposed himself to infection or even judge whether he was in danger of infection or no; as, for example, when bathing in the Elbe, visiting such and such a house, or partaking of food and drink which, perhaps, came from a distance from an infected place, as in the case of oysters? But one may also ask oneself the question that has been asked by more than one person whether these few cases cannot be traced to the filtered Elbe water, as the filters cannot be absolutely relied upon to keep back every germ. Sometimes it appears as if the number of cases of enteric fever in the town increased after the filtered water showed for a time an increased percentage of germs, just as is believed to have been observed in London. Sometimes, however, the comparison does not hold good. In my opinion (at any rate with us) this question cannot be decided statistically because the numbers involved are too small. The matter will not be solved till we have deep well water instead of filtered Elbe water in our water mains. Decisive steps towards this alteration in the water-supply have already been taken, and in two years' time we hope to be able to supply a third of our needs with deep well water. And I do not doubt that after this is accomplished the remaining two-thirds will follow in the not too distant future. What enteric fever then remains will certainly have nothing to do with the water-supply. Already now I should like to remark that several large towns of Germany supplied with deep well water have not less enteric fever than Hamburg.

After setting forth these considerations I will here show you a diagram representing the yearly number of deaths from enteric fever, calculated per 10,000 population, since the year 1840 up to the present time. I have omitted the figures for preceding years as they are too unreliable to be of any value. The number of fatal cases, however, must be taken instead of the actual number of cases as we only know the latter since the year 1872. In this diagram you will see that since the great fire of 1842 the prevalence of the disease has steadily diminished although interrupted by great fluctuations; and, further, that since 1894 the number of cases has been very few indeed. This favourable condition of things since 1894, and the gradual sinking of the curve since 1892, can be easily understood without further statement after what I have shown you up to this point. But how are we to explain the great rising of the curve in 1857, 1865, and 1889? This is a question on which many opinions have been expressed without any completely conclusive answer being given.

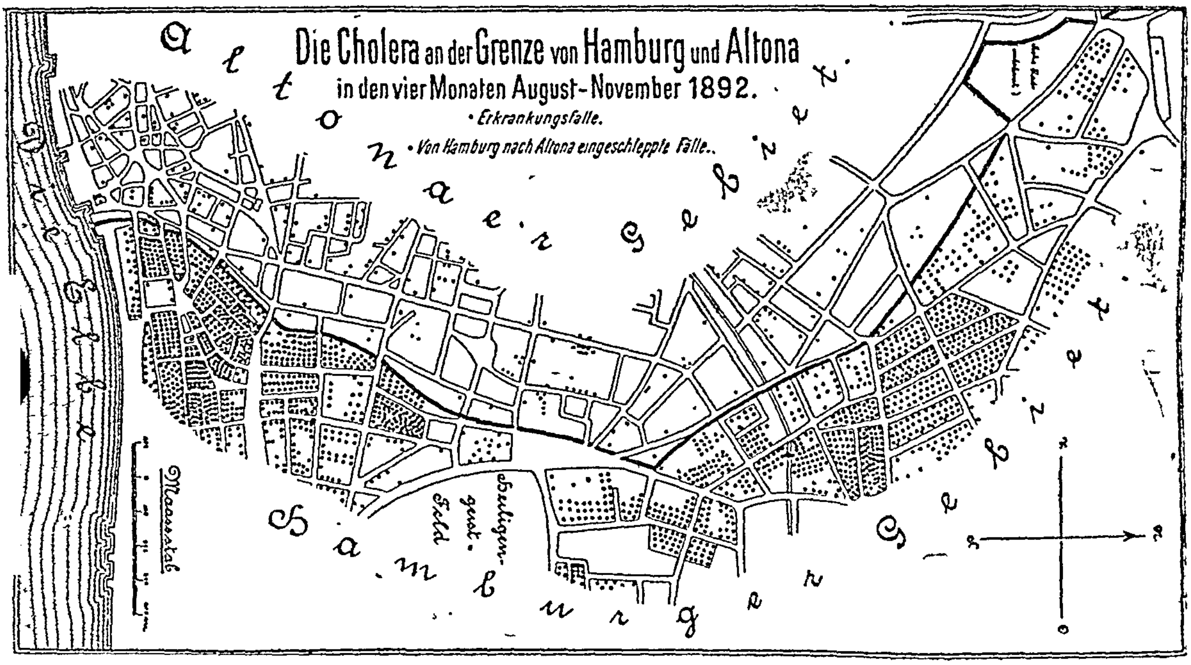
In this diagram over the columns representing the number of fatal cases of enteric fever per annum, I have given also the index of rainfall in millimetres as far as these numbers are known, and in the diagram showing the monthly cases, over the curve over the number of monthly cases, in addition to the average temperature curve, I have given the average level of the ground water for each month. Comparing the two representations you will see that the level of the ground water and rainfall are practically parallel—that is to say, that the level of the ground water is so much lower the less the rainfall is, and *vice versâ*. Further, you will see clearly that the great epidemics of enteric fever fall in dry years when there is a low level of ground water, whereas in very rainy years enteric fever obviously recedes. These observations agree in every respect with the celebrated observations of Pettenkofer of Munich. Explanation is as difficult as the facts are self-evident because the Pettenkofer explanation of facts clearly does not hold good after the importance of the part water plays in the diffusion of enteric fever, which was disputed by him, has now unquestionably been established. Most seductive of all is the assumption that dry seasons specially favour the transmission of enteric germs from the dejecta of enteric fever cases to the alimentary canal of other persons. Without entering upon many self-evident general reflections I may state that in the case of Hamburg this theory is supported by the fact that the explosive outbreaks in Altona occurred in the middle of the coldest part of the winter, a season which is usually regarded as being particularly free from enteric fever; and, further, these explosions obviously occurred because through the sudden disturbance of the process of filtration the hitherto impeded progress of the bacteria was made possible from the Elbe water (into which they had entered with the discharges of the patient by means of the sewage) to the alimentary canal of other persons. Is not the conclusion most obvious that similar mechanical circumstances also decided the course of the Hamburg epidemics? I have already tried to make this appear probable with regard to the epidemic of the "eighties" and I do not doubt but that similar mechanical circumstances—that is to say, high floods and a low level of water in the Elbe, both of which are favourable to the pollution of the water service with the contents of the sewers—had a decided influence on the epidemics of 1857 and 1865 But it is very difficult to sift such questions sufficiently thoroughly, because the average numbers referring to the monthly levels of the water of the Elbe, or the size of the flood, or the fatal cases of enteric fever, do not suffice to settle the matter. More must be known of the local spread of the disease in the town, of the different floods, and of the conditions of the stream at the time; facts which can no longer be ascertained. But the probability of the case seems to me to speak in favour of my theory, although it does not, of course, explain everything. I consider it a dangerous practice, and one to be avoided, to want to explain in a word the endless intricate workings of nature. I should like specially to emphasise the fact that dry seasons, in some way or other, seem particularly to favour infection by contact and the different indirect transmissions of infection in different houses by means of articles of food, vegetables, or flies. For in many places where periodic epidemics of enteric fever show a similarity with Hamburg there are no tidal ebb and flow and they cannot all be explained by the theory that dry years and seasons specially favour the pollution of wells. I should like to believe that in former times the latter circumstance played an important rôle, at all events in Munich. Whether, however, it can be applied in all cases, or whether altogether different circumstances do not come into consideration in the periodic outbreak of enteric fever, must remain an open question. In this respect we have still much to learn. In any case, you will see by my curves that since 1894, when the sanitary condition of Hamburg was improved, fluctuations in the rainfall and level of the ground water have no longer had any influence on the frequency of the outbreaks of enteric fever—just as is the case with Munich since the cesspools were either made impervious or done away with altogether and replaced by sewers which freed the numerous town wells from the pollution brought about by the pervious pebble subsoil from the privy pits.

And now as to cholera. Here I can express myself more shortly, as almost all that I have said about enteric fever can be applied to cholera which follows the same modes of spread as enteric fever. On nearly every occasion the disease has come to us by the same classical route that is characteristic for the whole of Germany. It spreads from Asia to Russia and then crosses the German frontier with the floating rafts travelling down the Vistula from Poland. From the Vistula it follows the navigable water-ways of the river through canals into the Oder and from this river enters the Havel and Spree again by canals and thence the Elbe. The "Oberländer" ships are always the first with us to be affected by cholera. It is only in exceptional cases that the route is a different one, as, for instance, was the case in 1892 when Hamburg was attacked before any other place in Germany. The disease then came probably by the sea route from Paris or Havre, in all probability with some ship's water ballast taken in at Havre harbour polluted by sewage. The diagram I show tells you about the outbreak of cholera in our town. The columns show the number of cases per 1000 inhabitants and the black parts the number of deaths. As you will see, the disease has visited us in Hamburg a good many times. The infection has never come to Germany without visiting us and remaining with us for a longer or shorter period. This can be easily understood from our relations to water and from the conditions of our marshes described above.

The great epidemic of 1848 was not, however, much less than that of 1832. But the sanitation of the town plays as important a part as it does in the case of enteric fever, and every succeeding epidemic has been less severe than the preceding one. In each of them the scene of action is principally on and near the water, or at least among that part of the population connected with the water. From these people the disease is spread further to other portions of the town, that is to say, to parts some distance from the water lying on the "geest" or high land, and to persons having no connexion whatever with the Elbe. Comparatively speaking Altona always escapes because its harbour is smaller and of very much less importance to the town than that of Hamburg is to the town of Hamburg, and because also the whole of the town of Altona lies high up on the "geest." When cholera does break out there it is near the Elbe. In the case of these Hamburg epidemics in former years, whether it is a fact that cholera germs also got into the water-supply cannot now be determined. It can hardly have been in any considerable degree on account of the local spread of the infection described above. On the other hand, something of the kind seems to have happened in Altona immediately after the opening of the new central water-supply in 1859. On August 4th of that year the water service was inaugurated and it is a fact that at first the filters did not properly perform their functions. Soon afterwards the largest cholera epidemic Altona has ever known, with eight cases per 1000 inhabitants, broke out, spreading over the whole town. The information at hand is too scanty to enable us to do more than to surmise. In Hamburg, where the height of the epidemic was reached in July, there were then 10·5 cases per 1000 inhabitants. In the epidemic of 1871 matters were already very much clearer. There was at that time a slight outbreak in Hamburg, beginning in August, with 0·5 case per 1000 inhabitants. A little later Altona was attacked. The first cases occurred on August 19th, after unfiltered water had been delivered by the service pipes from August 11th to 18th. But the number of deaths was three times as great as in Hamburg—namely, 1·43 per cent. as opposed to 0·43 per cent. in Hamburg. The medical authorities of Altona at the very time of the outbreak attributed this epidemic to the water service and publicly expressed their opinion.

The importance of all these earlier observations on the diffusion of cholera and enteric fever by means of the water service of the two towns was not thoroughly understood and appreciated till the great cholera epidemic of 1892 broke out in Hamburg, teaching a lesson which could no longer be misunderstood. The essential characters of this epidemic are well known to you, so I can confine myself to following a few points. There were 26·42 cases per 1000 inhabitants and 13·44 per 1000 deaths, whereas in Altona these numbers were 3 81 per 1000 and 2·13 per 1000 respectively, and in Wandsbeck still less—namely, 3·06 per 1000 and 2·09 per 1000. Among the Altona cases were a large number of persons who were infected in Hamburg. The boundaries between these two so widely differing infected areas follow closely the political boundary which, as before stated, coincides exactly with the boundary of both public water-supplies. To illustrate this fact I once more lay before you the well-known plan (Fig. 3) from Gaffky's description of the epidemic within the borders of Hamburg and Altona, in which plan appears the total number of cholera cases and deaths. At the bottom, to the east, you will see the streets of Hamburg thickly studded with cholera cases. At the top, to the west of the boundary, you will see the streets of Altona with only very few cases, a large number of which were imported from Hamburg. On the Hamburg side the whole area as far as the water service reaches was attacked simultaneously in the same way, whether it was the "geest" or marsh that was concerned, or whether the portions of the town were near to, or far from, the Elbe. This is a fact which must effectually refute the earlier theory that the marsh was attacked first by the disease, because the subsoil here consists partly of organic materials intermixed with human dejections. The marsh was attacked first in former times only because it lay nearer to the water and because the water from the polluted marsh ditches and "Wetterungen" was used for drinking purposes. Now all at once the "geest," which was scantily supplied with water and which had hitherto been almost free from the disease, was attacked as severely as the marsh because, through the water service, infected water was brought also into these more distant parts of the town, built partly on pure sand, only the year before.

FIG. 3.


Die Cholera an der Grenze von Hamburg und Altona
in den vier Monaten August-November 1892.
• Erkrankungsfälle.
• Von Hamburg nach Altona eingeschleppte Fälle..
Altonaer Gebiet
Hamburger Gebiet
Elbe
Maassstab
Heiligengeist-Feld

Spot map, showing the distribution of cholera on the borders of Hamburg and Altona in the four months August–November, 1892.

The same circumstances explain how numerous cholera cases imported from Hamburg into the marsh districts near the Elbe gave rise to new small groups of cholera cases; whereas in the "geest" villages, provided they lay far from the river, there was no spread of the disease worth mentioning. Further, the temporal course of the epidemic too is very characteristic of the infection of the water-supply. On August 16th the first cases occurred near the Elbe; on August 21st we had about 100 cases, and on August 27th more than 1000 a day. No previous epidemic had ever been of such an explosive character, a fact which is better explained by the diagram which I now show than by any verbal description of it. The diagram represents the weekly course of the different big cholera epidemics in Hamburg, not in absolute numbers, but calculated for each week, per 1000 population, so that the different diagrams can be easily compared with one another. Not even the fairly suddenly arising epidemic of 1848 can be compared with the short, stormy course of that in 1892. This epidemic, which attacked 16,850 persons and killed 8576, was followed in 1893 by another smaller outbreak, which could again be traced to the water service. The water was filtered by this time, but under pressure of circumstances the year before the work had been hastily brought to a termination and set in operation. It was therefore possible that unfiltered Elbe water from without entered the conduit conveying the filtered water from the filters to the pump and mingled with the filtered water. It was not till some days had elapsed that the damage was discovered and the matter immediately put right. But it had sufficed once more to introduce cholera bacteria into the town, although fortunately only in small numbers. 202 persons were attacked and 60 of them died. Since then Hamburg, like the whole of Europe, has been free from cholera. Should the disease reappear, epidemics such as we have had in the past are out of the question, provided very unusual and improbable circumstances in connexion with the waterworks do not arise. But after what I have told you about enteric fever we shall never feel quite secure against cholera. For Hamburg's close connexion with the river, the navigation, and the numerous small water-courses, offer enteric fever and cholera only too many opportunities of introducing themselves into the town. We shall, however, be better able to cope with a case of cholera than with isolated cases of enteric fever, because as a rule diagnosis is easier and the incubation period much shorter and because it is easier (during the short months of the danger from cholera, which occurs for some months' duration every ten years or less) to direct the attention on this one point than to carefully observe year by year every isolated case of enteric fever.

That, gentlemen, is roughly the epidemiology of enteric fever and cholera in Hamburg, considering each disease separately. What relation do they bear to one another? Past experience has already taught us that enteric fever and cholera epidemics repeatedly coincide with one another, which is not to be wondered at in face of the great similarity of their modes of spread. Not only do both seek out similar localities in which insanitary conditions exist in connexion with the excrement disposal and the water-supply, not only are both associated in their spread with water, but also dry years and dry seasons with low level of subsoil water are favourable to the development of both diseases. It must, therefore, necessarily follow that when cholera breaks out in a locality enteric fever, which is usually indigenous there, seizes the same opportunity for further development. In Hamburg it has been repeatedly observed what a peculiar interest attaches to those years in which both diseases were disseminated simultaneously side by side throughout the town by means of the water-supply. At those times enteric fever broke out from two to three weeks later than cholera, corresponding to the different lengths of the period of incubation. This was established conclusively in 1892 and 1893. And a similar connexion exists also between these two diseases and choleraic diarrhœa. Choleraic diarrhœa, together with other causes, is brought on after a very short incubation period by drinking water polluted with sewage. In this connexion the best-known example is the illness caused by the consumption of oysters which have come from oyster-beds situated in the neighbourhood of town sewage outfalls. Some persons are attacked by choleraic diarrhœa soon after eating infected oysters, others fall victims to enteric fever a fortnight or three weeks afterwards, and some suffer from both. Dr. Bulstrode, in a very carefully written report, has lately described such occurrences at Winchester and Southampton. We ourselves made a similar observation in 1893. A great shipbuilder's yard supplied its workmen with Elbe water purified in a filter-bed of its own. At the beginning of August the whole of the filtering material was taken out, cleansed, and put back again. In so doing the filter was rendered very inefficient. A few days later over 100 workmen fell ill with choleraic diarrhœa in a more or less violent form, and after some time in 19 of the persons pronounced enteric fever developed. In the same way it can be explained how it is that in the more recent great enteric fever and cholera epidemics in Hamburg, which have been more narrowly observed, there has always been a large number of infants who died from choleraic diarrhœa who certainly suffered neither from cholera nor enteric fever, and that since the introduction of a central system of filtration of the drinking water in Hamburg a decrease of from 1000 to 2000 deaths occurred annually among infants. Although at present we do not know the origin of choleraic diarrhœa, nevertheless, according to these observations, it is certain that in association with the unboiled water used for diluting the milk or for washing out the milk-pans it gets into the intestine of the child and here develops its harmful action. We have also some observations from Berlin, from the district of the Stralaus waterworks, between the years 1886 and 1893, showing that every time the number of germs in the water-supply increased to an abnormal extent the number of deaths among infants increased in the same proportion.

Thus in the war which we have been waging against cholera and enteric fever, we have, by the introduction of a purer water-supply, at the same time overcome a third enemy—viz., choleraic diarrhœa. Here, gentlemen, I come to the end of my dissertation, which has left untouched many important aspects in the epidemiology of enteric fever and cholera, and in which I have been obliged to avoid all numerical statistics. However, I hope that the few points which I have brought forward have proved of interest to you and have been welcome as a contribution to the studies to which your society has dedicated itself.

THREE CASES OF RENO-RENAL REFLEX PAIN:

CASES IN WHICH THE SYMPTOM POINTED TO THE SOUND KIDNEY BEING THE DISEASED ONE.

BY DAVID NEWMAN, M D., F.F.P.S. GLASG.,
SURGEON TO THE GLASGOW ROYAL INFIRMARY.

SPONTANEOUS pain is an important symptom of renal disease when the outflow from the pelvis is in any way interfered with, and probably in no organ of the body is the suffering more acute and more varied in character than in some of the maladies affecting the kidney and the ureters. During an attack of renal colic the pain generally extends over a wide area, involving most of the abdomen and back. But while widely distributed it is generally most severe on the affected side, between the level of the tenth rib and the crest of the ilium. Its character and situation vary according to circumstances and may often guide the surgeon in forming an opinion as to the nature of the lesion giving rise to the suffering. When obstruction to the ureter is present the pain may extend down the thigh to the knee, involving all the pain areas from the tenth dorsal to the second lumbar, whereas when a stone is impacted in the kidney it will cause little suffering when the patient is at rest but when he exerts himself or is submitted to sudden jolting, pain is developed in the ninth and tenth dorsal areas. The feeling may only amount to a sense of uneasiness or discomfort, it may be a dull or gnawing pain, it may be very acute at times or may reach to a degree to be described as lacerating torture, accompanied by agonising spasms The suffering may be of short duration, with intervals of complete freedom from pain, or it may be persistent. The less severe pains, as a rule, continue steadily in their course and are located in one place, while the more acute pains are generally remittent and extend over considerable and constantly varying areas. Dull persistent pain in most cases indicates a slow, steady change in the condition and bulk of the renal parenchyma or in the size of the pelvis, as is seen in tuberculous nephritis and in tumours; on the other hand, acute suffering is due to lesions which suddenly interfere with the exit of urine from the pelvis—for example, in calculus, in tuberculous pyelitis, or ureteritis, or in obstruction from the impaction of a blood clot. When the pain is acute it is not always referred to the seat of the disease but may cause spasm of the bladder, pain in the testicle, at the point of the penis, in the hip joint, down the thighs, or the suffering may be limited to the kidney on the opposite side to the one that is the seat of the disease.

This reno-renal reflex pain has been described by Guyon and Thornton and considerable importance has been attached to it by these writers; while, on the other hand, Morris in his recently published book on "Surgical Diseases of the Kidney and Ureter"[1] says: "It is important to know that a stone in one kidney will sometimes excite sympathetic pain and irritation in the other; but this transferred or sympathetic pain is of an aching character, not of a spasmodic or colicky description, is only occasional, and never occurs except as an accompaniment of more severe pain on the affected side. So far as my own experience and researches go, there is not a single case which affords satisfactory evidence of symptoms on one side only being caused by a stone in the kidney of the other side. The presence of a stone in the painless kidney is not proof that the painful opposite organ is not also affected. That the attacks on the painful side have ceased after removing a calculus from the painless kidney is not conclusive; this may be nothing more than a coincidence, due either to the accidental shifting of a calculus in the painful kidney, or to the calculus becoming lodged in some immovable manner. There may be very advanced disease of the kidney on the painful side and a symptomless calculus in the opposite kidney. In a case which has been under my care of late there was a sarcomatous growth in the right kidney with hæmaturia, but an entire absence of pain and tumour on the right side throughout the whole course of the disease; yet intense pain was experienced in the left renal region radiating over the left side only. The inference would have been that this was a typical case of reno-renal reflex pain had not symptoms during the last few weeks of life and a post-mortem examination shown that the left-sided pain was due to a similar new growth involving the left transverse processes and the left side of the bodies of the lower dorsal vertebræ. I consider the doctrine of reno-renal reflex with an absence of pain in the affected kidney as unproved and unsound and if acted upon in practice likely to lead to very serious and dangerous results."

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[1] Surgical Diseases of the Kidney and Ureter, vol. ii., p. 84.

In a communication which I published in the *Glasgow Medical Journal* [2] I tried to show that my experience led me to believe that reno-renal reflex pain is a fact which must be accepted and in proof of my opinion I cited the following cases, one under the care of Mr. A. E. Maylard, a second published by Mr. Edmund Owen, and a third which was under my own care, and in addition to those I have three others which demonstrated beyond doubt that reno-renal reflex pain is a fact which must be accepted. The following is from the article in the *Glasgow Medical Journal*:—

W. I., æt. 58, consulted me on the 25th May, 1899, with a history of dull pains in the left lumbar region during the last seven years and of acute attacks of renal colic at intervals of from two to three months. These attacks were usually brought on by active exercise or by driving and were accompanied or succeeded by hæmaturia, which usually lasted for some days after the pain passed away. The patient was sent into the "Central Home" for examination during one of these attacks and on exploration with the cystoscope blood was seen to flow from the *right ureter only*. This was observed on several occasions. I therefore advised exploration of the right kidney but the patient was so convinced that the disease was on the left side that he would not consent to an operation being done.

Mr. A. E. Maylard has kindly given me the following account of a somewhat similar case which came under his observation:—

D. M., aged 38, had complained for six months of a "nagging" sort of pain in the right iliac region which seemed to him to pass upwards and lodge in his right lumbar region where it produced a dull, sickening sensation. It would linger there for 24 hours, causing him during the time to vomit and making him at the end of the attack feel very weak. He had four bad attacks of acute iliac and lumbar pain. Immediately after one of these attacks the urine was found to contain a quantity of albumin, red blood cells, but no tube-casts. In the course of a few days the urine returned to the normal. Frequency of micturition was never a symptom.

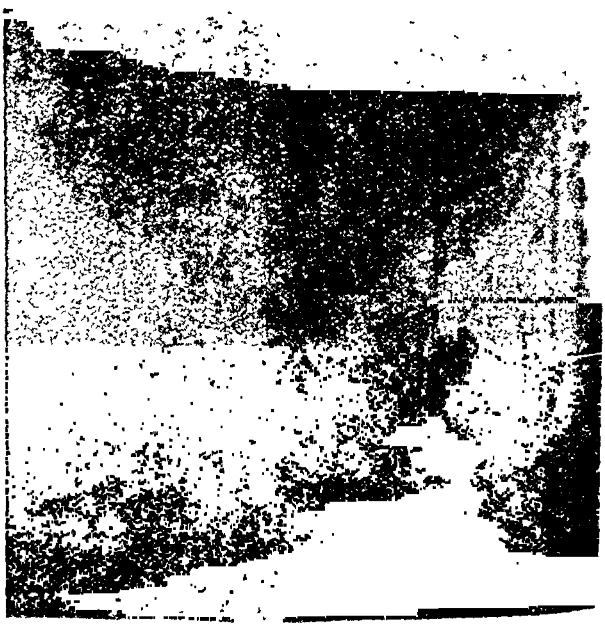
Believing the case to be one of renal or ureteral calculus on the right side the kidney was explored and a ureteral catheter passed from the pelvis of the kidney. Nothing was, however, detected. The patient had complete suppression of urine after the operation which continued till his death on the fourth day.

The kidneys, examined after death, showed the right one—previously explored by operation—to be healthy and the left to contain a calculus about the size of a pea in one of the upper calyces (March 6th, 1901).

A very interesting case is reported by Mr. Edmund Owen (*British Medical Journal*, June 8th, 1901, p. 1385), in which the pain was limited to the right side. The right kidney was explored with a negative result and at a subsequent operation a large phosphate calculus (400 grains) was removed from the left kidney. Commenting upon the case the author remarks: "I am well aware that it is not a very unusual occurrence for a surgeon to operate upon the wrong kidney in his search for a stone; but I do not think that a more conspicuous instance than this of [illegible] jective symptom of *pain* in renal cal[illegible]. Subjective signs are [illegible] range of surgery; but in the [illegible] kidneys which have drawn their nerves blindfold from the epigastric pool it is small wonder if, in the absence of objective signs, patient and surgeon are sometimes led by them to make mistakes."

CASE 1. *Pain [illegible]ulating renal colic on the left side of five years' [illegible]ion, other symptoms and signs pointing to calculu[illegible] the right kidney; stone removed from the right [illegible].*—A woman, aged 25 years, consulted me in [illegible]0, complaining of severe pain in the left [illegible]gion which had been present more or less since [illegible] The attacks of renal colic lasted, as a rule, from [illegible] to nine hours and were associated with suppression of urine. In the more prolonged attacks the pain extended over the whole abdomen and back, but the area of greatest intensity was in the left lumbar region. The pain generally subsided suddenly and was followed [illegible]ious excretion of dilute urine. Physical examination [illegible] abdomen was difficult on account of the [illegible] unusually stout for her age and muscular [illegible] very marked during an attack of colic, but [illegible] the attacks nor in the intervals could [illegible]ng be detected and pressure over the two organs failed to reveal greater tenderness over the one than over the other. Prior to consulting me the patient sought advice from a surgeon in London who came to the conclusion that she was suffering from a calculus in the left kidney and advised an operation for its removal. At the onset of the illness the attacks of renal colic seldom occurred oftener than once in two or three months, but by midsummer, 1902, she was seldom free from gnawing pain in the lumbar region and the attacks of renal colic were more frequent, sometimes as often as once a week, and associated with occasional hæmaturiæ. In the intervals between the attacks no abnormal constituent could be found in the urine with the exception of occasional slight deposits of pus, but during the attacks of hæmaturia blood was found to escape from the right ureter only. No tubercle bacilli could be found. Cystoscopic examination revealed nothing abnormal in the bladder with the exception that the mucous membrane around the right ureteral orifice was unduly injected and the lips of the orifice were ragged and projecting into the bladder. A ureter catheter was passed and also an examination was made by sounding the ureters with a resonator probe. Neither from the catheterisation nor from the sounding was any definite information acquired but the cystoscope showed the kidney from which the blood was flowing. While the pain pointed to the presence of a stone in the left kidney the appearance of the bladder and the circumstance that blood flowed from the right ureter only indicated the disease to be on the right side. Repeated endeavours were made to detect the presence of a stone in the right kidney by means of Roentgen ray photography and after four futile attempts a successful photograph was obtained[3] (Fig. 1). On Sept. 3rd, 1902, I performed a nephrolithotomy on the right kidney and removed a stone of about the size of a marble from the pelvis. The kidney was situated unusually high up and hence considerable difficulty was experienced in extracting the stone. The patient made a good recovery and since the operation there has been no recurrence of pain in either renal region, nor has there been any hæmaturia.

FIG. 1.



Reduced x-ray photograph from Case I. The arrow points to the shadow of the calculus.

CASE 2. *Symptoms of renal calculus on the right side of over 18 months' duration; x rays detected stones in the left kidney which were removed; disappearance of pain on the right side.*—The following note I received from Dr. Thomas Colvin:—

A married man, aged 33 years, first consulted me in April, 1902, in regard to an aching sensation across the lumbar region and over both

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[2] [illegible] Journal, vol. lvi., No. 2, p. 103.

[3] The Roentgen-ray photographs were done by Mr. J. Trotter, 28, Gordon-street, Glasgow.

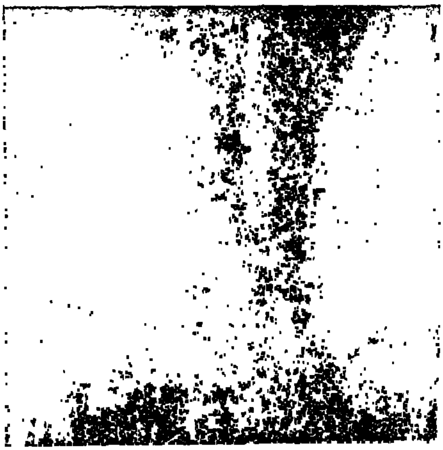
[illegible] n nor did his urine seem to [illegible] ntity. He was daily at his [illegible] ing over the region described [illegible] an actual pain. On examination I found his temperature and pulse normal. The urine to the naked eye did not suggest hæmaturia or pyuria but on testing it was found to contain a small quantity of albumin. My diagnosis was subacute nephritis and I prescribed rest and the usual routine treatment for that complaint. He made a good recovery although a trace of albumin was present in his urine when he returned to business again. A year later, in April, 1903, he again consulted me and this time he complained of pain across the lumbar region and especially in the right loin. There was not the shadow of a doubt of the pain at this time being on the right side and not on the left side. [illegible] mination was made. The question was now raised of a renal calculus on the right side, and an operation was even hinted at, but as the patient seemed to improve rapidly with absolute rest in bed, a milk dietary, and diuretics and was most anxious to return to business nothing further was done. Two months later, on June 2nd, he sent for me hurriedly one morning and said that several times during the previous night he had had acute attacks of pain on the right side over his right kidney and shooting down towards his right testicle. According to his description of these attacks they suggested to my mind renal colic, although not of such an agonising character as is often seen. His urine again contained blood. I then told him that there was no doubt that he had a calculus or calculi in the right kidney and insisted on his seeing Dr. Newman in regard to an operation. He consulted him a few days later and an operation on the right side was recommended. The patient had fortunately for himself as the sequel showed, a strong objection to operative interference, so he sought the waters of Harrogate in the hope of a cure. Whilst there he consulted a physician in Harrogate who also recommended an operation on the right side. On the advice of a friend he went to London and consulted a surgeon who wrote to me that my patient had most probably right pyelitis due to calculi and he recommended operation on the right side. It is only fair to say here that the patient told the consultant that he had been cystoscopically examined and skiagraphed with no definite result. The remaining history of the case will be related by Dr. Newman. I have only to add that the case was a most instructive one to me [illegible] deeply impressed on my min[illegible] renal diagnosis. I am firmly [illegible] to any medical man with the symptoms I have mentioned his advice would have been to operate on the right side. There was only one other point. Was the right kidney normal? To that question my [illegible] on [illegible] was [illegible] dis[illegible] hall [illegible]

When I was asked to see the patient on May 4th, 1903, I came to the conclusion that he was suffering from a calculus in the right kidney but to confirm the diagnosis I had an x-ray photograph taken and on the 11th I examined the bladder with the cystoscope. From neither of those observations was any benefit derived. The bladder was strictly healthy and there was nothing remarkable about the appearance of the orifice of either ureter and the photograph failed to show any distinct shadow of a calculus. On August 7th three photographs were taken and in one of them there was a faint indication of a shadow corresponding to the position of the pelvis of the left kidney, but as this was indistinct no reliance was placed upon it. Again on Oct. 12th other three photographs were taken and in two of them the same shadow was found (Fig. 2). This pointed clearly to the presence of a calculus and notwithstanding the predominance of pain upon the right side I concluded that the stone was in the left kidney. At this time there was some pus in the urine and on making a cystoscopic examination I found that it proceeded from the left kidney. This corroborated the view of the position of the calculus. On Oct. 17th I explored the left kidney and found two stones, each weighing about two drachms. The patient made a good recovery, as indicated in Dr. Colvin's report.

CASE 3. *Pyonephrosis limited to the right kidney; pus and albumin in the urine; pain most marked in left lumbar region; nephrotomy; cure.*—A man, aged 26 years, consulted me first in July, 1898. He then complained of pain across the back and extending downwards to the crest of the ilium. The history of the case showed that the first departure from health was noticed two and a half years previously. At first the pain was generally distributed over the lumbar regions on both sides. As the disease advanced the pain was most marked in the region of the left kidney and frequently limited to that part. The patient was admitted to the Central Home where on examination I found that on palpation there was a distinct enlargement of the right kidney while the left kidney could hardly be felt. On admission the patient complained of frequent micturition; the urine was copious, pale in colour, contained a considerable deposit of pus, the reaction was acid, and the specific gravity was 1010, but no blood had ever been observed nor had he passed gravel or stones. A cystoscopic examination showed the pus to be escaping from the right ureter only and this was confirmed by two subsequent examinations. The patient was advised to have an operation performed but he preferred to wait and to test the effect of complete rest and medicinal treatment for three months. In November I saw the patient again and he then told me that little benefit had been derived from the treatment prescribed and he was now anxious to have an operation performed. During the last three months the pain was almost always referred to the left renal region but as the patient was convinced by the swelling on the right side that it was the right kidney that was diseased he consented to have an exploratory incision made. On Nov. 15th I incised the kidney and evacuated ten ounces of pus but no stone was found. The patient made a good recovery and when I heard from him last from Cape Town, South Africa, he reported that there was no recurrence of the pain and that the pus had disappeared from the urine entirely (October, 1902).

Glasgow.

FIG. 2.



Reduced x-ray photograph from Case 2 The arrow points to the shadow of the calculi.

ON SOME FORMS OF PSEUDO-APPENDICITIS (ENTERO-TYPHLO-COLITIS.—INTESTINAL LITHIASIS).

BY DR. BOTTENTUIT,
CONSULTING PHYSICIAN AT PLOMBIÈRES.

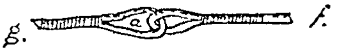
THE frequent occurrence of appendicitis and the consternation it causes both to physician and patient has led Mr. A. H Tubby to remark that as soon as a subject is seized with pain in the right abdominal region "it might be safely said that their brain is no longer in their cranial cavity but in the right iliac fossa, for so fixed is their attention on that region that every ache and pain there, any delayed action of the bowels, prompts them to expect an attack of appendicitis and to make their lives a burden to themselves and others." This prejudice has seized upon the medical faculty. For a long time appendicitis has been overlooked. How often has it been mistaken for hepatic or nephritic colic, salpingitis, &c.? It is necessary to dispel this fascination for McBurney's spot. To me it appears of [illegible] my patient's health. The first of these causes is the most important, for in many cases the degree of tension is a matter over which the surgeon has but little control; wounds the edges of which *must* be brought together can at times only be dealt with by the use of such tension as is incompatible with the life of the area of tissue involved. Thus, in a case of radical operation for the cure of an umbilical hernia where a considerable amount of tissue has been removed, each deep stitch will have between the two stitch-holes and the incision two small areas of anæmic tissue, triangular in shape, which will gradually undergo necrotic change, the stitch becoming loose as a consequence. It is easily seen, therefore, that at the end of a week or ten days the deep stitches are no longer of any service—indeed, they but serve by their irritating presence to prevent the healthy absorption of this small necrotic area and to add to the chances of sinus formation, especially when such materials as silk or salmon gut are used. Where edges come together easily and without tension such trouble may never arise unless the stitch becomes secondarily infected through the patient's own blood stream. The second cause has reference chiefly to the "mattress" suture, than which I believe there are few things in the way of a suture more detrimental to the deeper tissues of the body where tension has to be considered. This is well shown in the skin if we take the amputated breast as an example, for even where the greatest tension is necessary to bring the margins into apposition sloughing is rarely extensive or serious if a simple straight suture is employed, but when the "mattress" suture is used one frequently sees the square areas included in the stitch sloughing badly, the portion of the stitch lying parallel to the incision having cut off nearly the entire blood-supply. If, then, such suture be applied to the deep tissues the result is the same, but in addition the irritation caused by the continued presence of the buried stitch becomes a potent factor for evil. Of the third cause we know but little; indeed, at times stitches are returned almost as they were introduced without any appreciable change having taken place in the patient's bodily health to account for the occurrence. A case will illustrate this.

In April, 1901, I had occasion to perform an exploratory laparotomy on a woman, aged 50 years, for an obscure mass in the right hypochondriac region. The patient was in perfect health at the time of operation and has remained so ever since. The incision was four inches in length and in the right semilunar line and was closed in three layers, silk being used for the peritoneum and muscular wall, and no tension being caused. The wound healed by primary union throughout and the patient was discharged in three weeks. At the end of 12 months she returned with a small sinus in the scar, from which I removed two silk stitches of the muscular layer. The sinus closed at once and I heard nothing further from the patient till April of this year when she returned with a second sinus, from which I removed the continuous peritoneal suture hardly altered by its two years' incarceration.

The above case appealed to me strongly as one in which an unavoidable cause had been at work, and being one of three cases all much of the same character I turned to the question of removeable deep sutures in search of a remedy, for although there are surgeons who maintain that no stitch sinus ought ever to occur I venture to submit that such an ideal state has not yet been arrived at nor will such be attained till we can close our wounds by some method as yet unknown which requires no suture of any sort. And in the meantime, whether right or wrong in practice, we can obviate a source of great discomfort and much inconvenience, and at times pain to many patients, by the use of a suture which can be removed when its object in the tissues has been accomplished.

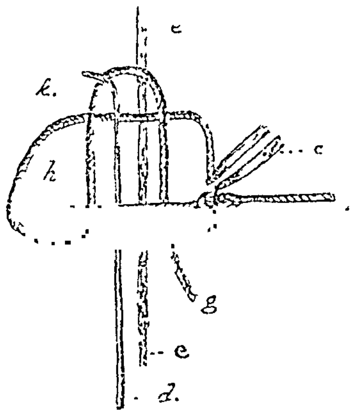
Having tried and abandoned many forms of removeable deep suture and come to the conclusion that none of them answer their purpose in every respect, each having some drawback, I have been led to evolve the following method which I think will be found to give satisfaction, since it combines the chief points of an ideal suture—viz., (1) it is easily applied; (2) it is painlessly and easily removed, no matter how tightly it may have been applied (thus avoiding one of the great drawbacks to sutures which depend on the lock-stitch principle when used in situations where tension is unavoidable; and (3) accurate apposition of the edges of a wound can be assured without the danger of the suture slipping, as is so often the case where the continuous lock stitch is used. The suture itself may consist of any material from fine silver wire to stout silkworm gut, but for cleanliness and ease of application I personally always use the latter, for since it is necessary that removeable deep sutures, no matter by what method they are applied, must emerge on the skin surface, silk, which from the nature of its structure rather favours by capillary attraction the entrance into the wound of micro-organisms, is to be avoided. Such an event should, however, never occur if proper precautions have been observed prior to operation. That my suture has the drawback which pertains to all removeable deep sutures—namely, that it must emerge on the surface of the skin—is inevitable; beyond this, however, it will, I think, be found to be one of the most practical at present described. Two lengths of silkworm gut are joined end to end by very fine loops without the use of knots (Fig. 1).[1] One is the suture (*a g*) and the other is the extractor (*f*). The unlooped end of the former is threaded on a needle in a handle and passed through a good thickness of tissue on each side of the wound *e*; the needle is unthreaded and the end *g* is passed through the loop *a*. The noose thus formed is drawn tight and is caught by the assistant with a fine pair of forceps (*c*) close to the loop *a* (Fig. 2). An aneurysm needle is now threaded and the end *g* being drawn well through the eye the needle is passed beneath the stitch *a*, *b* and then through the loop *h* which is thus formed. The suture being now caught by the finger and thumb at the point *k* (Fig. 3) the needle is withdrawn. By pulling on the loop *k* a knot is made round this loop and round the loop *a* which will hold the suture. The end of a stout piece of silkworm gut (*m*) (Fig. 4) is now passed through the loop *k* which is drawn down upon it gently; this serves to prevent any tendency on the part of the loop to slip during its sojourn in the wound, since it acts the part of a lock suture. As each of the deep sutures is completed this same piece of gut is passed in this manner and so serves for all. The free ends of the extractors (*f*) and of the sutures (*g*) are threaded on a needle, each pair in turn, and are brought through the skin about an inch from the wound and *on the same side of it as that from which the suture was passed*; a knot is made on the extractor to distinguish it, and a split shot is fixed to both. The free ends of the lock suture are brought through the skin beyond each end of the incision and are similarly shotted. The wound is then closed and dressed in the usual manner. When it is considered desirable to remove the deep sutures all that is necessary is to remove one of the shots on the lock suture *m* and to withdraw it. The remaining shots are removed and the ends *g* are each pulled upon in turn till the loop *k* is felt to disengage, after which they are cut off as short as possible by pressing the skin down while

FIG. 1.



Looped ends of extractor and suture.

FIG. 2.



a, Loop in suture. *a*, *b*, Stitch holes. *c*, Forceps holding suture *d*, Needle carrying loop *k*. *e*, Line of incision. *f*, Extractor.

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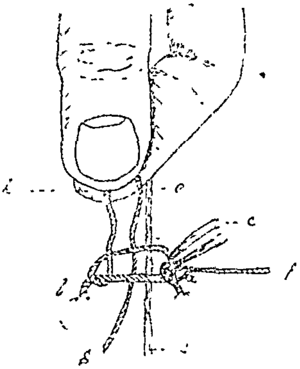
[1] These are made to my directions by Messrs. Down Bros.

the ends are firmly held. It will now be found that when the extractors (*f*) are firmly pulled upon the remaining portion of the suture will come away without difficulty. Should this, however, not be the case the extractor may be left in position for a day or two longer when it will be easily removed. With regard to the peritoneal suture in laparotomy wounds, although trouble may be caused at times, as in the case I have mentioned, such an event is extremely rare when very fine silk or catgut is used. I have not therefore found it necessary to depart from the ordinary form of suture. It is the sutures of the muscular and fascial layers which so commonly cause sinus formation and it is to those that the above method more especially applies. If, however, it is desired to employ a removeable peritoneal suture it may be done by the method devised by Milton[2] which is admirably suited to the purpose. In conclusion, I may say that I have submitted my method to practical test in cases of abdominal section and hernia, both femoral and inguinal, and have found it to answer the purpose well.

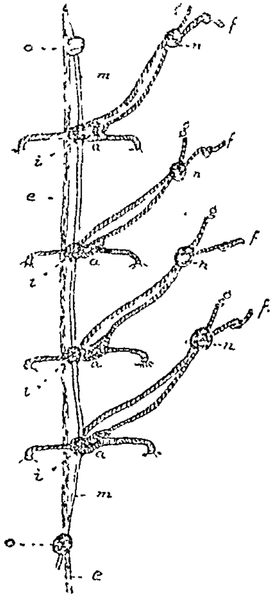
Mansfield street, W.

FIG. 3.



Needle withdrawn. Finger and thumb tightening loop *k*.

FIG. 4.



i, Loop *k* drawn tight on *m* *m*, Salmon-gut lock suture *n*, Shot on *f* and *g*. *o*, Shot on *m*

THE MENTAL STATE IN MYXŒDEMA.

BY H. WOLSELEY-LEWIS, M.D. BRUX., F.R.C.S. ENG.,
SENIOR ASSISTANT MEDICAL OFFICER AT BANSTEAD ASYLUM.

HAVING recently had some cases of myxœdema under my care I have had an opportunity of making the following analysis of their mental state. These patients are commonly sent to asylums as cases of dementia or melancholia. They present, however, few of the characteristics of either condition. Their memory for remote events is generally good and their impairment of memory for recent ones is slight and confined to a period coincident with the duration of their disorder. Their apprehension is fair, their coherence of thought is good, their reasoning power is sound, and their consciousness is clear. What depression they exhibit arises rather from a consciousness of their condition than from any more fundamental affection of the emotions.

It will appear that the essential change in these patients lies in a deficient power of energising their motor cells. They complain that they are languid and tired and tell of the immense effort it is to them to make even the simplest movement. This explains why they sit expressionless and in the same attitude for hours like an artist's lay figure. While, their perceptive faculties are fairly acute and enable them to gauge their relations with the world with considerable accuracy, their power of giving out their ideas to the world is minimised almost to extinction. Perception is usually good but there is no doubt that they do suffer from illusions and hallucinations at times. These abnormal perceptions are not a prominent symptom and are often of the kind known as "pseudo-hallucinations"—that is, they are not objectively very real but are simply a vivid re-perception of a "memory image." One patient thought that she heard her dead husband's voice; this, however, she explained, must really have been the voice of the man in the next room because she noticed that she never fancied such a thing when he was *away at his work, thereby showing her powers of observation* and reasoning. Another patient, thinking much about her husband to whom she was attached, would sometimes seem to hear his voice Consciousness seems to be clear as a rule. Patients recognise their disability and are worried by it. This accounts for their occasional irritability and perhaps for the rare attacks of spitefulness and even violence that have been noticed. They are anxious to do their work and may be depressed because they cannot rouse themselves to do it. Apprehension is impaired to the extent that those memory associations which are required to complete any percept need a more powerful stimulus to bring them into consciousness Hence spontaneous attention, or the instinctive selection of some stimuli in preference to others, is defective, although voluntary attention or the concentration on certain stimuli by an effort of will is good. A patient declares that, while she will sit staring vacantly before her thinking of nothing properly, she is able by an effort of will to follow some particular train of thought with as much lucidity as ever. With some stuporous cases of *insanity*, if one suddenly shouts in the ear there is no indication that they perceive the unusual stimulus, but in myxœdema it is found that the patient has been mentally "startled" though he may give little or no expression to the fact.

Memory as regards retentiveness is good but the impressibility of memory during the myxœdematous state is diminished. Hence these patients do not recall many smaller events which occur while they are in this condition but can recall with accuracy those larger events of which they took full cognisance at the time. A patient was able to give me many details of things happening some years ago and to recite with much circumstance events occurring since her recovery, but her recollection of the time during which she was ill was imperfect. Some writers state that myxœdema extending over some time leads to a permanent dementia. I have had two patients, both of whom had a relapse of the disease due to ceasing to take thyroid extract, who exhibited little dementia after recovering a second time, though the whole disease extended in one case over seven years.

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[2] THE LANCET, June 6th, 1903, p. 1585.

Ideation and the formation of concepts do not appear to be diminished and the association of ideas seems to be good. There is a retardation of thought and the elaboration of an idea is difficult but complete. These patients are coherent and their speech, though slow, is to the point. In a recovering patient one of the earlier signs of improvement was that she began to read novels and she now assures me that she could picture to herself the scenes described therein as well as ever and that she found no difficulty in the understanding and amplifying of such abstract ideas as "speed" and "thought."

Judgment and reasoning power are not defective and once aroused to attention the myxœdematous subject can give a very sound opinion. Thus, I asked a patient, Would you prefer working half an hour every day in the week for 1*d* a day or four hours on one day for 7*d.* and why? She answered that she would work half an hour on each day because she would then gain 7*d.* for three and a half hours' work. It took her five minutes to answer this question but she told me that she had made up her mind long before that but could not get the answer out. On inquiry she explained that she felt the answer "on the tip of her tongue" but failed to voice it. As far as I have observed these patients have no definite delusions but they are inclined to be suspicious. The capacity for work is diminished and they are conscious that their mental processes are less facile and that they readily tire. They cannot follow an argument closely for long and have to put down the book they are reading sooner than when they are well. These patients neither laugh nor cry and any sign of emotion is rare with them. Their affective state, however, is not one of indifference, the maternal instinct is strong, and they usually retain their consideration for others and affection for their relatives. Their sensitiveness is not decreased, for one of my patients having almost entirely lost her hair I chaffed her good-humouredly about it; this I afterwards found she had felt acutely and when she recovered was able to recall the feeling of shame which had suffered. Their moral sense is in no way blunted. h these patients are often described as melancholiacs , do not appear to be more depressed than is natural as the result of the consciousness of their condition.

It is essentially in disturbances of volition and action that the peculiar mental symptoms of this condition manifest themselves. A diminution of volitional impulse produces that lack of initiative, that striking immobility of face and body so characteristic of the disease. To originate even the simplest movement requires a very special exercise of the will. An external stimulus to produce a movement must be unusually strong. It is at the commencement of action that the block occurs and noticeably when once action has begun it flows more easily. The execution of the movement itself is slower than usual. Patients describe the tremendous difficulty they had, not in perception or understanding but in action. A loud command elicits a quite inadequate response though their appreciation of the order seems in no way diminished. It is noticeable that these patients are always more "tired" in the morning than in the evening. One tells me that if "a neighbour popped in to see her" it did her good, because at first she could hardly answer a word but after a time found she conversed more easily. Another was asked to get up from her chair, to walk to the end of the ward, to sit down on another chair, and to return (the whole manœuvre in a healthy person taking 30 seconds). It took her three minutes to do this, half the time being occupied in getting up from her chair, so that one wondered whether she had understood the request; she informed me afterwards, however, that she had the greatest difficulty in making a start but that once on the move she could get along fairly easily. To make a simple statement, "Yes" or "No," took a patient five seconds but she always answered correctly; to make a complicated movement such as "clasping the hands behind the back' took 45 seconds. Under treatment these times gradually shortened coequally with quickening of the pulse and rising of the temperature. On admission it took a patient five seconds to say what part of her face I touched; after 14 days' treatment it took her two seconds. I have not found that, apart from their slowness, the movements made were particularly clumsy, these patients when getting better often writing and sewing nicely. I noted in one patient that the knee-jerk, though well marked, was delayed and the contraction of the quadriceps extensor was prolonged.

I submit then that the changes in the mental condition of those suffering from myxœdema are almost confined to the sphere of action. It seems necessary to suppose that either some toxin in the plasma surrounding the motor cells inhibits the chemical processes which originate a motor impulse or that the absence of some substance from the blood interferes with the discharge. This toxin is neutralised or this essential substance is supplied by the administration of thyroid extract; the patients get well and keep so as long as they continue to take thyroid. I have observed that the simultaneous exhibition of syrupus ferri iodidi appears to assist its action. We see this class of patients described by such terms as dull, listless, apathetic, taking a long time to comprehend and to answer questions, of sluggish ideation, of sluggish mentation, demented, depressed, moping, lethargic, suspicious, of impaired memory, sleepy, torpid, contented, and irritable. I suggest that this proves on careful inquiry to be but part of the truth and that the majority of these cases are sent to an asylum in error and could be as well treated outside one.

Banstead.

A CASE OF ULCERATIVE COLITIS IN WHICH A LEFT INGUINAL COLOTOMY WAS PERFORMED TO CONTROL EXTENSIVE HÆMORRHAGE.

By HENRY BETHAM ROBINSON, M.D., M.S.Lond., F.R.C.S Eng.,

SURGEON TO OUT-PATIENTS AT ST. THOMAS'S HOSPITAL; SURGEON TO THE EAST LONDON HOSPITAL FOR CHILDREN, SHADWELL, ETC.

The following case was operated on by me as long ago as May, 1891, and, death occurring a few days after, I exhibited the diseased colon as a card specimen at the Pathological Society of London and a brief account appears in vol. xlii. of the Transactions, p. 115. As reference to this case by subsequent writers[1] and inquiry by others as to further details have been made to me from time to time, I have thought it desirable to record the case in full. It has been referred to as one of the earliest cases, if not the first, in which the colon has been opened for this ulceration. Mr. A. W. Mayo Robson[2] records a case operated on by him in June, 1891, in which a left inguinal colotomy was performed so as to treat locally the diseased mucous membrane through the artificial anus. Now, in my case the motive was the attempted arrest of a dangerous and exhausting hæmorrhage assumed to have its origin in the sigmoid loop which was tender and unduly palpable. The diagnosis was correct and the purpose was effected, but owing to the feeble condition of the patient he died on the fourth day before there was any opportunity of considering the advantages to be obtained from direct treatment of the ulcerating mucous membrane. This, then, is the explanation why the colon in this case was exposed on the left side, a form of treatment, from the light of our later experience, giving a much lessened chance of effectually dealing with the disease than when the opening is in the neighbourhood of the cæcum.

A man, aged 66 years, was admitted into St. Thomas's Hospital for cataract extraction in the early part of April, 1891. For some months he had been in a state of debility but with no definite symptoms except that about a month before admission he had passed blood per rectum and from time to time had had pain about the left iliac region; he had never been out of England. On admission he was cachectic-looking and his urine was slightly albuminous. About three weeks afterwards (May 2nd) he had diffuse abdominal pain, not very acute, and there was no marked tenderness, except in the

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[1] Hale White and Golding-Bird: Transactions of the Clinical Society of London, vol. xxvii., p 183.

[2] Mayo Robson: Ibid., vol. xxvi., p. 213.

left iliac region, where there was some increased resistance over the line of the colon. There had been constipation for two or three days, so the bowels were relieved by an enema, a well-formed motion being followed by an acute diarrhœa with plenty of mucus and bright blood. The above symptoms were accompanied by vomiting which occurred several times. The free hæmorrhage from the bowel continuing through the day, the condition of the patient became such that it was imperative to do something to stop it. As stated before there were some fulness and increased resistance in the left iliac fossa with tenderness; no actual tumour was to be made out here or elsewhere in the abdomen. These signs with the bright blood pointed to the part of the bowel involved—namely, the sigmoid flexure, and it was evident that some large vessel was opened. The diagnosis rested between malignant disease and ulceration of the colon and the signs in general suggested that it was the latter condition. I decided to open the abdomen in the left inguinal region so as to explore the sigmoid flexure and to control the bleeding spot.

An incision three inches long was made, the muscle was divided, and the parietal peritoneum was fixed to the skin margin. The sigmoid loop was drawn out and the cause of the hæmorrhage was fortunately discovered. There was a large ulcer about two inches by one inch in the long axis of the bowel and along its free edge; the base of the ulcer appeared to be practically only peritoneum. *As it seemed certain that* this ulcer would perforate this segment of the gut was brought up out of the wound and fixed there by passing a glass rod through the mesosigmoid and packing it round with gauze. The bowel was not opened. There was no further pain or hæmorrhage and the patient took his fluid nourishment well. On May 7th in the early morning the *bowel opened spontaneously at the site of the ulcer; during* the day he was not so well, getting gradually more feeble, and he succumbed during the night.

At the post-mortem examination there was found well-marked ulcerative colitis beginning in the cæcum and extending to the lower end of the sigmoid flexure where the changes were most marked. Here the bowel was thickened and contracted, showing many small circular sharply cut ulcers as well as the one large ulcer before mentioned; many of these were evidently of long duration. The rectum was practically healthy. Under the microscope the bowel gave no evidence of malignant disease. Very marked granular contracted kidneys were present.

Upper Wimpole-street, W.

A CASE OF ANEURYSM OF THE AORTA RUPTURING INTO THE PULMONARY ARTERY ASSOCIATED WITH FIBROSIS OF ONE LUNG.

BY FREDERICK J. SMITH, M.D. OXON., F.R.C.P. LOND.,
PHYSICIAN AND PATHOLOGIST TO THE LONDON HOSPITAL.

(*With a Note on the Lung by* Dr. R. N. SALAMAN, *Acting Director of the Pathological Institute, London Hospital.*)

THE following case seems sufficiently rare to merit publication. The patient was a soldier, aged 31 years, sent to me by Dr. Alexander of Bromley on Jan. 26th, 1904, on account of shortness of breath and some swelling of the right side of the neck and face; he also complained of a cough and pain in the back. For the following notes I am indebted to my house physician, Dr. H. E. Ridewood. Of the patient's family history nothing need be said. His personal history was that he had been a soldier for many years in India and had had there gonorrhœa with bubo and gleet but had no recollection of syphilis, though it was obviously possible if not probable. He had malaria in 1895 and recently—up to three or four months previously—had been working as a labourer. He drank moderately. The history of his present illness was that he was well enough up to some three or four months ago, when he began to complain of a cough and of shortness of breath. Both these symptoms had gradually but steadily and progressively got worse; he also complained that they were worse in the morning after lying down and *occasionally had caused a distinct feeling as though he* would choke. On one or two occasions lately they had actually caused a fainting attack. In addition to these symptoms he had (1) a dull aching pain starting from the right side of the root of the neck radiating upwards into the head, worse at night and on coughing; (2) swelling of the right side of the neck, face, and shoulder, which was worse on lying down; and (3) difficulty in swallowing, all three of which had, like the other symptoms, gradually increased in the last three months.

On admission the patient was a thick-set muscular man of
medium height, very obviousl
culty of breathing associated

upper part of the right chest and neck. He was not at all wasted nor cachectic nor, indeed, feeling very ill in himself and had walked up to the hospital and to the ward unaided. His temperature was normal. Examination of his chest gave the following physical signs. Over the swollen area the veins were more obvious to the eye than on the corresponding parts of the left side but they did not pulsate and would not fill from the cardiac side. The swelling itself was doughy but without any pitting on pressure anywhere. He had perceived it himself because he could no longer wear his usual 16½ inch collars. His breathing, which he himself described as shortness of breath, was very typically—so much so that I used him for clinical demonstration of the point—that due to some form of laryngeal obstruction with slight stridor on inspiration, more marked on slight exertion or on lying flat on his back in bed. The cough was dry and brassy in character and the respirations were 40 per minute.

Palpation enabled us to fix the heart's apex beat just above the sixth left rib five inches from the mid-sternal line. The general cardiac impulse was slightly heaving *as though the organ were somewhat hypertrophied.* On percussion the cardiac dulness was practically normal, extending from the apex in a slanting direction inward to the junction of the third rib with the sternum and bounded by the left border of the sternum. There was an area dull to percussion over the first and second right ribs and the intercostal space between them and extending over the upper part of the sternum even to the first intercostal space on the left side. Auscultation of the heart revealed the following condition. *At the apex the sounds were clear and somewhat* exaggerated, at the base the second aortic was slightly

this was, I think, merely a conduction of the tracheal sound; otherwise there was nothing unusual except an occasional rhonchus and a few crepitations at either apex. In view of the post-mortem changes it must be distinctly noted that I could not remember any noticeable difference in the breath sounds on the two sides except *the ordinary normal louder* sounds on the right.

Features external to the chest.—Tracheal tugging was looked for and my house physician thought he could appreciate it but I was unable to do so; he also states that it became more marked in the course of time. The pulse was 84 per minute, of medium tension; the vessel wall was palpable on rolling it under the finger but could not be styled very degenerate. There was no appreciable difference in time or volume between the two radial pulses. The carotids could not be compared owing to the swelling of the neck. The pupils were equal and active for accommodation and to light. There was no paralysis of either vocal cord. To account for the pain in the back nothing could be seen, felt, or heard; an occasional pain down nearly to the wrist on the right arm seemed to own a causation in common with the swelling. The blood, urine, and abdominal organs were all carefully examined but showed nothing pathological. There was some dysphagia which had recently become more marked. The only other point that seems to call for notice was one which Dr. Alexander communicated to me but which I did not notice in hospital, that the left side of the face would swell if he lay on his left side.

The patient was treated with morphine, iodide of potassium, &c., but the treatment presents no features of interest except that he may be said to have improved somewhat. On Feb. 3rd, 1904, he seemed as well as usual. On the 4th he asked for the nightstool but did not use it, for he was at this moment seized with an attack of coughing and then suddenly complained of an acute
cardiac region, his face and lips became

pulse at the wrist disappeared, his respirations became rapid, from 60 to 70 per minute, and the stridor mentioned earlier disappeared. Dr. Ridewood was opportunely in the ward and saw him at once; he noticed the above points and naturally thought the aneurysm had ruptured into some natural sac; he examined him as carefully as the condition would allow and noted that there was no sign of fluid in either pleura nor was there any alteration in the pulmonary physical signs. There was no increase in the area of cardiac dulness, the heart was acting regularly and quietly, about 85 per minute, and the sounds were quite clear and well heard, contrasting, as he remarks, strongly with the absence of radial pulse. No bruit was heard, the patient did not vomit, there was no hæmoptysis, in fact, the above points—pallor, rapid breathing, and absent pulse—were the only indications of some accident. He remained for some time without change and then the respirations became of a sighing character and he died as nearly as possible two hours after the pain suddenly seized him.

Necropsy.—Post-mortem examination revealed an aneurysm of the ascending and transverse arch of the aorta of about the size of a small orange which had ruptured into the pulmonary artery; the ruptured aperture was large enough to admit the tip of the little finger and was situated about an inch or rather more from the pulmonary valve well on the heart side of the bifurcation of the pulmonary artery; the edges of the rupture were evidently fresh. This aneurysm showed no laminated clot; it did not involve the aortic valves; these were quite sound as far as ordinary appearance would show; it reached backwards so as to press upon the bifurcation of the trachea, thus explaining the dyspnœa and dysphagia. On the posterior surface of the abdominal aorta was a second aneurysm just opposite the origin of the cœliac axis; this was of about the size of a hen's egg, typically sacculated, and filled with laminated clot; it had eroded the vertebral column, making for itself a nest as it were; this cleared up satisfactorily the pain in the back, though it had given no other indication of its presence. The heart was slightly larger than usual but showed no other pathological condition to the naked eye; the valves were healthy. The spleen weighed 17 ounces and was very adherent to the diaphragm. The liver weighed 74 ounces and was adherent to the diaphragm. The kidneys were practically healthy. Of the lungs, the right was slightly œdematous and showed a small patch of tiny subpleural ecchymoses; these without close scrutiny might have escaped observation and except for them there was not the slightest trace of any unusual ante-mortem changes in the circulation through either lung. This was particularly noticed owing to the nature of the accident that had caused death. The left lung was in a peculiar condition of fibrosis (there was no trace of this in the right one). I am indebted to Dr. Salaman, acting director of the pathological institute of the London Hospital, for the following careful description of it which adds greatly to the interest of the case.

Note by Dr. SALAMAN.—The left lung was firmly adherent to the chest wall; the pleura was thickened, especially along a line corresponding to the necks of the ribs behind. The fibrous tissue of the thickened pleura did not extend into the lung tissue. The bronchial glands were not enlarged and except for some anthracosis were normal. On section the whole lung tissue, although aerated throughout, was found to be uniformly dense and fibrotic; the fibrous tissue was to the naked eye more obvious at the root of the lung and along the track of the bronchi. There was no caseation nor puckered scar anywhere.

Microscopical examination of the tissues at the root as well as of those along the free margin of the lung showed a very definite fibrosis of the alveolar tissue brought about by granulation tissue in the septa and alveolar walls which had spread in from the large collection of older granulation of fibrous tissue accumulated around the bronchi and vessels. In many places, both in sections of the lung at the root and at the free margin, groups of condensed granulation tissue were met in which were numerous large giant cells sometimes surrounded by definite epithelioid cells and sometimes by more dense fibrous tissue. The giant cells were mostly very large and contained some 20 or more peripherally arranged nuclei. Some giant cells were smaller but they also contained a large number of nuclei. 18 preparations were most carefully searched for tubercle bacilli without success. In the younger granulation tissue at the periphery of the older nodules there were very many alveoli inclosed which, although possessing no lumina, still were lined by well-preserved cells whilst occasionally the appearances strongly suggested a new formation of epithelial tubular structures—such an apparent or real formation I have noticed in an undoubted specimen of syphilitic lung disease. In no section was there any sign of caseous degeneration. The blood-vessels, except for the marked periarteritis, were normal.

The result of the macroscopic and microscopic investigation tends to the view that the cirrhosis of the lung is syphilitic in origin; such a change in the lung in acquired syphilis is of the greatest rarity, and it is interesting to note that the condition was present in one lung only. The morbid change is very different from the one observed in congenital syphilis where both lungs are uniformly involved and the cirrhosis is not essentially bronchial or vascular in its distribution.

Note by Dr. SMITH.—Aneurysms of the aorta bursting into the pulmonary artery seem to be very rare. Ziegler mentions the incident as occasionally occurring but I could nowhere find a detailed account of the symptoms arising from it, which must be my excuse for a somewhat prolix account of the present case. Dr. G. Newton Pitt informs me that he has met with a case which lived for three weeks after communication had been established and in which a secondary aneurysm arose in the pulmonary artery. It is to be hoped that he will place the case on record. In my case, judging by the absence of pulse at the wrist, aortic blood pressure must have very rapidly sunk to the level of that in the pulmonary artery and death must have ensued from imperfect distribution of blood to the brain which was rapidly starved. Speculation on this point is more of physiological than clinical interest.

Harley-street, W.

THE TREATMENT OF HYPERTROPHIC PHARYNGITIS AND LARYNGITIS BY THE EMANATIONS FROM THORIUM NITRATE.

BY J. GORDON SHARP, M.D. EDIN.

IN October, 1902, I attended a man, aged 36 years, in an attack of left-sided pleurisy with a small amount of effusion which cleared up in six weeks' time without tapping and caused no subsequent trouble. During this period he had persistent cough and brought up small quantities of white frothy mucus. This was examined by a competent authority on one occasion but no tubercle bacillus could be found. The patient had only lost some four or five pounds in weight Despite the negative bacteriological result the case was suggestive of tubercle. He spoke in a husky tone and complained of "weakness in his voice" when he talked much. This huskiness had existed for ten years, he said, and at the time of its onset he sought advice for the trouble at Guy's Hospital and stated that he was there treated with cod-liver oil emulsion but could give no more definite information on the subject.

As soon as the man was able to come to my house I examined the nose, pharynx, larynx, and neighbouring parts. There was nothing of note wrong in the nose but the soft palate and pillars were studded with yellowish tubercles in size rather less than the dimensions of a pin's head and set in a red mucous membrane. These tubercles were not enlarged lymph follicles but might have passed for the bodies seen in miliary tuberculosis of the pharynx. When the tongue was pulled forward the lingual tonsil was seen to be much hypertrophied. The back wall of the pharynx presented the usual appearances of a chronic inflammation and the epiglottis was red and enlarged. The interarytenoid region was infiltrated with dark red tissue and here also could be seen the same yellow bodies found on the soft palate. No ulcer was detected. The ventricular bands were swollen, extending so far towards the middle line as to prevent the vocal cords being seen. Here also were to be seen one or two yellow tubercles. As may be expected there was a chink between the true cords on account of the interarytenoid swelling. All the parts, including the interior of the larynx, were covered by a whitish, sticky secretion. To come to an exact diagnosis of the pathological condition was a matter of great difficulty.

Although there was absence of pallor and of ulceration I was inclined to look upon it as tuberculous laryngitis of the indurative type. On the other hand, the case presented some of the features of lupus. For a long time I regarded the condition as tuberculous of very slow growth and others who saw the case regarded it in the same light and as such I treated it. However, a lengthened experience of it leads me to the view that it is chronic inflammatory which may at any time take on a tuberculous character. If I am to fit it into a class I shall call the laryngeal affection hypertrophic laryngitis (pachydermia diffusa) although I have difficulty in explaining the presence of the yellow tubercles.

Treatment.—Assuming then that the affection was tuberculous the treatment was (1) general by generous dietary and cod-liver oil, and (2) local by the application of glacial acetic acid to the soft palate, pillars, and the glottis, beginning with a 10 per cent. solution twice a week and gradually increasing to full Pharmacopœial strength in six weeks' time. For two months the full strength acid was applied twice weekly, making a three and a half months' trial of the acid twice a week. During the next three months the full strength acid was applied on six occasions only and at varying intervals of time. Probably had I looked upon it as simply inflammatory applications other than glacial acetic acid might have been employed with greater benefit.

Result of glacial acetic acid treatment.—The yellow tubercles had almost all disappeared from the soft palate and pillars and there was some loss of tissue. The infiltration in the interarytenoid region had become less and the swelling of the ventricular bands had considerably diminished and a partial view of the true cords could be obtained. On the whole there was great improvement, although the condition was far from well. The hypertrophy of the lingual tonsil caused no annoyance and was not treated. The man's general condition was unchanged. There was no chest trouble and he was able to follow his employment but had often to go to bed at night as soon as he had had his supper—in short, he was easily tired out. It looked as if no further benefit could be obtained from the acetic acid and I lost sight of the patient for some months.

Treatment by the emanations from thorium nitrate solution.—On Jan. 23rd, 1904, the patient again called to see me and on examination I found the parts much as I have described and I decided to try the effect of emanations from neutral thorium nitrate soluti [illegible] inhale [illegible] fitted [illegible] and added to it 100 grammes (about three and a half ounces) of neutral thorium nitrate and shook till the salt was dissolved. The man was instructed to inhale for one hour every day and always at the same time of the day and he was told to keep a daily record of any pain or discomfort which he might experience during the exercise. He began on Jan. 24th and inhaled for one hour daily for a month with two or three exceptions when he had to curtail the time or to desist altogether on account of "aching of the throat." On one occasion his report reads: "Throat and chest very sore indeed." Gradually he got accustomed to the treatment and experienced no inconvenience. At the end of a month I examined the parts and found a decided improvement and told him to go on with the inhalations for another fortnight, making six weeks in all. I again examined the pharynx and larynx and the first thing that impressed me was the healthy condition of the back wall of the pharynx. This part had received no direct treatment when the acid was being applied to the palate and glottis To resume, the pharyngeal wall was covered with [illegible] had so far returned to their normal state as to enable me to see the vocal cords. It will be interesting to watch the further progress of this case. I have the impression that tubercle will ultimately develop.

Are the good results due to the emanations from the thorium? To this question I am not going to give a positive answer but I feel encouraged to give the treatment further trial and I hope others will be led to adopt this comparatively new line of therapeutics.

Leeds.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

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THE USE OF MUCOUS MEMBRANE FROM FROG'S MOUTH FOR GRAFTING IN A CASE OF SYMBLEPHARON.

By LESLIE PATON, B.A., M.B CANTAB., F.R.C.S. ENG.,
ASSISTANT OPHTHALMIC SURGEON, ST. MARY'S HOSPITAL.

THE patient, a man, aged 31 years, was admitted into St. Mary's Hospital in June, 1903, suffering from orbital cellulitis. There was marked exophthalmos with great œdema of the lids and surrounding tissues On operation a considerable quantity of pus was let out and the orbital tissues were freely drained by means of four tubes. At the time of operation some of the ocular muscles on the upper and outer parts of the eye were exposed and were seen to be of a dirty brownish colour. The cellulitis subsided uneventfully and in about a month he was discharged from the hospital. At the time of leaving the lid tissues and the conjunctiva were hypertrophied and the lower lid was attached firmly to the eyeball in almost its whole extent, only a space of about three millimetres being free at the outer canthus and about two millimetres from the punctum at the inner angle. At those points a probe could be passed down for a short distance but it could not be passed laterally in either direction. The line of attachment touched the lower margin of the cornea. The lashes seemed to have been destroyed completely. By September the hypertrophy had completely subsided and the upper lid was normal in appearance. Owing to the complete attachment of the lower lid to the eyeball, however, there was very great limitation of movement and there was diplopia in every movement, so that the right eye had to be covered constantly.

The patient was admitted again in September for operation. It was obvious that a large amount of mucous membrane would be necessary to form a conjunctival sac for his lower lid and I came to the conclusion to try whether the membrane from the roof of a frog's mouth would be suitable. Three frogs were used and from these three flaps were prepared, the largest being about two centimetres in length by one centimetre in breadth; the other two, from smaller frogs, were approximately the same breadth but shorter. These were kept in warm sterilised saline solution while the eye was prepared In dissecting the surfaces care was taken to leave any normal conjunctiva attached to the ocular surface. The dissection was carried down until over a centimetre of raw palpebral surface was exposed. To this the larger piece of mucous membrane was attached by four fine silk sutures along the upper margin, the lower margin being left unattached. The other two pieces of mucous membrane were similarly sewn to the fringe of conjunctiva on the ocular surface They were carefully arranged in position and a piece of green protective was pushed in and the eye was closed and bandaged. On the sixth day the protective was taken out and the stitches were removed. All three grafts had taken, the palpebral one and the outer ocular one perfectly, the inner ocular one not quite so well, and at the line of its suture there was a fleshy granulation. The movements of the eye were now free except that on extreme movement outward there was some diplopia.

At the time of writing (March, 1904) the appearance of the eye is almost normal. There is an irregularity of the lower lid margin which, however, is not marked. On pulling down the lower lid at [illegible] cicatricial band passing to the [illegible] three millime [illegible], almost normal in appear- [illegible] the outward movement of [illegible] the right eye to some extent and I propose to do a further slight operation to free that. I believe that frog's skin has been used frequently for skin grafting. The above case shows that where extensive mucous membrane pulse at the wrist disappeared, his respirations became rapid, from 60 to 70 per minute, and the stridor mentioned earlier disappeared. Dr. Ridewood was opportunely in the ward and saw him at once; he noticed the above points and naturally thought the aneurysm had ruptured into some natural sac; he examined him as carefully as the condition would allow and noted that there was no sign of fluid in either pleura nor was there any alteration in the pulmonary physical signs. There was no increase in the area of cardiac dulness, the heart was acting regularly and quietly, about 85 per minute, and the sounds were quite clear and well heard, contrasting, as he remarks, strongly with the absence of radial pulse. No bruit was heard, the patient did not vomit, there was no hæmoptysis, in fact, the above points—pallor, rapid breathing, and absent pulse—were the only indications of some accident. He remained for some time without change and then the respirations became of a sighing character and he died as nearly as possible two hours after the pain suddenly seized him.

Necropsy.—Post-mortem examination revealed an aneurysm of the ascending and transverse arch of the aorta of about the size of a small orange which had ruptured into the pulmonary artery; the ruptured aperture was large enough to admit the tip of the little finger and was situated about an inch or rather more from the pulmonary valve well on the heart side of the bifurcation of the pulmonary artery; the edges of the rupture were evidently fresh. This aneurysm showed no laminated clot; it did not involve the aortic valves; these were quite sound as far as ordinary appearance would show; it reached backwards so as to press upon the bifurcation of the trachea, thus explaining the dyspnœa and dysphagia. On the posterior surface of the abdominal aorta was a second aneurysm just opposite the origin of the cœliac axis; this was of about the size of a hen's egg, typically sacculated, and filled with laminated clot; it had eroded the vertebral column, making for itself a nest as it were; this cleared up satisfactorily the pain in the back, though it had given no other indication of its presence. The heart was slightly larger than usual but showed no other pathological condition to the naked eye; the valves were healthy. The spleen weighed 17 ounces and was very adherent to the diaphragm. The liver weighed 74 ounces and was adherent to the diaphragm. The kidneys were practically healthy. Of the lungs, the right was slightly œdematous and showed a small patch of tiny subpleural ecchymoses; these without close scrutiny might have escaped observation and except for them there was not the slightest trace of any unusual antemortem changes in the circulation through either lung. This was particularly noticed owing to the nature of the accident that had caused death. The left lung was in a peculiar condition of fibrosis (there was no trace of this in the right one). I am indebted to Dr. Salaman, acting director of the pathological institute of the London Hospital, for the following careful description of it which adds greatly to the interest of the case.

Note by Dr. SALAMAN.—The left lung was firmly adherent to the chest wall; the pleura was thickened, especially along a line corresponding to the necks of the ribs behind. The fibrous tissue of the thickened pleura did not extend into the lung tissue. The bronchial glands were not enlarged and except for some anthracosis were normal. On section the whole lung tissue, although aerated throughout, was found to be uniformly dense and fibrotic; the fibrous tissue was to the naked eye more obvious at the root of the lung and along the track of the bronchi. There was no caseation nor puckered scar anywhere.

Microscopical examination of the tissues at the root as well as of those along the free margin of the lung showed a very definite fibrosis of the alveolar tissue brought about by granulation tissue in the septa and alveolar walls which had spread in from the large collection of older granulation of fibrous tissue accumulated around the bronchi and vessels. In many places, both in sections of the lung at the root and at the free margin, groups of condensed granulation tissue were met in which were numerous large giant cells sometimes surrounded by definite epithelioid cells and sometimes by more dense fibrous tissue. The giant cells were mostly very large and contained some 20 or more peripherally arranged nuclei. Some giant cells were smaller but they also contained a large number of nuclei. 28 preparations were most carefully searched for tubercle bacilli without success. In the younger granulation tissue at the periphery of the older nodules there were very many alveoli inclosed which, although possessing no lumina, still were lined by well-preserved cells whilst occasionally the appearances strongly suggested a new formation of epithelial tubular structures—such an apparent or real formation I have noticed in an undoubted specimen of syphilitic lung disease. In no section was there any sign of caseous degeneration. The blood-vessels, except for the marked periarteritis, were normal.

The result of the macroscopic and microscopic investigation tends to the view that the cirrhosis of the lung is syphilitic in origin; such a change in the lung in acquired syphilis is of the greatest rarity, and it is interesting to note that the condition was present in one lung only. The morbid change is very different from the one observed in congenital syphilis where both lungs are uniformly involved and the cirrhosis is not essentially bronchial or vascular in its distribution.

Note by Dr. SMITH.—Aneurysms of the aorta bursting into the pulmonary artery seem to be very rare. Ziegler mentions the incident as occasionally occurring but I could nowhere find a detailed account of the symptoms arising from it, which must be my excuse for a somewhat prolix account of the present case. Dr. G. Newton Pitt informs me that he has met with a case which lived for three weeks after communication had been established and in which a secondary aneurysm arose in the pulmonary artery. It is to be hoped that he will place the case on record. In my case, judging by the absence of pulse at the wrist, aortic blood pressure must have very rapidly sunk to the level of that in the pulmonary artery and death must have ensued from imperfect distribution of blood to the brain which was rapidly starved. Speculation on this point is more of physiological than clinical interest.

Harley-street, W.

THE TREATMENT OF HYPERTROPHIC PHARYNGITIS AND LARYNGITIS BY THE EMANATIONS FROM THORIUM NITRATE.

BY J. GORDON SHARP, M.D. EDIN.

IN October, 1902, I attended a man, aged 36 years, in an attack of left-sided pleurisy with a small amount of effusion which cleared up in six weeks' time without tapping and caused no subsequent trouble. During this period he had persistent cough and brought up small quantities of white frothy mucus. This was examined by a competent authority on one occasion but no tubercle bacillus could be found. The patient had only lost some four or five pounds in weight Despite the negative bacteriological result the case was suggestive of tubercle. He spoke in a husky tone and complained of "weakness in his voice" when he talked much. This huskiness had existed for ten years, he said, and at the time of its onset he sought advice for the trouble at Guy's Hospital and stated that he was there treated with cod-liver oil emulsion but could give no more definite information on the subject.

As soon as the man was able to come to my house I examined the nose, pharynx, larynx, and neighbouring parts. There was nothing of note wrong in the nose but the soft palate and pillars were studded with yellowish tubercles in size rather less than the dimensions of a pin's head and set in a red mucous membrane. These tubercles were not enlarged lymph follicles but might have passed for the bodies seen in miliary tuberculosis of the pharynx. When the tongue was pulled forward the lingual tonsil was seen to be much hypertrophied. The back wall of the pharynx presented the usual appearances of a chronic inflammation and the epiglottis was red and enlarged. The interarytenoid region was infiltrated with dark red tissue and here also could be seen the same yellow bodies found on the soft palate. No ulcer was detected. The ventricular bands were swollen, extending so far towards the middle line as to prevent the vocal cords being seen. Here also were to be seen one or two yellow tubercles. As may be expected there was a chink between the true cords on account of the interarytenoid swelling. All the parts, including the interior of the larynx, were covered by a whitish, sticky secretion. To come to an exact diagnosis of the pathological condition was a matter of great difficulty.

previously. He was not struck but in his haste to get away from the police he was knocked down in the rush and trampled on. He was arrested as a gambler, conveyed to the police station, and as he complained of some abdominal pain he was taken to hospital after a two hours' journey from the New Territory. He was a badly nourished narrow-chested youth, about 90 pounds in weight.

On admission his temperature was normal; the pulse was 120 and good. The abdomen was slightly tympanitic in front and in the flanks; some gurgling was felt on pressure. The patient was put to bed and spent a good night. Lead and opium fomentations were applied to the abdomen. On the following morning his bowels were opened twice with an enema. The temperature was 98·2° F., the pulse was 120 and improved, and as he had not passed urine during the morning ten ounces were drawn off with a catheter. The abdomen still remained tympanitic all over; change of position made no difference.

It was decided to watch the case. There was no shock; the patient was chatting with his neighbours and would have sat up in bed if allowed. Fomentations to the abdomen were continued and the diet consisted of milk, beef-tea, and rice-water. At 8 P.M. the temperature reached 100°, the abdomen was more distended, and the pulse was not improving, so it was decided to make an exploratory incision as it was suspected that the spleen was ruptured. At 9 P.M. Dr. W. V. M. Koch kindly administered chloroform and with the assistance of Mr. J. Bell the abdomen was opened with a two-inch incision midway between the pubes and the umbilicus. A gush of blood followed the opening of the peritoneum and distended coils of small intestine filled the wound. The incision was rapidly prolonged upwards to the left of the umbilicus and the spleen was examined. It was a large one of the malarial type and a rupture was easily felt at the posterior border. The pedicle was ligatured with strong silk and a spleen weighing 2 pounds 3¼ ounces was removed. The peritoneal cavity was quickly cleansed of blood, filled with saline solution, and the abdominal wound was closed. An injection of 15 minims of strychnine was given hypodermically after the operation. The patient passed a good night and appeared to be recovering from shock. Morphine, strychnine, and camphor were given hypodermically at intervals. The temperature was 97° and the pulse was 130. He felt inclined to vomit. At 9 30 P.M. he vomited once, bringing up some brownish "coffee-ground" vomit. The pulse was then 142 and thready and the temperature was 100°. Nutrient enemata were given every six hours and retained. Champagne only was given by the mouth.

On Jan. 24th the temperature was normal and the pulse was 120. The patient conversed with the Chinese ward boys. He vomited frequently during the night, "coffee ground" vomit on each occasion. Towards evening he seemed to be improving rapidly; he only vomited once during the day. He took a little milk by the mouth and retained it. The nutrient enemata were partially returned. The vomit examined microscopically showed altered blood corpuscles and blood pigment. The patient, in spite of steady improvement during the day, gradually sank during the night and died at 10 45 A.M. on the 25th.

Necropsy.—Post mortem examination showed that the pedicle ligature had held well; there was no sign of even commencing peritonitis. The stomach was much distended and full of brown fluid and its mucous membrane was dotted with minute petechiæ, like flea-bites. The contents of the stomach consisted of altered blood and gastric secretion. The intestines and their contents were normal. All the other organs were healthy.

Remarks by MR. LAING.—My reason for recording this case is that it is of interest from both a surgical and medico legal point of view. Undoubtedly the patient's death was due to persistent hæmatemesis following abdominal section. Such cases are undoubtedly rare and a few have, I believe, been recorded, but I am not able just now to quote them in detail. Why petechial hæmorrhage should begin after abdominal section in an otherwise healthy stomach I am unable to determine. No injury was done to that organ when removing the spleen, as it was easily displaced upwards for the purpose. The patient recovered well from the shock of the operation and it was naturally a disappointment to lose such a case from such a cause.

That a man can live with little or no discomfort for 26 hours with a ruptured spleen is of considerable medico-legal interest. Had the police not arrested the patient I daresay he would not have had any medical or surgical attention whatever but would have bolted for his native village and have died in due course. The rupture was one of three inches long, just through the capsule, so that the hæmorrhage was slow but sure. The accompanying tympanites made the diagnosis difficult even here where ruptured spleens are fairly common and have been removed successfully.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

On the Value of a Comparative Examination of the Blood and Urine.—The Bacteriological Findings in a Case of Climatic Bubo.—A Case of Bacillus Pyocyaneus Pyæmia following Ear Disease.

A MEETING of this society was held on April 19th, Dr. E. KLEIN, Vice-President, being in the chair.

Dr. A. E. WRIGHT read a paper on the Comparative Examination of the Blood and Urine. He said that his communication was to illustrate the practical use of a method which he and Dr. J. Newport Kilner had recently described and published in THE LANCET for estimating the amount of salt in the blood and the amount of salt in the urine.[1] He first described the method by which he estimated the quantity of salt in the blood and in the urine. He said that in judging of the efficiency of the kidney there were two points to consider: (1) the capacity of the kidney to eliminate salt from the blood; and (2) the capacity of the kidney to eliminate water from the blood. He had found in a case of urticaria in which there was a considerable quantity of albumin in the urine that the excretory efficiency of the kidney for salt was practically normal and at the same time he found that the coagulation period of the blood was prolonged to five minutes and that the lime salts were diminished. He therefore concluded that the albumin in the urine was due to a serous hæmorrhage into the kidney and not to structural disease of the organ. He pointed out that a diminished quantity of lime salts in the blood produced a diminished coagulability and such a diminution of lime salts was brought about by the introduction of soaps, sour alcohol, sour fruit, and gooseberries, and this accounted for the production of urticaria after the ingestion of these articles. Dr. Wright mentioned the case of a boy with physiological albuminuria in whom the excretory quotient for salt was normal, and he stated that in all cases of renal disease he had found the excretory quotient of salt to be less than normal.

Mr. J. CANTLIE and Dr. R. T. HEWLETT described the Bacteriological Findings in a case of Climatic Bubo. Mr. Cantlie said that the climatic bubo was probably a form of plague or pestis minor. He had seen numerous cases in 1893 and the disease usually appeared before plague and continued during and after that disease had stopped. It attacked the white race in particular. It was a definite disease which ran its course with fever in from three to four weeks. The glands enlarged and had to be excised. They contained several foci of necrosis with but little pus. The disease could not be arrested by early excision of the glands; in fact, it was best to wait for two or three weeks before excising them. Mr. Cantlie distinguished between pestis minor and pestis ambulans, for in the latter the definite plague bacillus could be found. Mr. Cantlie and Dr. Hewlett then described the results of a bacteriological examination of the case of climatic bubo. The patient, who had come from Kolar Goldfields, had a condition of the inguinal glands which was seen by several acquainted with the disease who all agreed that it was one of climatic bubo. A gland was excised and examined. Two species of cocci were obtained (probably micrococcus pyogenes albus and micrococcus cereus albus) and also a minute bacillus. This was somewhat like the plague bacillus but perhaps rather more pointed and about half the size. It stained well by Gram's method but indifferently with the ordinary aniline dyes, with a tendency to polar staining. It was probably feebly motile and did not form spores. On agar it formed an extremely delicate growth, resembling that of the pneumococcus. It grew on gelatin very slowly, forming a white growth without liquefaction. On serum at 37° C. the growth was much more luxuriant, forming colonies like those of the diphtheria bacillus but whiter in colour.

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[1] THE LANCET, April 2nd, 1904, p. 921.

Milk was curdled in three or four days. Glucose was feebly attacked with the formation of a little acid and gas but lactose did not appear to be attacked. Broth became slightly turbid but the major part of the growth sank to the bottom. The bacillus was without action on mice and guinea-pigs and was not agglutinated by the patient's blood. Whether this bacillus had anything to do with the disease or not must be left an open question. The chief interest in connexion with it was that it agreed in its characters very closely with the description of a bacillus isolated by Kitasato in plague.[2]—Dr. Klein said that he hoped on the next occasion that Mr. Cantlie had an opportunity he would examine the glands so as to show how the organism was distributed within them. He said that there was considerable variation in the organism described by Kitasato and it was difficult to conceive how two organisms so essentially different as the plague bacillus and the Kitasato bacillus could be varieties of the plague bacillus.—Dr. W. J. R Simpson said that he had met with a bacillus similar to that described in certain cases and had not infrequently seen the disease in Cape Town. In a cat infected with plague this bacillus was found and the man to whom the cat belonged was also affected with plague but to a mild degree. Exactly the same organism was found in the glands removed. This form of bubo seemed always to occur some time before the onset of true plague.—Dr. Wright said that he did not think that this bacillus should be considered as a variety of the plague bacillus. There was but one plague bacillus. In the present case Mr. Cantlie and Dr. Hewlett had described two forms of micrococcus and this small (Kitasato) bacillus, and it was not proved that the enlargement of the glands was due to this organism. He did not think that there was any evidence that pestis minor could develop into plague.—Dr. W. D'E. Emery said that an organism having similar characters had been obtained from acne and skin lesions and suggested that in the present case it might have had a similar origin.

Dr. T. J. Horder described a case of Bacillus Pyocyaneus Pyæmia following Ear Disease The bacillus pyocyaneus might be pathogenic to man as the partial or sole cause of abscesses, as setting up a form of dysentery, or as (rarely) causing a general infection. The case recorded was one of these last. The patient was a man suffering from otitis media of long duration. He was admitted to hospital for fever, severe headache, and delirium. Diarrhœa set in a week later. There were no signs of cerebral disease. Widal's test was twice negative and there was a leucocytosis of 32,000. Emaciation was very marked. The fever was not high but was continued in type. During the fifth week of the patient's illness paraplegia appeared. Death occurred at the end of this week. At the post mortem examination the brain and the membranes were natural. Green pus was found in both middle ears, in several abscesses in the lungs, and in a large abscess of the spinal meninges. From this pus the bacillus pyocyaneus was grown in pure culture, pathogenic to animals and giving the usual cultural reactions of this organism.—Dr. W. Bulloch said that it was possible that the general infection might have taken place after death from the point of infection in the ears. He had frequently seen spastic paraplegia come on in the course of bacillus pyocyaneus poisoning but he had no explanation of the disease. It was extraordinary that the bacillus pyocyaneus was not more pathogenic to man as it was so markedly pathogenic to animals.—Mr. L. S. Dudgeon said that he had seen two cases of bacillus pyocyaneus infection; in one of the cases he had been able to find the organism in the blood during life.

LIVERPOOL MEDICAL INSTITUTION.

Carcinoma of the Œsophagus: Gastrostomy.—Excision of the Gasserian Ganglion.—The Technique of Aseptic Surgery.

A meeting of this society was held on April 14th, Dr. James Barr the President, being in the chair.

Dr. Philip Nelson related a case of Carcinoma of the Œsophagus which occurred in a woman 50 years of age Difficulty in swallowing had only existed for three months but had rapidly increased. Her voice was hoarse and there had been several attacks of laryngeal spasm. Upon examination there were found to be complete paralysis of the left vocal cord and abductor paralysis of the right cord. An œsophageal bougie became arrested at a point opposite the cricoid cartilage. Gastrostomy was performed by Mr. F T. Paul in June of last year. The patient obtained marked relief from the operation and all went well until January of this year when she died. Subsequent examination showed that the growth had opened into the trachea and the right lung was the seat of a large abscess.

Mr. Damer Harrisson related two cases in which he had removed the Gasserian Ganglion for Paroxysmal Neuralgia. The first case was that of a man, 45 years of age, who for years had suffered from severe neuralgia corresponding to the distribution of the inferior dental and infra-orbital nerves. The inferior dental nerve was exposed in the bony canal and a portion of it was excised; the infra-orbital nerve was exposed and stretched. The operation was followed by complete relief of the symptoms. Some months later, however, there was a return of the neuralgia and Mr. Harrisson, after reflecting the zygoma, exposed and tore through the middle and inferior divisions of the fifth nerve. Pain was relieved for ten months but then returned again. Finally the Gasserian ganglion was excised by Rose's method. This operation was performed seven and a half years ago since then there had been no return of the neuralgia. the second case the neuralgia was confined to the distri tion of the inferior dental nerve which Mr. Harris exposed near the base of the skull and tore throu Marked temporary relief followed, but some months lat owing to a return of the neuralgia, the Gasserian gangl was excised by the same method as in the previous ca This operation was performed in 1896 and the patient been entirely free from pain ever since.

Mr. Paul, in opening a discussion on the Technique Aseptic Surgery, said that the recent changes in the tre ment of wounds did not constitute a revolution like introduction of Listerism but they were unquestionably v important and he thought that there were many advantages discussing the details of their practice. He first dealt w the preparation of the skin of the patient and said that th was a strong tendency amongst surgeons to leave this i portant matter too much to the discretion of the nurses. T hands of the surgeon were next considered. For his own p he employed the permanganate method and was well satisfi with it. Except in septic cases he did not wear rubb gloves but his assistants did. For ligatures and buri sutures he much preferred catgut, prepared according to method he described, to silk and for skin sutures he us silkworm gut. He did not hesitate to employ drainage the form of a glass tube or gauze if there was a reason to expect an accumulation of serum in the woun For dressings he preferred plain sterilised gauze a absorbent wool. In conclusion, he said that while t introduction of Listerism had been the means of savi many lives the introduction of the aseptic method ha been the means of saving much time in the more perfe healing of wounds —Sir William M. Banks said that he ha followed the whole course of antiseptic surgery from 186 when he had learnt its tenets from Professor Lister, until t day and had practised it in every phase of its developmen More and more it was resolving itself into simple bu thorough surgical cleanliness. He deprecated the lavis expenditure upon modern operating theatres and said that h found his operations done in private just as successful a those done in the most elaborately built hospital theatres He boiled everything that came in contact with the woun and for this reason preferred silk to catgut as a ligature. A to skin cleansing, if the skin was well shaved a goo scrubbing with any mild antiseptic was all that wa necessary. He had a strong opinion that aseptic surgery would soon resolve itself into boiling everything that could be boiled and shaving everything that could be shaved.—Mr. W. Thelwall Thomas thought the term aseptic when used as opposed to antiseptic unfortunate; there was no such thing as aseptic surgery in the strict sense of the term for every surgeon used chemical antiseptics for the skin. He was convinced that the deeper parts of the skin were never rendered sterile and was an ardent advocate for the wearing of rubber gloves by the surgeon and his assistants. He considered the question of aerial infection to be a negligible quantity in private practice but in hospital theatres, where septic and clean cases were operated upon, it was a matter for serious consideration, and he strongly approved of the principle of special theatres and wards for septic cases.—Mr. G. P. Newbolt compared the results of 126 consecutive cases of hernia operated upon without and with rubber gloves, the conditions otherwise being the same. In the first series 1 case in 5 suppurated. In the second series suppuration occurred in 1 case in 7.—Mr. GEORGE G. HAMILTON said that he had performed 125 major operations since May last and in only five of these had suppuration occurred.—Mr. F. C. LARKIN, Mr. DAMER HARRISSON, Dr. W. ALEXANDER, Dr. H. BRIGGS, Dr. T. B. GRIMSDALE, Mr. RUSHTON PARKER, Dr. J. E. GEMMELL, and Dr. E. T. DAVIES also took part in the discussion.

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[2] See Twentieth Century Practice of Medicine, vol. xv., p. 331.

ULSTER MEDICAL SOCIETY.—A meeting of this society was held on April 7th, Dr. John Campbell, the President, being in the chair.—Dr. Thomas Houston showed a case of Friedreich's Ataxia.—Dr. W. Calwell read a paper entitled "Some Observations on 193 Cases of Gastric Ulcer." He drew attention to the large number of ulcers relatively to the total number of affections of the stomach, for of 311 cases of diseases of the stomach 193 were ulcers. The probable reasons for such a preponderance were that the terms "indigestion" and "dyspepsia" were now dropped as signifying a substantive disease and were employed as a syndrome of symptoms common to many affections of the stomach. Acute and chronic catarrh, neurosis, and gastric ulcer were the three main affections in early life and of these by far the commonest before the age of 25 years was gastric ulcer. On including those cases of stomach trouble in young women with the signs and symptoms of ulcer, except hæmatemesis, there would be no difficulty in understanding the enormous rise there is during the ages from 15 to 25 years and also the large number of cases of ulcer relatively to the total number of cases of stomach trouble. A chart formed on this basis with the sexes marked independently showed that in the female no cases began *before the age of 13 years; that the line then* rose very rapidly, reaching a maximum from 17 to 19 years and fell as quickly, so that at 25 years of age there were comparatively few in the first onset; after this age cases occurred but in no great numbers. In the male practically no cases occurred before the age of 25 years (only some three were found in a total of 193); after the age of 25 years the curve was much the same as in the female. Thus there would be (1) a developmental type and (2) a post-developmental type. The former closely followed the laws of chlorosis which was confined to the female and the onset of which occurred practically between the ages of 13 and 28 years. Many cases of chronic ulcer were greatly relieved by rest in bed but with immediate return of symptoms on returning to the erect position; this was probably due to adhesions and to the kinking that took place between the first and second, or fixed, portion of the duodenum when the stomach sagged a little on the patient getting up. Sudden onset of hæmorrhage occurred in eight cases with little or no premonitory warning; in one case a small, clear-cut ulcer was discovered over a large blood-vessel. In older patients the question of œsophageal varices should be entertained as well as cirrhosis of the liver. Every girl with dyspeptic symptoms, especially if she were chlorotic, should be promptly treated as suffering from ulcer; she should rest in bed and have milk diet. True dilatation was not often, if ever, met with unless from an organic stenosis; if it were stubborn to ordinary measures nothing was so successful as a gastro-jejunostomy.—Dr. A. Dempsey spoke of the advantage of a powder of magnesia, bismuth, and soda and of, later, oxide of silver in ulcer of the stomach.—Sir William Whitla thought that the pendulum had swung too much in the direction of attributing affections of the stomach to gastric ulcer.—Professor J. A. Lindsay spoke of the value of localised tenderness on abdominal examination as a sign of gastric ulcer. He deprecated hasty surgical interference in stomach affections.—Professor J. W. Byers said that what was wanted now was to follow the lead of the continental practitioners and to get more information as to the chemistry of abnormal digestion.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 31st, Mr. J. H. West Jones, the President, being in the chair.—Mr Edward Skinner showed a large Sarcomatous Tumour, weighing 14 pounds, removed post mortem from the abdomen of a man, aged 28 years, who had been under observation for five months. The tumour first showed itself in the right loin. The patient was also the subject of marked molluscum fibrosum of many years' duration.—Dr. A. J. Hall showed: 1. Two cases of Lupus Erythematosus. One was in a middle-aged married woman associated with tuberculous glands in the neck, pleural effusion, and indefinite signs of pulmonary tubercle; the eruption had improved considerably under salicin internally and previously under large doses of urea the glands had considerably diminished in size. The other was in a child, aged 12 years, with a history of recent rheumatic fever, during which the rash became much worse. 2. Lupus Vulgaris in association with Pulmonary Tuberculosis. The course of events had been tuberculous glands on the right side of the neck in childhood, secondary implication of the skin, and extension to the apex of the right lung. 3. Psoriasis in two sisters, showing marked improvement under thyroid gland alone. 4. A case of Herpetiform Dermatitis or Pemphigus. In favour of the former diagnosis was the multiformity of the eruption; against it was the entire absence of pain. 5. Hysteria in a male; there was complete loss of speech with right hemianæsthesia and slight right paresis. The patient was a single middle-aged man who had a fit in the street. On admission to hospital he was unable to utter a sound of any kind but was conscious and able to write out a full account of himself. On being asked to say "Oh" he was able to place his mouth and lips in the proper position but could not make any sound. In a few days speech gradually returned and the hemianæsthesia disappeared.—Mr. Sinclair White showed the following cases and specimens: 1. Four men whose prostates had been removed suprapubically in 1902. Their ages ranged from 61 to 72 years. All were in excellent health and had completely recovered the power to empty the bladder. 2. A series of specimens of Enlarged Prostates recently removed, including one which showed a very marked so-called middle lobe. 3. Two specimens of Cancer of the Mid-rectum recently removed by the transacral route. In both cases the rectum was slit up along its posterior surface as high as the growth and divided transversely from within outwards at least one inch below the cancer. The diseased segment was then dissected from the surrounding tissues until well clear of the upper limit of the growth when the bowel was again divided transversely. The rectal walls were then pulled down and stitched to the anal margin. He had performed Kraske's operation 18 times with four deaths. 4. One Carcinomatous and Three Myomatous Uteri removed by the abdominal route. All the patients made good recoveries. The entire uterus was removed in each case. Unless the patient was stout he preferred the abdominal to the vaginal route for removing cancerous uteri. 5. A Large Sarcomatous Growth of the Lower End of the Humerus which was removed by disarticulation at the shoulder-joint. The axillary glands were also removed as they had become much enlarged. The patient, a young female, made a rapid recovery. 6. A Partial Resection of the Stomach for a Chronic Ulcer of many years' duration situated in the upper border two inches to the left of the pylorus. The stomach walls were much thickened and indurated about the ulcer and as the patient had for some months been losing flesh rapidly it was feared that it might have become cancerous. A Murphy's button was employed to unite the duodenum to the posterior wall of the stomach. One half of the button was introduced into the stomach which was then completely closed by a double row of continuous sutures; a small opening was then made in the posterior wall of the stomach through which the shank of the button was protruded. The patient made an excellent recovery.—Mr. P. E. Barber read notes of a case of Belladonna Poisoning due to the application of a belladonna plaster to the mamma.

SOCIETY FOR THE STUDY OF INEBRIETY.—A meeting of this society was held on April 12th in the rooms of the Medical Society of London, Dr. Harry Campbell, the President, being in the chair.—Dr. Robert Jones, medical superintendent of the London County Asylum at Claybury read a paper on the Relation of Inebriety to Mental Disease. After a reference to the chemical composition of the various alcohols he described the mental effects produced by ordinary alcohol according to the quantity ingested and said that a tendency to the development of illusions of a visual character and to *delusions of a persecutory nature* was characteristic of the effects of alcohol, as was also the tendency to sudden impulsive movements. He then defined inebriety and divided the class of inebriates into two divisions, the periodic drinker and the more or less constant drinker. The victims of these two classes were of different ages, [illegible] mostly young men who, in t[illegible], were apparently rational [illegible] both to society and to their friends. There undoubtedly was in all inebriates a considerable mental deterioration, as was evidenced by the fact that over 20 per cent. of all the inebriates under treatment in retreats and reformatories were transferred during one year—1902, the last for which there were published statistics from these places—into asylums for the insane. He then gave statistics dealing with the effects of alcohol. He stated that out of the 116,000 cases of insanity at the present time detained in asylums there were probably no less than 11,000 males and 6000 females whose insanity was directly or indirectly caused through drink. He quoted the statistics of the London County Asylums for the ten years 1893–1902 inclusive and stated that during this period 35,916 persons (16,356 males and 19,560 females) had been admitted into these institutions, of whom a proportion of 21 per cent. among the men and 11 per cent. among the women were ascertained to owe their insanity to drink alone, a proportion which accounted for the insanity from this cause of 5727 persons. At Claybury Asylum there had been admitted during the period 1893–1903 inclusive 9544 persons, of whom 1664 (965 males and 699 females) owed their insanity to drink, a proportion of 22·7 per cent. among the males and 13·1 per cent. among the females. He stated that there were over 400 persons at the present time in retreats and reformatories whose detention was caused through inebriety and that this only represented a small proportion of the inebriates in the country, whose presence among the young was most injurious, both directly through their neglect and cruelty towards those for whom they were responsible and indirectly by their evil influence and example. He also referred to the loss to the community from drink through the interference with the working power of the skilled craftsman and the artisan and to the devitalising effect of alcohol on the individual and on the race. His experience of the treatment of "drink cases" in asylums had been a disappointing one as to the actual recovery which took place, for when such patients were discharged they almost invariably relapsed if they tasted alcohol at all and there were only a few who could afterwards go through life without it. The feeling conveyed by alcohol was a stimulation and among the poor it was mistaken for the feeling of nutrition and repletion after a good meal. He believed that there would be less drinking among men if women could be taught how to select food and to cook it properly.

British Gynæcological Society.—A meeting of this society was held on April 14th, Professor John W. Taylor, the President, being in the chair.—Mr. J. Furneaux Jordan read notes of a case of Hydrometra in a woman, aged 63 years, from whom 13 years previously a large ovarian cyst had been removed and who had been operated on five and a half years ago for a pyometra; there was an abscess in the scar of the old wound and the uterus was firmly adherent to the scar; a watery fluid exuded from the abscess cavity when the pus had been discharged. He also read notes and showed the specimens from a case of Double Hydrosalpinx in a woman who for ten years had been subject to attacks of abdominal inflammation.—The President remarked that these cases taken together lent some support to the idea that hydrosalpinx might be a rather late stage of pyosalpinx.—Dr. Frederick Edge showed: (1) A Myoma of the Broad Ligament; (2) a Vesical Calculus formed on a hysterectomy ligature; and (3) a Displaced Spleen simulating a broad ligament cyst and removed from the pelvis on account of torsion of the pedicle and impending gangrene.—Mr. F. Bowreman Jessett read notes of a case of Bilateral Dermoid Ovarian Cysts with torsion of the pedicle of the larger and also notes of a case of Fibroid of the Cervix which was so large as to elevate the bladder to within an inch of the umbilicus and which he had removed without any injury to the bladder.—In the discussion of the specimens Dr. H. Macnaughton-Jones insisted that hydrosalpinx might be quite independent of any pyogenic invasion.—Dr. Bedford Fenwick and Dr. Heywood Smith also spoke.—Dr. T. Arthur Helme read a paper upon the Treatment of Eclampsia by Puncture of the Spinal Canal, with notes of a case successfully treated in this way.—The President said that Dr. Helme's views as to the benefits of lumbar puncture would require to be proved by further trials; the paper was, however, not only interesting but important.—Dr. Macnaughton Jones and Dr. R. H Hodgson concurred in extolling the effects of pilocarpine and Mr. Jordan and Dr. Fenwick as to those of bleeding in arresting the convulsions of eclampsia.—Dr. Helme, in replying, pointed out that he had not attempted to criticise the action of any drugs and gave some details as to the method of puncture, the woman under chloroform being on her left side with her body so bent as to arch the back.—Dr. Macnaughton-Jones then read a paper upon the Dangers of Pessaries which was illustrated by a comprehensive exhibit of various forms of these instruments and by a series of sections of the female pelvis showing the different displacements of the womb with pessaries properly and improperly inserted. He did not by any means reject the use of supports in all cases and particularly praised that of Galabin and the figure-of-8 pessaries made, as recommended by Schultze, to suit individual cases, out of celluloid rings.—On the motion of Dr. Heywood Smith the discussion of the paper was postponed.

Hunterian Society.—A clinical meeting of this society was held on April 13th at the London Institution, the President, Dr. F. J. Smith, being in the chair.—Dr. O. K. Williamson showed a case of Morbus Cordis in a child. A loud diastolic murmur was heard beneath the second left costal cartilage and as the pulse was not collapsing in character Dr. Williamson was inclined to attribute this to pulmonary regurgitation. The great hypertrophy of the heart without sufficient valvular lesions to account for it led him to the belief that there were also pericardial adhesions. The general opinion of the meeting was that the murmur was aortic, as it was heard in the vessels of the neck.—The President showed a case of Exophthalmic Goitre in a man exhibiting the usual signs of tachycardia, tremors, proptosis, and enlarged thyroid.—Mr. H. L. Barnard exhibited a case of a Parenchymatous Goitre in a young girl. He said that if the stridor increased thyroidectomy of one lobe and the isthmus would be advisable.—Dr. W. J. M. Ettles showed a case of a Tumour in the roof of the neck on the right side and congestion of the skin and mucous membranes of the head and neck with greatly dilated venules. There had been small petechiæ on the palate. The large veins of the head and neck had not been engorged, but both retinal veins had been. The tumour was the right lobe of the thyroid probably enlarged by an adenoma, but it did not apparently exert pressure on the trachea or great veins—Dr. Ettles also showed a case of a Cervical Rib springing from the Transverse Process of the Seventh Vertebra on the Left Side in a man. The subclavian artery crossed it and simulated an aneurysm. It produced a fulness in the neck but did not give rise to any symptoms. A skiagram was shown with the case.—Mr. Barnard showed a similar case of a Cervical Rib on the Left Side but in a woman. In this case pains and weakness were complained of in the arm. No surgical interference was recommended.—Mr. Barnard also showed an extensive case of Actinomycosis of the Left Side of the Head and Neck which had been cured by the exhibition of 330 grains of potassium iodide a day and several applications of the x rays. The disease started at the angle of the jaw. It progressed rapidly until the dose of iodide reached 270 grains. About the same time the x rays were tried and the patient commenced to improve and was now practically cured. The cure was rather attributed to the potassium iodide than to the x rays. The ray fungus was found on many occasions.

Medico-Psychological Association of Great Britain and Ireland, Northern and Midland Division.—The spring meeting of this society was held on April 7th, at Scalebor Park, Burley-in Wharfedale, the new asylum erected by the West Riding County Council exclusively for the reception of private patients—Dr. J. R. Gilmour, the medical superintendent, who was in the chair, read a paper on the Value of Saline Injections in Certain Acute Cases of Mental Disease. His method was first to empty the rectum by an ordinary enema and then to inject 15 ounces of a 0·75 per cent. solution of common salt three or four times daily. Improvement in many cases followed, the mental symptoms quietening and the pulse-rate falling. The injection was rarely returned and no bad effects had been observed. The bladder had to be watched. The treatment was most useful in severe delirious cases where the strength was much reduced.—Dr. Eddison expressed the opinion that the improvement was similar to that occurring in the febrile cases in which restlessness and excitement abated when plenty of fluid was given In such cases the nervous system shared largely in the benefit produced by the much needed water.—Dr. James

Middlemass related a case of General Paralysis of the Insane where the symptoms appeared a week after a fall of three or four feet from a ladder. The patient had received compensation under the Workmen's Compensation Act, but this was withdrawn after Dr. Middlemass's opinion as to the cause of the disease was given. His opinion was based upon the following facts: the accident was comparatively slight, causing no loss of consciousness or any symptom of direct brain injury; the symptoms of general paralysis appeared in a pronounced form a week after the accident; and there was a strong presumption of a syphilitic history. The patient died and post mortem no signs of traumatism existed in the brain or skull but the state of the cerebral vessels confirmed the syphilitic theory of the cause of the disease.—Dr. Gilmour related a case where general paralysis followed a blow upon the head but in this instance post mortem, besides the signs of this disease, there was evidence of fracture of the skull and of secondary meningitis.

FORFARSHIRE MEDICAL ASSOCIATION.—A meeting of this society was held in University College, Dundee, on April 8th, Dr. W. Graham Campbell, the Vice-President, being in the chair.—Professor D. MacEwan read notes of Four Abdominal Operations. The first case was one of gangrenous internal strangulated hernia. The patient, a female, aged 56 years, was admitted to the infirmary with a history of five days' vomiting and acute obstruction. The hernia was into the pericæcal pouch. The gangrenous bowel was excised and an end-to-end anastomosis was performed with Murphy's button. The patient's convalescence was uninterrupted. The second case was one of choledochotomy for gall-stones complicated with ruptured gall-bladder. The patient, who was a man, 35 years of age, had for the past ten years been subject to attacks of biliary colic. The first symptom of serious mischief was a severe attack of pain in the epigastrium accompanied by rigors and subsequently high temperature and delirium. A gall-stone was removed from the common bile duct which was then sutured. The patient's condition improved gradually without much trouble and without any fistula resulting. The third case was one of gastrectomy for cancer of the body of the stomach. The patient, who was a female, aged 43 years, was now able to take a very fair quantity of nourishment, five weeks after the operation. The fourth case was one of laparotomy for intestinal obstruction caused by an adherent appendix. The patient was a female, aged 28 years. The appendix was adherent at its *tip to the mesentery and embraced a loop of small intestine*; it was removed in the usual way and the abdomen was sutured. The patient recovered without trouble.—Mr. D. M. Greig and Professor J. A. C. Kynoch discussed the cases.—Dr. R. Cochrane Buist give some Statistical Notes on his hospital experience of Cœliotomy, Abdominal and Vaginal. There were in all 80 abdominal cases, with 16 deaths, and 43 vaginal, with five deaths. Of the *abdominal operations* 21 were upon the ovaries, with two deaths; 14 for tubal conditions, with one death; six for ectopic gestation, with one death; 14 for myoma uteri; 10 for cancer uteri; and four for displacements. 21 cœliotomies were performed for cancer, with seven deaths.

GLASGOW SOUTHERN MEDICAL SOCIETY.—A meeting *of this* society was held on April 14th, Mr. Thomas Richmond, the President, being in the chair.—Dr. J. A. C. Macewen showed a case of Suppurative Mastoiditis with incomplete Sinus Thrombosis upon which he had operated four and a half months before. The patient at the time of being shown to the society was in perfect health. Dr. Macewen read notes of the case from which it was seen that the patient on admission to the Elder Cottage Hospital, Govan, was in a very serious state, exhibiting as he did symptoms of pyogenic sinus thrombosis with encephalitis threatening abscess formation. Symptoms progressed rapidly during the short time that elapsed before the operation was performed, the patient being noticed to be very drowsy and difficult to rouse to answer questions for an hour or so before being operated upon. The radical mastoid operation was performed, the bone being thoroughly cleaned out by the burr; the cavity thus made having been thoroughly disinfected the dura mater covering the temporo-sphenoidal lobe was exposed. It was found to be inflamed and its vessels engorged. The membranes, however, were left intact, it being hoped that this condition might diminish with the removal of the cause. The sigmoid sinus was next exposed and it was found that though not entirely occluded in its lumen the walls of the sinus had almost completely lost their natural elasticity. Nothing further was done to the sinus. The patient made a rapid and perfect recovery. The case proved of interest to the members of the society apart from its surgical bearing, as the patient was the first upon whom a surgical operation was performed in the Elder Cottage Hospital—one of Mrs. Elder's many and noble gifts to Govan.—The case was discussed by Dr. G. H. Edington, Dr. A. Young, and the President, all of whom congratulated Dr. Macewen on the promptitude of his treatment as well as the result of it.—Dr. Macewen replied.—Dr. James Weir then read Notes on Surgical or Traumatic Rheumatism and the Use of Corrigan's Button, which were discussed by Dr. Edington, Dr. M. Dunning, Dr. J. S. McKendrick, Dr. J. C. Howie, and the President.—Dr. Weir replied.

MANCHESTER MEDICAL SOCIETY.—At a meeting of this society held on April 13th Dr. J. S. Bury, the President, gave his *presidential* address *from* the chair.—Dr. C. W. Buckley read a paper entitled "Observations on the Treatment of Neurasthenia." Objective symptoms, he said, must be the chief guide to treatment which came under five heads 1. Relief of the nervous causes; generally it was necessary to send the patient away from home and relatives for a while and preferably to a bracing climate. 2. To search for and to treat any disorders of other systems which might be accessory causes, including errors of refraction, malformations, and disorders of the mouth, nose and nasopharynx, dyspepsia and functional hepatic disorders, moveable kidney and enteroptosis, malformations and disorders of the generative organs, &c. These were all open to treatment but the influence of a neurotic heredity or up bringing could rarely be removed, nor was the increased vulnerability of the nervous system resulting from prolonged or exhausting disease open to direct attack. 3. Disorders of the vaso-motor system were common and important and should be treated by such measures as hydrotherapy, massage, and physical methods of other kinds, but electricity, though appealing to the patient's imagination, was rarely so useful; galvanism of the abdomen was often useful, especially if constipation was present. 4. Abundant nourishment must be supplied to the nervous system and must be carefully chosen so that it might be easily digestible and suited to the needs of the nervous structures. The Weir-Mitchell treatment covered all this ground but it must be rigidly carried out if it was to be successful. 5. Special symptoms, such as headache and *sleeplessness, should be treated as they arose.* Drugs he considered to be of little value.—The following specimens were shown:—1. Mr. A. Wilson: Professor Vernon-Harcourt's new Chloroform Inhaler. 2. Mr. A. H Burgess: (*a*) Sterilised Dressings in Portable Form; and (*b*) Aseptic Caps for Surgeons' use during operations. 3. Dr. R. B. Wild (in the Materia Medica Museum): Specimens of Drugs and Minerals.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 8th, Dr. R. E. Scholefield, the President, being in the chair.—Dr. A. E. Wright opened a discussion on the Treatment of Disease by Animal Extracts and Serums, with Special Reference to Practical Application. The diphtheria anti*toxic serum was*, he said, the only one that could be standardised; as to the others they might contain the poisons instead of the antidote. He quoted (1) very successful results from the use of antistaphylococcic serum in cases of boils, acne, sycosis, and paronychia; and (2) cases of lupus, tuberculous glands, tuberculous cystitis, and peritonitis benefited by the use of tuberculin. The principle of administration was to allow a sufficient time to elapse between the injections to promote the formation of protective substance. Koch's original method gave no time for the patient to respond.—The President gave his experience of 70 cases of lupus at the skin hospital at Prague which he saw when Koch's tuberculin was first used. Great improvement in nearly all the cases was the result.—Dr. F. S. Toogood said that his experience with regard to antitetanic serum *in the last ten years was that* in acute cases all the patients died, with the exception of one in whom he excised the injured part at an early stage. Chronic cases recovered without the serum which got the credit when it was used in these cases.—Mr. J. Prior Purvis instanced cases of hæmoptysis and hæmatemesis much benefited by adrenalin.—Dr. Wright, in [illegible] pains were not uncommon after and to their friends. There undoubtedly was in all inebriates a considerable mental deterioration, as was evidenced by the fact that over 20 per cent. of all the inebriates under treatment in retreats and reformatories were transferred during one year—1902, the last for which there were published statistics from these places—into asylums for the insane. He then gave statistics dealing with the effects of alcohol. He stated that out of the 116,000 cases of insanity at the present time detained in asylums there were probably no less than 11,000 males and 6000 females whose insanity was directly or indirectly caused through drink. He quoted the statistics of the London County Asylums for the ten years 1893–1902 inclusive and stated that during this period 35,916 persons (16,356 males and 19,560 females) had been admitted into these institutions, of whom a proportion of 21 per cent. among the men and 11 per cent. among the women were ascertained to owe their insanity to drink alone, a proportion which accounted for the insanity from this cause of 5727 persons. At Claybury Asylum there had been admitted during the period 1893–1903 inclusive 9544 persons, of whom 1664 (965 males and 699 females) owed their insanity to drink, a proportion of 22·7 per cent. among the males and 13·1 per cent. among the females. He stated that there were over 400 persons at the present time in retreats and reformatories whose detention was caused through inebriety and that this only represented a small proportion of the inebriates in the country, whose presence among the young was most injurious, both directly through their neglect and cruelty towards those for whom they were responsible and indirectly by their evil influence and example. He also referred to the loss to the community from drink through the interference with the working power of the skilled craftsman and the artisan and to the devitalising effect of alcohol on the individual and on the race. His experience of the treatment of "drink cases" in asylums had been a disappointing one as to the actual recovery which took place, for when such patients were discharged they almost invariably relapsed if they tasted alcohol at all and there were only a few who could afterwards go through life without it. The feeling conveyed by alcohol was a stimulation and among the poor it was mistaken for the feeling of nutrition and repletion after a good meal. He believed that there would be less drinking among men if women could be taught how to select food and to cook it properly.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on April 14th, Professor John W. Taylor, the President, being in the chair.—Mr. J. Furneaux Jordan read notes of a case of Hydrometra in a woman, aged 63 years, from whom 13 years previously a large ovarian cyst had been removed and who had been operated on five and a half years ago for a pyometra; there was an abscess in the scar of the old wound and the uterus was firmly adherent to the scar; a watery fluid exuded from the abscess cavity when the pus had been discharged. He also read notes and showed the specimens from a case of Double Hydrosalpinx in a woman who for ten years had been subject to attacks of abdominal inflammation.—The President remarked that these cases taken together lent some support to the idea that hydrosalpinx might be a rather late stage of pyosalpinx.—Dr. Frederick Edge showed: (1) A Myoma of the Broad Ligament; (2) a Vesical Calculus formed on a hysterectomy ligature; and (3) a Displaced Spleen simulating a broad ligament cyst and removed from the pelvis on account of torsion of the pedicle and impending gangrene.—Mr. F. Bowreman Jessett read notes of a case of Bilateral Dermoid Ovarian Cysts with torsion of the pedicle of the larger and also notes of a case of Fibroid of the Cervix which was so large as to elevate the bladder to within an inch of the umbilicus and which he had removed without any injury to the bladder.—In the discussion of the specimens Dr. H. Macnaughton-Jones insisted that hydrosalpinx might be quite independent of any pyogenic invasion.—Dr. Bedford Fenwick and Dr. Heywood Smith also spoke.—Dr. T. Arthur Helme read a paper upon the Treatment of Eclampsia by Puncture of the Spinal Canal, with notes of a case successfully treated in this way.—The President said that Dr. Helme's views as to the benefits of lumbar puncture would require to be proved by further trials; the paper was, however, not only interesting but important.—Dr. Macnaughton-Jones and Dr. R. H Hodgson concurred in extolling the effects of pilocarpine and Mr. Jordan and Dr. Fenwick as to those of bleeding in arresting the convulsions of eclampsia. —Dr. Helme, in replying, pointed out that he had not attempted to criticise the action of any drugs and gave some details as to the method of puncture, the woman under chloroform being on her left side with her body so bent as to arch the back.—Dr. Macnaughton-Jones then read a paper upon the Dangers of Pessaries which was illustrated by a comprehensive exhibit of various forms of these instruments and by a series of sections of the female pelvis showing the different displacements of the womb with pessaries properly and improperly inserted. He did not by any means reject the use of supports in all cases and particularly praised that of Galabin and the figure-of-8 pessaries made, as recommended by Schultze, to suit individual cases, out of celluloid rings.—On the motion of Dr. Heywood Smith the discussion of the paper was postponed.

HUNTERIAN SOCIETY.—A clinical meeting of this society was held on April 13th at the London Institution, the President, Dr. F. J. Smith, being in the chair.—Dr. O. K. Williamson showed a case of Morbus Cordis in a child. A loud diastolic murmur was heard beneath the second left costal cartilage and as the pulse was not collapsing in character Dr. Williamson was inclined to attribute this to pulmonary regurgitation. The great hypertrophy of the heart without sufficient valvular lesions to account for it led him to the belief that there were also pericardial adhesions. The general opinion of the meeting was that the murmur was aortic, as it was heard in the vessels of the neck.—The President showed a case of Exophthalmic Goitre in a man exhibiting the usual signs of tachycardia, tremors, proptosis, and enlarged thyroid.—Mr. H. L. Barnard exhibited a case of a Parenchymatous Goitre in a young girl. He said that if the stridor increased thyroidectomy of one lobe and the isthmus would be advisable.—Dr. W. J. M. Ettles showed a case of a Tumour in the roof of the neck on the right side and congestion of the skin and mucous membranes of the head and neck with greatly dilated venules. There had been small petechiæ on the palate. The large veins of the head and neck had not been engorged, but both retinal veins had been. The tumour was the right lobe of the thyroid probably enlarged by an adenoma, but it did not apparently exert pressure on the trachea or great veins—Dr. Ettles also showed a case of a Cervical Rib springing from the Transverse Process of the Seventh Vertebra on the Left Side in a man. The subclavian artery crossed it and simulated an aneurysm. It produced a fulness in the neck but did not give rise to any symptoms. A skiagram was shown with the case.—Mr. Barnard showed a similar case of a Cervical Rib on the Left Side but in a woman. In this case pains and weakness were complained of in the arm. No surgical interference was recommended.—Mr. Barnard also showed an extensive case of Actinomycosis of the Left Side of the Head and Neck which had been cured by the exhibition of 330 grains of potassium iodide a day and several applications of the x rays. The disease started at the angle of the jaw. It progressed rapidly until the dose of iodide reached 270 grains. About the same time the x rays were tried and the patient commenced to improve and was now practically cured. The cure was rather attributed to the potassium iodide than to the x rays. The ray fungus was found on many occasions.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND, NORTHERN AND MIDLAND DIVISION. —The spring meeting of this society was held on April 7th, at Scalebor Park, Burley-in-Wharfedale, the new asylum erected by the West Riding County Council exclusively for the reception of private patients.—Dr. J. R. Gilmour, the medical superintendent, who was in the chair, read a paper on the Value of Saline Injections in Certain Acute Cases of Mental Disease. His method was first to empty the rectum by an ordinary enema and then to inject 15 ounces of a 0·75 per cent. solution of common salt three or four times daily. Improvement in many cases followed, the mental symptoms quietening and the pulse-rate falling. The injection was rarely returned and no bad effects had been observed. The bladder had to be watched. The treatment was most useful in severe delirious cases where the strength was much reduced.—Dr. Eddison expressed the opinion that the improvement was similar to that occurring in the febrile cases in which restlessness and excitement abated when plenty of fluid was given. In such cases the nervous system shared largely in the benefit produced by the much needed water.—Dr. James witness is frequently placed in a most difficult position when called upon to give evidence when certain symptoms have developed in an individual who has been in a railway accident. The fact that shock alone, or shock combined with slight physical bruising, may cause serious disorders of the nervous system explains the increased proportion of nervous as compared with other affections resulting from accidents, for in accidents of general causation many persons may escape without serious bodily harm, while comparatively few are so fortunate as altogether to evade the severe mental commotion to which such disasters so frequently lead. Unfortunately, some of the cases brought before the courts are of a suspicious character, the alleged symptoms being purposely exaggerated. In the majority, however, traumatic neurasthenia has actually developed and the task of the medical examiner will be no light one. In the first place he has to assure himself that no fraud is being attempted and then he has to convince the court and the jury that functional disorders may be very serious to the individual concerned. The phenomena that may present themselves are well described by Dr. Bailey and a study of his remarks would be of great value to a medical practitioner when preparing his evidence in a case of this nature.

The articles on the medical jurisprudence of life and accident assurance by Dr. J. T. Armstrong will both repay perusal. The medical examiners attached to life assurance offices have frequently very difficult problems presented to them. Dr. Armstrong comments on many points which are likely to arise and, in addition, quotes a large number of cases which have come before the courts in relation to life assurance and this makes his observations very useful not only to the physician but also to the lawyer.

Another contribution to which we may draw attention is that on the Stigmata of Degeneration by Dr. Frederick Peterson. The question of degeneracy in its medico legal relations has come into considerable prominence in recent years owing to the researches of numerous investigators in the rich fields afforded by the asylum, the reformatory, and the prison. Dr. Peterson rightly considered the subject of sufficient importance to accord it a special chapter in this book. An excellent account is given of anatomical, physiological, and psychical stigmata, thus affording a valuable monograph on difficult and but little studied phenomena. The text-book promises to be one of the best in the English language and we look forward with interest to the publication of the second volume.

Blood Immunity and Blood Relationship: a Demonstration of Certain Blood Relationships amongst Animals by means of the Precipitin Test for Blood. By GEORGE H. F. NUTTALL, M A., [illegible] Bacteriology and [illegible] cluding original [illegible] M.A., M.B, D.P.H. Cantab., and T. S. P. STRANGEWAYS, M A, M.R.C.S. London: C J Clay and Sons; Cambridge: University Press. 1904. Pp. xii-444, royal 8vo. Price 15*s.* net.

Dr. G. H. F. Nuttall has performed a signal service to English readers by summarising and augmenting our knowledge on blood immunity and blood relationship in a volume characterised throughout by lucid and judicial treatment of a very complex subject in its practical relations to legal medicine, zoology, and physiology.

During the past five years new methods have yielded information on the chemistry of the blood hitherto impossible of attainment. Methods of investigation originally devised by Bordet and Ehrlich solely because of the theoretical bearing which they promised to have upon some disputed points in the study of immunity have ultimately developed so as to become of eminent practical value to the zoologist, the physiologist, and the medico-legal expert. Bacteriology, and more particularly its specialised following out in relation to the problems of immunity, has, not without justification at times, been subject to much adverse criticism through some of its devotees advancing as facts what others, not so enthusiastic, have rightly held to be mere explanatory hypotheses. But in the particular development of immunity which forms the subject of Dr. Nuttall's treatise medical men have turned the tables on the biologist, the physicist, and the chemist, the results of whose more exact methods have been called in—occasionally rather empirically—to bolster up this or that hypothesis of immunity. The methods so ably expounded, practised, and perfected by Dr. Nuttall have in the hands of purely medical men yielded exact information and assistance of a kind which the physicist, the chemist, and the biologist have been unable to afford to the efforts directed to solve some of the problems inseparably bound up with those albuminous bodies which lie at the basis of life. These methods have demonstrated differences in the albumins which were hitherto unsuspected and incapable of being made evident by the best methods at the disposal of the chemist and the physicist.

The book opens with a clear and succinct account of facts relating to antibodies in general other than the "precipitins." In this *résumé* the facts are naturally regarded in the light of Ehrlich's side-chain theory but the author does not digress into hypothetical discussions. As is well known, Ehrlich, like Metchnikoff and Bouchard before him, seeks to explain the phenomena of immunity as manifestations of modified processes of assimilation. Ehrlich regards his explanation as a purely chemical one in which the antibodies are formed because the cell endeavours to assimilate bodies which it cannot distinguish from true foodstuffs. The cell is compared to a benzene nucleus and, like the latter, is assumed to enter into chemical relations by means of "side chains." This view has found apparent support in the production of antibodies to the albumins which are foodstuffs per os. This is undoubtedly a most ingenious conception but a moment's reflection leads us to doubt if the antibodies are formed solely because the bodies leading to their production are, or simulate, foodstuffs, for the whole series of the carbohydrates which are foodstuffs of equal importance with the albumins, and may therefore legitimately be supposed to unite with side-chains, are incapable of leading to the production of antibodies. Ehrlich's views would be capable of much more ready acceptance if antibodies existed to the carbohydrates. Since they do not do so we are inclined to ask what is the rôle played by the chemical constitutions of the series of substances which lead to the production of antibodies directed against themselves.

We have only one criticism to offer concerning Dr. Nuttall's book and it is in regard to the chapter in explanation of immunity in general. Our criticism is that if the literary and polemical contributions to the discussion of Ehrlich's side-chain theory by Baumgarten, Gruber, Emmerich, and Loew were worthy of mention surely the serious and valuable experimental investigations of Bordet, Buchner, Arrhenius and Madsen, Muir, and many of the pupils of Metchnikoff and Behring were also worthy of mention. For it is perhaps not without significance that among the large following of Ehrlich the names of those whose authority as investigators and pioneers in the fields of immunity is as great as his are not to be found. No doubt Dr. Nuttall wished to avoid too lengthy a discussion. We cannot, however, but regret that he has not taken up a task which he is eminently fitted to perform in an impartial manner.

There is no subject in medical literature so burdened as is immunity with laboratory jargon which means anything or nothing according as the reader is an adherent or an opponent of some particular explanatory hypothesis. Throughout Dr. Nuttall carefully distinguishes facts from explanations and with considerable tact limits his use of technical phrases to terms aptly expressive of what is meant; this of itself is a most valuable feature in such a volume.

It is now known that antibodies are produced for various immunising substances other than the toxins and their allies. In the careful following out of the consequences of immunising with different albuminous bodies it has been ascertained, to put it generally, that each albuminous body—there are, of course, limitations—may lead to the production of an antibody directed against itself. Extensive study has shown that the specificity of these reactions is so rigid that the albuminous constituents of the flesh and blood of one species of animal can by their agency be distinguished from those of another. If the serum or flesh-albumins of one animal be used to immunise another of alien species, the serum of the latter acquires a "precipitin" or precipitating substance, by virtue of which a "precipitum" falls out when the immune serum is brought into contact with the serum used to produce the immunity. The reaction is one obvious to the naked eye and requires no subsequent following out in animal experiment as in the case of toxin and antitoxin, which react with one another in the test-tube without visible accompaniment. This is the broad principle. In its actual carrying out there are many pitfalls which Dr. Nuttall is careful to point out and to show how to avoid. The book is essentially an exposition of the practical bearings of the above facts and of the methods suited to the satisfactory application of the precipitin test in medico-legal, zoological, and physiological investigations. As such it is both successful and interesting.

From the great mass of experiments recorded by Dr. Nuttall and by Mr. Strangeways and Dr. Graham-Smith, who have worked at his instigation at the zoological application of the method, it is with truth stated that "the results speak for themselves and show beyond question that much may be accomplished by the use of the precipitin tests in the study of blood relationships," a study which it has hitherto only been possible to take up from the purely morphological aspect. The zoological application of the "precipitin tests" is based upon the fact that there are gradations in the degree of the specificity of the reactions. This tends to become less marked the more nearly the species of animal are related to one another so that positive reactions are obtained with the serum of animals nearly allied to each other. The "precipitin reactions" are also of sufficient delicacy and constancy to find what is probably their chief practical importance in their application to medico-legal investigations. Their medico-legal value has survived scrutiny in a way which indicates very strongly how potent may be their influence in condemning a murderer to the gallows or in removing suspicion from the innocent. The chapter devoted to the results of the applications which have up to now been made in criminal cases reads like a veritable romance. The test has proved itself useful for the identification of blood, blood stains, meats, bones, and the detection of adulteration of meat and food generally by demonstrating the presence of albuminous bodies which should be absent. It is truly a matter of great moment that a prisoner who may claim that a blood stain has been caused by bullock's or rabbit's blood can have his claim substantiated by a scientific proof of his veracity, and, on occasion, the demonstration that a stain has been produced by human blood may be of equal moment. In this connexion the "precipitin test" must prove a most valuable adjunct to the procedures upon which confidence has hitherto of necessity been placed.

The author points out that this test has already been officially recognised in Germany, Austria, Roumania, and Egypt for medico-legal purposes. In Germany those scientific institutes where the test may be performed in a satisfactory manner are stated in the regulations pertaining to it. Dr. Nuttall is at great pains to point out the difficulties which attach to its proper carrying out and to the necessity for experience in passing a judgment on the results. We fully agree with Dr. Nuttall and while recognising the claims which he puts forward for the "precipitin test" we are most emphatically of the opinion that its carrying out for medico-legal purposes cannot be lightly intrusted to any dabbler in immunity but only to the very few who by experience are aware of the many pitfalls that are almost certain to obscure the issue in less experienced hands.

From the public importance of the "precipitin test" we commend the book in the first instance to the serious consideration of those engaged in medico-legal practice and also to biologists and all medical men as an eminently successful exposition of a very difficult, but very valuable and painstaking, research into the practical and public value of an outcome of the study of immunity. The book is accompanied by an excellent index and by valuable cross references throughout. Finally, we congratulate Dr. Nuttall on the most comprehensive treatise which has appeared on the "precipitins" in English or in any other language.

Diseases of the Eye. By L. Webster Fox, A.M., M.D., Professor of Ophthalmology in the Medico-Chirurgical College of Philadelphia, Pennsylvania. With five Coloured Plates and 296 Illustrations in the text. London: Sidney Appleton. 1904. 8vo, pp. 584. Price 18s net.

The demand for treatises and text-books on the eye must be very great. Is it, as we may piously hope, that there is a genuine desire on the part of students to make themselves acquainted with the pathology and treatment of the diseases of this little organ where so much is patent that in other regions is concealed from view? Is it that its study attracts the anatomist, the physiologist, the pathologist, the surgeon, the physician, and even the mathematician? Or is it due—we blush to ask the question—to the inclusion of ophthalmology in examinations in many different branches of medicine, to the establishment of professorships in universities, and to the great increase in the number of hospitals? Time was, when with Middlemore, or Lawrence, or Mackenzie, the young practitioner could boldly diagnose and treat any case of disease of the eye that might present itself to him. Now, with books around him that lie thick as the leaves in Vallombrosa he must spend many months in mastering the rudiments of ophthalmology; and after all, knowing how rapid is the development of this branch of medicine, when an ophthalmoscopic or refraction case does present itself in his practice, if the patient is one whom he is unwilling to run the risk of losing by an error in diagnosis, he probably thinks it expedient to send him with a note to the specialist in the nearest town.

The author states in the preface that the work is based on an extended experience and that the ordinary and well-known facts of ophthalmology are supplemented by his own views of pathology and methods of treatment. A careful perusal of the treatise leads us to endorse both of these statements. Dr. Fox is evidently familiar with the diseases of the eye, has formed his own opinions, and does not fear to express them. The subjects of refraction and of the motor disturbances of the eye to which American surgeons have paid so much attention are relegated to the end of the volume but the various diseases are discussed in topographical order, commencing with the eyelids and proceeding through the conjunctiva, cornea, sclera, and other tissues to the retina, optic nerve, and orbit. Good cases with drawings show the excellent results obtained from the employment of the x rays in the treatment of infectious ulceration of the eyelids and also in cases of epithelioma and rodent ulcer and in sarcoma of the orbit. It is evident that this mode of treatment of serious forms of disease is gaining ground and unexpected results may be obtained hereafter in cases at present regarded as hopeless.

The treatment of ptosis seems to have attracted the attention of many surgeons and much ingenuity has been expended in devising operations for its relief. Thus Dr. Fox has noted, and briefly described, those of Birnbacher, Everbusch, Ferguson, Gillet, de Grandmont, Gruening, Motais, Mules, Pagenstecher, Panas, Allport, Tansley, Wilder, Wolf, Jessop, Hess, and Komoto, and finally gives his own which consists in drawing down the affected lid until its edge is directly opposite to that of the lower lid and the extent of the redundant fold of skin is ascertained; an incision is then made across the full width of the lid a few lines above its ciliary margin and parallel with it. A second incision is made parallel to this and at a sufficient distance from it to inclose the excess of tissue between them. The flap is then dissected off by scissors and the skin above the upper incision is freed from its underlying attachments. The margins of the wound are approximated and united by interrupted sutures near the free margin of the lid. No scar is said to follow and ectropion is avoided by the undermining of the skin of the lid before suturing it to the ciliary margin. Dr. Fox states that the ultimate results are good and permanent. Nearly as many methods for entropion and ectropion are described.

The author rightly states that in the whole range of ophthalmic surgery nothing gives more trouble and annoyance to the surgeon and more discomfort to the patient than the various forms of obstructed duct. He has himself devised a good form of gold cannula which is adapted for permanent wear. He prefers the use of large-sized probes after the canaliculus has been divided and their retention for the comparatively short period of 15 or 20 minutes. Speaking of onyx, Dr. Fox mentions a remedy, we believe not generally known in this country—cassaripe—which is the inspissated juice of the cassava, which, we presume, is the Jatropha manihot. It is said to be highly antiseptic and at the same time free from irritating qualities. It may be freely rubbed into the conjunctival folds two or more times daily. It is serviceable not only in onyx but in corneal ulcers and infectious inflammations such as purulent ophthalmia. Dr. Fox has an instructive chapter on the best mode of dealing with cases of conical cornea. American patients decline operative procedures such as the application of the actual cautery and the formation of an artificial pupil, but he has obtained good results by placing before the eye black discs with openings of various form (of which illustrations are given) and the use of appropriate glasses to correct errors of refraction.

In the account of the operation for the extraction of cataract the question of the performance of an iridectomy is left open. The author states (which is not, we believe, in accordance with custom in this country) that the pupil should always be dilated one hour before the operation is performed. Great pains are taken to remove all particles of the cortex, the eye is washed with sterile boric acid solution, and if iridectomy has not been performed the pupil is contracted after extraction of the lens with one drop of eserine. Sufficient stress is not laid on the danger attending operations for secondary cataract. Many eyes have been lost by this proceeding. The author airily speaks of incising the cornea with a broad needle and entering the capsule in the vertical direction. De Wecker's scissors are then to be introduced through the corneal opening and the blades separated, one blade passing behind the capsule, and the other horizontally in front. "With one snip the capsule is cut in two." This is all very well but what is to be done when the capsule is tough and the cut made by the scissors does not gape? or if in penetrating the capsule the iris gives signs of being dangerously dragged upon. Dr. Fox has met with no less than five cases of black cataract. He gives an interesting account of the mode of utilising the Roentgen rays in detecting and localising foreign bodies in the eye and describes a very simple and apparently very efficacious instrument which acts as a localiser. In the skiagram showing a bullet located in the skull below and behind the orbit owing to some imperfection in the printing the bullet in our copy appears to be of the size of a six-pound cannon ball.

As a rule the illustrations are sufficiently characteristic of the diseases which they are intended to represent. Exception must, however, be made in the drawing representing Hutchinson's teeth. Corneal opacities, again, are not very favourable subjects for illustration, especially when the cornea is represented by a black circle. The appearances presented are here materially modified by the impression in printing. Again, we doubt whether the illustration on p. 183 would be recognised even by an expert as representing coloboma of the iris. On the other hand, there is a good and original diagram showing the nerve centres that are in relation with the movements of the pupils.

There is a glossary which requires revision. Thus, "abatio retinæ" should be "ablatio retinæ"; "illaquestion" should read "illaqueation"; "ireankistron" should read "iridankistron"; "ceratitis," "ceratocele," and "ceratome" are all better spelled with an initial k, all being derived from κέρας, horn. Should not "pacheablephara" be "pachyblepharon"? In what treatise on the eye that the student or the practitioner is likely to read would he meet with such terms as "marmarygæ," "pladarotes," and "rhytidosis"? The space given to these antiquated terms might have been better occupied by such words as "hemianopsia," "dyslexia," "polycoria," and many others that are in common use. These are, however, but minor blemishes in what is otherwise a well-arranged treatise enriched by many original observations, containing a clear but comprehensive account of the present state of ophthalmology, and in all respects worthy of careful study.

The Medical Annual: a Year-book of Treatment and Practitioner's Index. Bristol: John Wright and Co. London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1904. Pp 852 Price 7*s.* 6*d.* net. Stereoscope 2*s.*

WE have pleasure in welcoming this, the twenty-second, issue of the "Medical Annual." In these days when so much work is being done by members of our profession it is difficult for practitioners to keep themselves abreast with the most recent views of medical subjects without the aid of such works as the one under review. The various departments of medicine are reviewed as in former editions. There is such a wealth of material in the volume that we can only comment on a few of the subjects discussed. In the summary on therapeusis attention is properly directed to helmitol as being a more powerful urinary antiseptic than urotropin; a case of bacteriuria is cited that had resisted treatment for years but was finally cured by this drug in three weeks. The most recent facts on serum therapy are well summarised, whilst with regard to the therapeutic action of the *x* rays in lupus, rodent ulcer, and epithelioma the reader will find a good account of this agent up to date. The same applies to the article on radium. With regard to the infectious fevers, some doubt appears to exist as to the efficacy of adrenalin chloride in intestinal hæmorrhage in enteric fever, the good results that have been obtained by some observers not having resulted invariably. The same remark applies to the treatment of small-pox as regards the keeping of a patient in red light. In the section on pulmonary affections we find that the pathology of asthma receives satisfactory attention. The questions in connexion with pleuritic effusion are considered, whilst the difference of opinion as regards the relationship between human and bovine tuberculosis shows that the matter is not yet definitely settled one way or another. With regard to nervous diseases, some advance has been made in the treatment of epileptic patients, more especially as to their dietetic treatment The diagnostic results of lumbar puncture are seen to be of considerable value and attention is drawn to the value of Lott's hyoscine treatment of the morphia habit.

As regards the treatment of tetanus by antitetanic serum, where the latter is not available Baccelli's method of injection of 2 or 3 per cent. of carbolic acid is to be borne in mind, as good results have been recorded by the Italian physicians. The number of analgesic drugs is shown still to be increasing and in connexion with them we see mentioned the immediate relief of pain claimed by Cordier of Lyons by means of the subcutaneous injection of atmospheric air in sciatica. Out of 25 cases Cordier claims to have cured 23, injections being given once a week for four or five weeks. Other methods of treating this troublesome affection are cited. In the domain of tropical diseases a great advance in the pathology of sleeping sickness has been made owing to the discovery of the relation of trypanosomata to the disease. In connexion with plague we have learnt the heroic dose of carbolic acid that can be tolerated by the human subject. The reader will also find much interesting matter relating to beri-beri, craw-craw, lathyrism, leprosy, malaria, and yellow fever.

The subject of gout has received much attention and here Dr. F. S. Toogood's paper is worthy of consideration. The bacteriology of arthritis and rheumatism would appear not to have been advanced appreciably during the last 12 months. With respect to diseases of the kidneys, a novel departure in the treatment of these affections is seen in the surgical interference recommended both for acute and chronic Bright's disease. In the former it is apparently advocated only when one kidney is affected. In diabetes the relationship of the pancreas to this disease has had further light thrown upon it, whilst non-diabetic glycosuria has been more clearly elucidated. We have no further space in which to notice the good work that has been done in children's diseases, affections of the eye, the nose, and the throat, and other departments of medicine, but mention in conclusion must be made of a new feature in the "Medical Annual" of this year—viz., the provision of a stereoscope for viewing the admirable plates contained in it. This constitutes one of its most valuable features.

Clinical Examination of the Urine and Urinary Diagnosis. By J. BERGEN OGDEN, M.D., late Instructor in Chemistry, Harvard University Medical School; Assistant in Clinical Pathology, Boston City Hospital. Illustrated. Second edition. Thoroughly revised. London, Philadelphia, and New York: W. B. Saunders and Co. 1903. Pp. 418. Price 12*s.* 6*d.*

THE object of this work is to present in as concise a manner as possible the chemistry of the urine and its relationship to physiological processes; the most approved methods of examining the urine for clinical purposes; and the diagnosis of diseases and disturbances of the kidneys and the urinary passages. That Dr. Ogden has succeeded in his endeavours is shown by the fact that a second edition has been found necessary. The first part of the volume describes the constituents of the urine, normal and abnormal, and the processes adopted in chemical and microscopical examinations. In the present edition important changes and additions have been made in the chapters devoted to those subjects in order to make the text complete. The most modern methods for determining urea, uric acid, and the "total nitrogen" have been included. Some remarks have been introduced on the presence of β-oxybutyric acid in the urine and its clinical significance. This substance is met with in large amounts in the urine of patients suffering from the severe forms of diabetes mellitus and in small amounts in scurvy, scarlet fever, and measles. Its occurrence in diabetes would seem to be of serious import as it is probably the cause of the acid intoxication which usually precedes and accompanies diabetic coma. Its isolation is rather difficult. The determination of the freezing point of urine (urinary cryoscopy) which was first studied and used by Bouchard in 1870 and which has received considerable attention from various observers during the past two years is briefly alluded to. The process is a complicated one. The ratio of the freezing point of the urine to the percentage of sodium chloride sometimes furnishes information of some value in the diagnosis of heart disease and chronic nephritis. As Dr. Ogden points out, however, the subject requires further investigation before much practical value can be ascribed to it.

Only minor changes have been made in Part II. which deals with the various morbid conditions which may affect the kidney.

LIBRARY TABLE.

New Poems. By RONALD CAMPBELL MACFIE. London: John Lane. Pp. 134. Price 5*s.* net.—Mr. Macfie is a true poet—that is to say, he has the faculty of what Ruskin called "imagination penetrative." He sings about what for want of a better name we vaguely call natural forces and we cannot call to mind any poet since the days of Lucretius who has done so. Erasmus Darwin, of course, wrote "scientific poetry," but it was neither poetical nor scientific any more than was The Loves of the Triangles, by which Darwin's effusion is now mainly remembered. Mr. Macfie, however, is impressed—as who is not?—by the enormous advances recently made in our knowledge of the nature of atoms and the hypothetical ether and writes very finely in such a passage as this:—

"Beyond the blue, beyond the red
The waves of ether fast and slow,
Against our eyelids vainly beat
Vainly atween our eyelids flow;
And yet to the clairvoyant dead
What various colours they may show!

* * * * * *

Beyond the billows of the air
That brings the sounds of every day,
Ten thousand tiny ripples dance
Ten thousand little currents play
Whereby the dead become aware
What words the silent roses say,

And learn the secrets of a star,
And catch the breathing of the spring
And hear above the scythe of death
The disembodied spirits sing
And God's eternal heart afar,
Like a loud ocean thundering."

There is a striking passage also in the same vein of thought in the poem "To the Queen of England." Mr. Macfie, however, can play deftly in other keys; witness his charming little songs "A Keepsake," "Youth and Age," and "A Rosary." Altogether we think that Mr. Macfie is distinctly in the first rank among our younger singers.

Proposed Sterilisation of Certain Mental and Physical Degenerates. By R. R. RENTOUL, M.D. R.U.I. London: The Walter Scott Publishing Co., Limited. Pp. 26. Price 1*s.* net.—So far as anything explicit can be gleaned from Dr. Rentoul's book two main propositions appear to be advanced in it. One is that it is not advisable to interfere with "Nature's method—that of suicide" for "the care of lunatics," and the other that sufferers from certain diseases "should, if they wish to marry, be sterilised." As to the first of these Dr. Rentoul seems to lack the courage of his convictions, for on p. 11 he says that "no thinking person can advocate a policy of murder. These poor degenerates have a perfect right to live." The second is based upon assumptions relating to heredity which are, to say the least, unproved. No other way of salvation is open because "in the Ten Commandments it has been finally enacted that the faults or sins of parents shall be visited upon the children" and "no science—no human effort—can get behind this." Perhaps, however, this loosely-written pamphlet may not contain the last word on the social problem.

JOURNALS AND MAGAZINES.

The Practitioner.—The April number of this journal deals with a variety of subjects. An article by Dr. R Salusbury Trevor deals with the functions and the pathology of the pancreas—a branch of medical inquiry which becomes of increasing practical importance with the progressive explorations of the abdominal surgeon of to-day. Dr. H. Campbell Thomson reviews recent literature bearing upon cerebral and mental diseases in relation to general medicine, and Mr. H. S. Clogg bases upon 25 cases some pertinent remarks concerning carcinoma of the colon. Not everyone will agree with the details of Dr. P. R. Cooper's recommendations in a plea for aseptic midwifery. His article, however, is a "counsel of perfection," and its principles at least are unexceptionable. Dr. Mott contributes the first of his lectures on Progressive Muscular Atrophy.

Medical Electrology and Radiology—The March and April numbers of this journal may be conveniently mentioned together, several articles being in a serial form. Dr. W. S. Hedley, the editor, in a review of the progress made during 1903 deals with the therapeutic applications of direct heat rays from a luminous source, the light of arc lamps, and light of various colours; he then discusses the conditions determining the permeability of animal tissues to the Roentgen rays, the therapeutic effects of the rays, and the measurement of their quantity and quality. Articles of which instalments appear are: Treatment of Affections of the Gastro-Intestinal Tract by Electrical Methods, by Dr. George A. Herschell; Methods of Application of High-Frequency Currents, by Mr. Clarence A. J. Wright; and Lectures to Medical Practitioners on Physics applied to Medicine, by Sir Oliver Lodge. American news and reports of the meetings of the British Electro-therapeutic Society are given as usual. In the April number there is an account of a fatal shock received in a bath from the water-pipes conveying currents which had escaped from a tramway service.

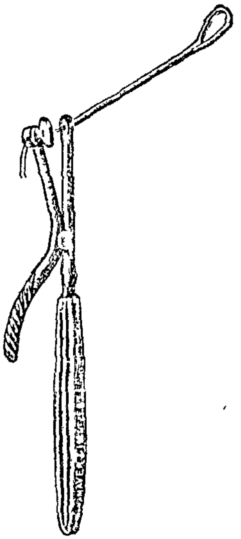
Climate.—In the April number of this journal Dr. C. F. Harford, the editor, writes on Sleeping Sickness and the Trypanosoma. Other articles deal with the Anti-malarial Measures in Ismailia, the Examinations in Tropical Medicine and Hygiene at the University of Cambridge, the Treatment of Ulcers, and various medical and dietetic hints for missionaries and explorers

South African Medical Record.—In addition to a variety of original communications the March number contains reports of two meetings of the Cape Colony Medical Council. An editorial article is devoted to the mutual relations of hospitals and the medical profession; in the course of it there is a judiciously-worded protest "against the tendency so prevalent in South Africa to divorce hospital from general practice by putting the larger hospitals under the control of salaried men who are retained for that work alone and keeping the general practitioner from active connexion with them."

COLONIAL NURSING ASSOCIATION.—Her Royal Highness Princess Henty of Battenberg has consented to be present at the annual meeting of the Colonial Nursing Association to be held at Sunderland House, Curzon-street, by kind permission of the Duchess of Marlborough, on Wednesday, June 8th. Lord Grey will preside.

New Inventions.

POST-TURBINAL SNARE.



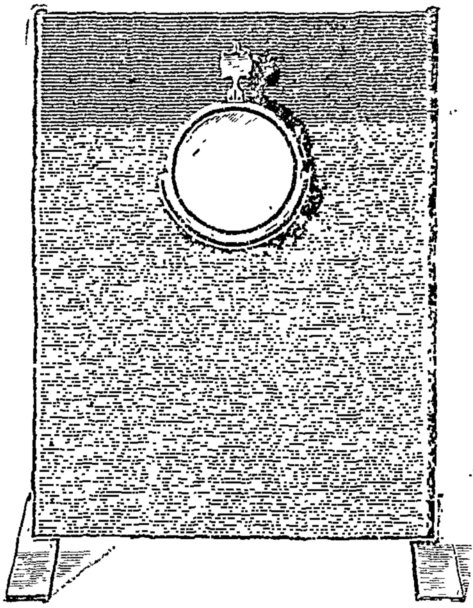
THIS snare has been designed to facilitate the snaring of the posterior ends of the inferior turbinals without a general anæsthetic and without the insertion of a finger into the post-nasal space. If used with a finger in the post-nasal space it is more quickly adjusted and more easily held in position than an unsupported wire loop. The wire loop runs in the rigid grooved loop, the groove being continuous with the barrel of the snare. The grooved loop is bent upwards at a slight angle to the barrel and the same instrument can be used for the right and left posterior ends manipulated by the right and left hands respectively. There is a stop in the barrel to prevent the severed posterior end dropping off the wire. The wire is readily replaced in the groove if the former be a medium or a fine one. The rigid grooved loop carrying the wire enables the posterior end of the turbinal to be felt for where this is not in view from the anterior nares and takes the place of the finger in the post-nasal space by insuring its encirclement by the wire and retention of it in position during the process of tightening the snare. The snare has been made for me by Messrs. Mayer and Meltzer, 71, Great Portland-street, London, W.

MACKAY MACDONALD, M.B., B.C. Cantab.,
Senior Clinical Assistant to the Throat Department, King's College Hospital.
Harley street, W.

A NEW COLOUR TEST APPLIANCE.

THE following is a description of a new appliance for testing the colour vision which, I venture to suggest, will be found useful for the examination of candidates for the various public services. It consists of a dead-black metal screen 14 centimetres in height by nine centimetres in width, supported on two metal cross-bars. Just above the centre of the screen there is an oval aperture about three centimetres in diameter; around the lower half of the aperture is fixed a double groove, similar to that in a trial spectacle frame, for the purpose of carrying the coloured discs and diaphragms employed in the test. In addition to the above there are four coloured mounted glass discs, blue, red, green, and yellow respectively, one ground-glass disc, one smoke-glass disc, and three black vulcanite discs having central apertures, the diameters of which have been designed approximately to test the acuteness of the colour vision at varying distances of 100, 300, and 500 yards. There is also a card upon which appear four squares coloured to correspond with the four coloured discs

The method of using the test is as follows. The screen is placed upon a convenient table with a light behind it, the candidate to be examined being seated upon a chair about four metres distant. In the candidate's hand is placed the card with the coloured squares. One of the coloured discs is then inserted in the groove in front of the aperture in the screen and the candidate is first asked to name the colour and next to point to it on the card. The remaining colours are similarly tested. Lastly the acuteness of the colour vision is further inquired into by inserting the vulcanite diaphragms in front of the coloured discs. The ground-glass and smoke-glass discs are for the purpose of delineating "misty" and "foggy" atmospheric conditions.

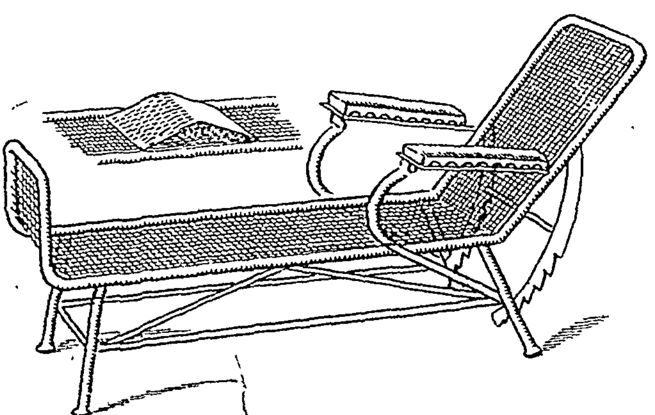


The appliance is supplied in a neat mahogany box and can be obtained from the manufacturer, Mr. F. Davidson, 140, Great Portland-street, London, W., to whom I am much indebted for the care with which he has carried out the design. The cost is very moderate.

PERCY DUNN, F.R.C.S. Eng.,
Ophthalmic Surgeon to the West London Hospital; Lecturer on Ophthalmology at the West London Post-Graduate College.
Wimpole-street, W.

A NEW SANATORIUM CHAIR.

THE accompanying illustration shows a "sanatorium chair" which I have designed and modified after that as used at Belitz, Berlin. During my visit last year to some of the oldest and newest, both public and private, sanatoriums in Germany, the Black Forest, and Switzerland, the one thing I looked out for was a "chaise longue" which might be adapted to any patient. There are here at Bowdon 50 chairs in continual use; these are of cane, firmly made, strengthened by iron supports, but these are unsatisfactory from many points of view. The seats or horizontal portions of chairs are all of the same length and curve, so that tall as well as short patients find them uncomfortable and inconvenient. Mattresses are not being used here, their place being taken by a plentiful supply of rugs. Those who have control of a sanatorium for consumptives know how costly these chairs may be, as they are being continually repaired, the seats and back supports "sag," give way, and the cane unravels; some are temporarily mended or patched with thick twine, pieces of canvas, or carpet so that they look anything but neat and clean. In the sanatoriums which I visited mattresses and pillows for the chairs were used, most had cane chairs, the exceptions being in the new sanatoriums at Davos (German), Harlaching (Munich), Belzig, and Belitz (Berlin) where iron chairs were employed. The medical directors of the various sanatoriums told me that they found the cane chairs did not give satisfaction owing to constant repairs, renewal, and short "life-history." The points aimed at in my design are neatness, simplicity, cleanliness, durability, and adaptability to suit a patient of any height. The framework is of iron, fitted with a wire mattress (the back and seat portions being in one piece); the arms are covered with leather, the back support being adjustable to any angle. I suggest that no hair or "flock" mattress should be used but that instead thick felt material similar to that as used for stage purposes by acrobats and others. Such a "mattress" would be clean, easily rolled up and carried indoors at night, and, above all, sterilisable; on top of this would be placed the wedge-shaped pillow or knee-support depicted in the illustration; this may also be of wire or cane and should be of the same (inside) width as the frame of the chair, easily slid along the mattress under the knees of the patient, and in this way making the chair adaptable to persons of any height. The chair may be had of Mr. Edgar Samuel, Port Talbot, South Wales.



Manchester Sanatorium, Bowdon, Cheshire. D. LLOYD SMITH.

A MEDICAL BAG.

I HAVE lately had made for me a bag which I think should prove useful to a large number of medical men. It is of an ordinary "kit-bag" pattern, measuring 16 × 8 × 8 inches. It contains two pockets and the usual arrangement for bottles, loops for a case of catheters, and a steriliser measuring 14 × 3½ × 2½ inches inside, which latter will thus take a pair of midwifery forceps or the necessary instruments for most operations, including silver catheters. The lid can be used as a tray during operations and supplies a receptacle never obtainable in private houses, whereas bowls and other necessaries of this description are always at hand. It has been made by Messrs. Bailey of 38, Oxford-street, London, W., who have also put up for me some packets of sterilised gauze already cut up which can be either used as swabs or dressings. Each packet contains a dozen pieces and its contents can be turned out into a bowl of lotion without any direct handling. One has ready at once with these dressings and steriliser all the means for conducting an aseptic operation in a convenient and portable form. Towels which have been boiled can almost always be produced whilst the bandages and wool can be easily kept sufficiently clean. As I have had considerable difficulty in getting what I wanted and as it seems to me of such general utility I thought it might be of some service to indicate where such equipment can be obtained. Convenient methods of sterilising midwifery forceps are seldom, if ever, forthcoming and the stock pattern sterilisers are either too small or too cumbersome, whilst already cut up and sterile dressings obviate the expenditure of a large amount of time and trouble. The bag has sufficient capacity to contain the steriliser and all the instruments and dressings most usually needed, whilst the whole outfit is just as portable as the ordinary general practitioner's bag and, in fact, also serves this purpose. ALEX. R. TWEEDIE, F.R.C.S. Eng.

Market Harborough.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the directors of this society was held on April 13th at 11, Chandos-street, Mr. Christopher Heath, the President, being in the chair. One new member was elected and the deaths of six members were reported. Two widows had become ineligible for further grants. Fresh applications for grants were read from four widows and assistance was given to three, the fourth not being eligible under the by-laws. 54 widows, 14 children, and four orphans on the Copeland Fund applied for a renewal of their grants and £1319 were voted for distribution at the next court. A legacy of £1000 from the late Mrs. Du Pasquier was announced. The following gentlemen were nominated for election at the annual general meeting to fill the vacancies in the court of directors: Mr. E. C. G. Snell, Mr. W. T. N. Bell, Dr. C. Godson, Mr. E. H. May, Dr. W. C. James, Mr. A. W. *Green*, and Dr. S. West. The expenses of the quarter were £57 3*s*. 6*d*. It was decided to hold the annual general meeting at 5 P.M. on Wednesday, May 18th.

THE LANCET.

LONDON: SATURDAY, APRIL 23, 1904.

The Isolation of Small-pox in Germany.

FOR many years past it has been alleged by the opponents of vaccination that the immunity from small-pox which is enjoyed by the inhabitants of the Fatherland is ascribable not to the system of compulsory vaccination and revaccination which obtains in the German Empire but rather to the hospital isolation which it is alleged is practised therein. Mr. WALTER LONG, with his customary far-sightedness and independence, determined recently to have the matter investigated by a member of his own medical staff, and consequently Dr. R. BRUCE LOW, the second assistant medical officer in the medical department, was directed to proceed to Germany in order to make the necessary investigations and to report to the President thereon. Dr. LOW visited ten of the principal towns in Germany—i.e., Berlin, Cologne, Frankfort-on-Main, Wiesbaden, Mayence, Munich, Nuremberg, Dresden, Leipsic, and Stuttgart—and at each place he made detailed inquiries as to the method of dealing with cases of small-pox and as to the isolation accommodation provided for such cases.

In the very interesting and instructive report which has just been published[1] Dr. LOW furnishes maps showing in the case of almost every town visited the precise position of the small-pox pavilion, if such it can be called, and of its relation to the surrounding buildings. The reader of the report is at once struck by the fact that in nearly every town the pavilion used for the isolation of small-pox is part of the general hospital, and further that such pavilion is in many instances not separated from the pavilion used for the isolation of cases of other infectious diseases; indeed, we are told in the letterpress that in several places no separate provision whatever is made but that when a case of small-pox occurs the patients from one of the pavilions are removed and the small-pox case or cases isolated therein. It appears, moreover, that in most instances the pavilion used for small-pox cases is supplied with food from the general kitchen and that the soiled linen of the patients is sent after disinfection to the general laundry. It is quite clear, therefore, that the immunity of Germany from small-pox is in no sense due to the arrangements for isolating cases of this disease, seeing that there is practically no special provision whatever; in fact, the Germans seem to treat the whole question of the isolation of small-pox in a manner which we in this country would be inclined to regard as very unsatisfactory and eminently casual. But this notwithstanding it appears to suffice. In Berlin, with a population of just under 2,000,000, there are 12 beds reserved for small-pox. In Cologne, with a population of 399,126, no beds are reserved. At Frankfort-on-Main a similar remark applies. At Mayence, the only town visited in which separate accommodation exists, only one case of suspected small-pox has been isolated there and the building is now used for patients convalescent from non-infectious diseases. At Munich there is a pavilion for 14 beds but during the last eight years only seven cases have been isolated therein. Nuremberg has a small-pox pavilion with 12 beds but there has been no small-pox in the town for the last 11 years. When cases of small-pox are isolated at the general hospitals no panic occurs—there is no incidence of the disease upon the surrounding population. The immediate attendants upon the sick are again revaccinated but with respect to the general staff and to the other patients reliance is placed upon the general routine vaccination and revaccination of the people. How different is all this from the conditions which obtain in this country, with its repeated instances of the excessive incidence of small-pox upon the houses in the neighbourhood of the small-pox hospitals and the costly machinery necessary to obviate such occurrences. And yet, few if any persons, conversant with the history of small-pox in London and of the influence of the small-pox hospitals, would venture to suggest that with our present very imperfect protection by primary vaccination alone London should again "isolate" its cases within its own limits.

At every place visited by Dr. LOW inquiries were made as to any spread of the disease and as to the reasons for the immunity of the surrounding population and in every case the answer was in the negative and the explanation of the immunity of the population surrounding the hospital was the protected character of the German people. It is to be hoped that the result of this report will not be to relax our own precautions as to the isolation of small-pox without at the same time insisting on a general revaccination of the population. To do this would be a fatal step. We emphasise this knowing that those who are not familiar with the history of small-pox hospitals in this country will use this report by Dr. LOW as a justification for relaxing necessary precautions. But Mr. LONG may be trusted not to give way and he may, we hope, also be trusted to introduce a Bill for general revaccination so as to put an end to the costly methods of isolation practised in this country, leaving the disused small-pox hospitals for the use of the tuberculous sick or for the reduction of some other preventable diseases. Both he and Mr. W. H. POWER, the medical officer of the Local Government Board, are to be congratulated cordially upon their initiative in this matter and Dr. LOW is to be felicitated upon his instructive report. We only wish that the Local Government Board evinced more frequently this high appreciation of its imperial duties in a public health sense. The medical department of the Board is largely concerned in advising other Government departments in matters of public health and it is surely incumbent upon the Board to keep abreast of modern methods by ascertaining precisely what is being done in other countries. The British empire has responsibilities in a moral as well as a martial sense. In matters such as these all depends upon the initiative, upon the grasp of the principle of expansion which is possessed by successive presidents.

Mr. LONG is apparently at the present juncture thinking imperially in a public health sense. He has despatched

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[1] Dr. R. Bruce Low's Report to the Local Government Board on the Arrangements made in Germany for the Isolation of Small pox Cases. Eyre and Spottiswoode, East Harding-street. 1904. Price 1s.

Dr. Low to Germany and the report now under notice is the result, and he has also despatched Dr. Theodore Thomson to the West Indies with the view of ascertaining how far the methods of dealing with cholera and plague in vogue in these parts of the empire can be brought more in line with the practices of the mother country. If the Local Government Board is to advise upon these matters it is obviously desirable that some of its staff should be familiar with the several localities which from time to time are brought in question.

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The Control of Measles.

Nearly eight years have elapsed since the publication of Dr. Theodore Thomson's classical report to the Local Government Board upon measles. There are still, however, very few sanitary authorities who have set about the task of dealing with the prevention of this disease in anything like a systematised manner, although Dr. Thomson stated in his communication to the Board very definitely what in his opinion were the measures which were necessary to prevent the extension of an epidemic throughout an invaded district. The cause of this inaction was frankly admitted by several speakers at the last meeting of the Incorporated Society of Medical Officers of Health in the course of a discussion initiated by Dr. J. Howard Jones upon the best means of controlling outbreaks of measles, an account of which was published in The Lancet of April 16th, p. 1058 The difficulties which beset the medical officer of health who is called upon to deal with this disease are undoubtedly in the first place its highly infective character, especially in the early stages and before definite symptoms have manifested themselves, and, secondly, the demeanour of the general public who regard the disease with indifference and even with contempt. There are other reasons to account for the non success of such preventive measures as have up to the present been adopted and chief among them, as pointed out by Dr. Arthur Newsholme, is this, that we are deficient in a knowledge of facts relating to the behaviour of the disease. For example, we do not know with any degree of certainty how long a person may be infectious after an attack of measles, nor do we know definitely for how long the contents of rooms occupied by a person who has been suffering from measles may be capable of retaining the infective material. There are, indeed, some epidemiologists who deny that the disease may be spread by fomites at all and if they are right there must be an utter waste of public money in those districts where large sums are being spent in the disinfection of dwellings recently occupied by sufferers from measles. Now that the Education Acts are being administered by public authorities, many of whom have the advantage of including among their permanent officials a medical officer of health, questions such as those which we have indicated will no doubt be much more closely investigated than has hitherto been the case, and it is to be hoped that the education committees will give every facility to those medical officers of health or medical officers of schools who desire to study the subject. There is still another obstacle in the way of the successful suppression of epidemics of measles but it is one which ought to be capable of an easy and speedy removal. We refer to the prevention, through the instrumentality of Section 126 of the Public Health Act, 1875, or of Section 68 of the Public Health (London) Act, 1891, of infected persons being wilfully exposed in public places. These sections enact that any person who while suffering from any dangerous infectious disorder wilfully exposes himself without taking proper precautions against spreading the disorder in any street, public place, or the like, shall be liable to a penalty of £5 During the past few weeks correspondence has been taking place in The Lancet as to the interpretation of the words "dangerous infectious disorder" in these sections. One of our correspondents in the West of England gave an account of the action taken by a medical member of the Bath town council with regard to a circular notice issued by the medical officer of health of Bath to the effect that a person is liable to a penalty who wilfully exposes himself in a public place while suffering from measles. Our correspondent stated that the medical councillor in question was evidently of opinion that Section 126 does not apply to measles, whereupon Dr. Preston King, who was the medical gentleman alluded to, replied in a subsequent issue that it was not a question of opinion but of fact, and that the expression "dangerous infectious disorder" in the Act of 1875 applied only to the scheduled infectious diseases in the Infectious Disease (Notification) Act, 1889. Exception was taken to this interpretation by other correspondents and at the meeting of the Society of Medical Officers of Health already referred to the question was discussed by several speakers, some of whom insisted very strongly that Section 126 applied to any dangerous infectious disease, including measles, while others were equally emphatic in their opinion that the section referred only to those diseases scheduled under the Infectious Disease (Notification) Act, 1889. So far as we are aware there are no records of any prosecutions for wilful exposure while suffering from measles, though we believe one such successful prosecution was once undertaken by the medical officer of health of Wigan. It is very desirable that there should be a decision on this debateable question in a court of law and there should not be any difficulty in obtaining a definite pronouncement.

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The Cholera and Enteric Fever Epidemics at Hamburg.

It would seem as if Hamburg is destined to remain for many years to come the classic ground of discussion on the action of water in the spreading of such diseases as cholera and typhoid fever. This subject was brought forward again before the Epidemiological Society at its last meeting, when Dr. Reincke, who is a corresponding member of this society and medical officer of health of the city of Hamburg, read a paper on the Epidemiology of Enteric Fever and Cholera in Hamburg, which is published at p. 1105 of our present issue. There is a curious feature about discussions in regard to Hamburg. Almost all those who enter into the details seem to come under a sort of spell. It would appear as if the mere name of Professor Koch exercised a magic power and blinded them to a large number of important considerations which happen not to hold a prominent place in the remarkable and fruitful studies of this eminent man of science. One or two passages in Dr. REINCKE'S paper read as if he was striving to shake himself free from this influence, but he does not succeed in doing so for long. For instance, he commences by saying that it is necessary to have "a clear picture in one's mind not only of the topography of the town but also of the topographical arrangement of the surrounding district." Nevertheless, and in spite of this very correct and emphatic pronouncement, Dr. REINCKE himself omits the most remarkable topographical feature of the picture.

The salient peculiarity that meets the eye on reaching Hamburg is the fact that a great part of Altona is built on a hard rock or cliff, while Hamburg lies below on flat soil a great portion of which has been redeemed from the bed of the river Elbe. The fact that Altona and Hamburg have not the same water-supply is always insisted upon and then the statistics of Altona and Hamburg are compared. But what is required is a more detailed study as generalisations may lead to error. Dr. REINCKE recalls the main facts in regard to the cholera epidemic of 1892 and says that at Hamburg "there were 26·42 cases per 1000 inhabitants and 13·44 deaths per 1000, whereas in Altona these numbers were 3·81 per 1000 and 2·13 per 1000 respectively." Then he quotes the spotted map where the spots marking the cases of cholera stop when they approach the demarcation line which separates the townships of Hamburg and Altona. But we are not told that it is precisely those parts of Hamburg that are built on the marsh land close to the river that suffered the most, and that it is precisely the part of Altona which is nearest to the river which is built on a rock. This rock forms a sort of river wall and is almost perpendicular in some places. It is quite natural that the spread of cholera should be checked at the foot of a cliff. Near Toulon and other places the same phenomenon has been noted. It would be very useful to make a fair comparison between Altona and Hamburg but it has not yet been done, though it does not seem to be altogether impracticable. There are at Altona, away from the river and behind the rock, some low-lying and poor districts that do compare fairly with what exists at Hamburg. If the statistics from these districts could be secured it would be found that the death-rate from cholera in that part of Altona was very much higher than 2·13 per 1000. Thus the contrast between Altona and Hamburg would not be so great as stated, and this, too, in spite of the difference of the water-supply in the two places. In any case, and as we have on more than one occasion pointed out, the contrast between Altona and Hamburg is not so great as that presented within the boundaries of Hamburg itself, where there is no difference in the water-supply. This is admirably set forth in the statistics of the Hamburg municipality. Here it is shown that in the Harvestehude district, where the average annual income is 3155 marks per head, the death-rate from cholera was 4·48 per 1000. On the other hand, in the Veddel district, where the annual average income is only 118·93 marks per head, the death-rate from cholera was equal to 27 50 per 1000. With these figures it would be as logical to say that the epidemic depended on the money-supply rather than on the water supply but this would be only a part of the truth. Not one but many factors must be taken into account. Let us take the Hamm district where the income is not very high or very low—namely, 716·7 marks per head. It will be found that on the portion of this district which rests on dry soil the death-rate was 9·15 per 1000, while in the part which is built on marsh land the death-rate from cholera was 21·37 per 1000. Here we have a small district, all the inhabitants drinking the same water, and yet what a different result.

Though admitting that enteric fever follows much the same rules as those which govern the spread of cholera Dr. REINCKE is less affirmative in regard to the action of water. He states that this question cannot be decided statistically because the numbers involved are too small. Then when speaking of the forthcoming supply of absolutely pure water from deep wells he adds this significant warning: "What enteric fever then remains will certainly have nothing to do with the water-supply. Already now I should like to remark that several large towns of Germany supplied with deep well water have not less enteric fever than Hamburg." Further, he adds, "you will see clearly that the great epidemics of enteric fever fall in the dry years when there is a low level of ground water, whereas in very rainy years enteric fever obviously recedes." Not that Dr. REINCKE supports PETTENKOFER'S theories; on the contrary, he tries to show that it is in these dry seasons that the water-supply is most likely to be contaminated. Thus we are forced back upon the previous admission that typhoid fever is as prevalent in towns where the water-supply is above suspicion as it is in Hamburg where the water has so often been accused as the cause of all the mischief. The real fact is that contaminated water, just like contaminated milk, is a very efficient means of spreading enteric fever among persons who are predisposed. If there is no such general source of dissemination of infection then these diseases will spread more slowly. But where the population is predisposed to the disease it will find some door of entry. The only complete remedy is to remove the predisposing causes. They are of more importance than the accident that spreads the epidemic and of these predisposing causes Dr. REINCKE, in company with too many authorities on such subjects, fails to give us any information. Nevertheless, the presence of such an eminent authority among us is a great advantage. There is much to be learned from the experience acquired on the continent, and the Epidemiological Society is to be congratulated on having secured the coöperation of Dr. REINCKE.

Annotations.

"Ne quid nimis."

STATISTICS OF TUBERCULOSIS.

Dr. G. A. Heron delivered a lecture on April 14th in the school-room of St. James-the-Less in Sewardstone road, Victoria Park, London, on the Prevention of Consumption. The lecture was given at the invitation of the Kindred Working Men's Hospital Supporting Societies and Dr. Heron had no reason to complain of the enthusiasm of his audience. Some interesting statistics were furnished to Dr. Heron by Dr. John Tatham of the General Register Office, Somerset

House. The fall in the mortality from phthisis was well shown in the following table :—

Death-rate from Phthisis in England and Wales per 1,000,000 Living (Both Sexes).

Five years, 1866–70.	Five years, 1871–75.	Five years, 1876–80.	Five years, 1881–85.	Five years, 1886–90.	Five years, 1891–95.	Five years, 1896–1900.
2448	2218	2040	1830	1635	1462	1323

In a period, therefore, of 35 years the fall in the mortality from phthisis has been from 2448 per 1,000,000 to 1323 per 1,000,000. According to Dr. Tatham the mortality from phthisis differs greatly in the two sexes. In the last five years for which statistics have been prepared—i.e., in the quinquennium 1898–1902—phthisis was fatal to 1529 out of every 1,000,000 males living but to only 1114 females in every 1,000,000 females living. Dr. Heron also communicated the following important table from Dr. Tatham :—

Annual Death-rates from Phthisis per 1,000,000 Living Persons in England and Wales.

Year.	Death-rate per 1,000,000.	Year.	Death-rate per 1,000,000.
1882	1850	1893	1466
1883	1880	1894	1383
1884	1827	1895	1395
1885	1770	1896	1303
1886	1739	1897	1336
1887	1615	1898	1311
1888	1563	1899	1330
1889	1573	1900	1333
1890	1682	1901	1264
1891	1599	1902	1233
1892	1468		

Another table furnished by Dr. Tatham dealt with the infantile mortality of tuberculosis.

Annual Rate among Infants under One Year in each 1000 Births.

Years.	Boys.	Girls.	Both sexes.
1897–1901 (average)	8	6	7

Annual Rate among Children under Five Years in each 100,000 Living at that Age.

Years.	Boys.	Girls.	Both sexes.
1897–1901 (average)	395	320	357

Dr. Heron wisely avoided entering on debatable points in connexion with the subject upon which he was lecturing and laid great stress on the fact that the power to move in the matter of securing the prevention of consumption lies in the hands of those who vote for Members of Parliament. He also urged his hearers to procure from candidates for Parliament at the next general election definite pledges to promote further legislation for public health. He particularly indicated the advisability of educating the public to a proper appreciation of the precautions necessary to prevent the spreading of consumption.

THE ASTLEY COOPER PRIZE.

As will be seen by an advertisement in the present issue of THE LANCET the next triennial prize of £300 under the will of the late Sir Astley Cooper, Bart., will be awarded to the author of the best essay or treatise on the Naked-eye and Histological Anatomy of the Spinal Cord. The competition is open to everybody except the members of the staffs of either Guy's Hospital or St. Thomas's Hospital or any one related by blood or affinity to them, but the essays must not be the production of two or more authors. They must be written in English or if in a foreign language must be accompanied by an English translation and they must be sent to Guy's Hospital on or before Jan. 1st, 1907, addressed to the Physicians and Surgeons of Guy's Hospital, London, S.E. The successful essay may be printed in the Guy's Hospital Reports but this will not preclude the author from publishing it elsewhere after obtaining permission. Further particulars as to the conditions of competition and the like may be obtained on application to Dr. G. Newton Pitt, Guy's Hospital, London, S.E.

THE MOISTURE IN TOBACCO.

THERE may be good fiscal reasons for raising the degree of moisture in tobacco from 30 to 32 per cent., as is suggested in the new Budget, but the precedent, we think, is an undesirable one and the principle of the proposal open to objection. To pay 5*s.* a pound for water in tobacco may not appear to be on all fours with paying 5*d.* a quart for water in milk, or 1*s.* 6*d.* a pound in butter, but morally there is no difference. The State allows it in the first case but not in the second and third. The old limit as regards tobacco was liberal and worked satisfactorily and on the whole there is reason for opposing a policy of State-aided attenuation. Moreover, it may be remarked that the presence of moisture in tobacco is of some importance to public health, since the combustion of tobacco containing a large proportion of moisture is impeded, while as the generation of vapour is increased so are the chances of the poisonous principle being carried into the mouth.

SAMUEL SMILES.

AT the ripe age of 92 years Dr. Samuel Smiles, whose name has been a household word in British homes for 50 years, passed away last week. Born in a comparatively humble sphere of life he succeeded by sheer hard work, and by carrying out the precepts which he laid down in his books, in raising himself to an important position in the railway world, while his literary reputation was a doubly important one, for he was both an enormously successful author and a writer of most healthy influence upon the character of the English race. At the age of 20, when the General Medical Council had not been invented and medical curriculums were less strict, Smiles became qualified to practise medicine and started practice in his native town of Haddington, but patients being few he forsook his calling and studied music and painting, supporting himself in the meanwhile by writing articles for the press. In 1837 he became the editor of the *Leeds Times*, on the strength of which appointment he married, but after his marriage, finding his salary too small for his domestic requirements, he gave up the post and became assistant secretary to the Leeds and Thirsk Railway. Later he became secretary to the South-Eastern Railway Company, a post which he left in 1866 to become secretary to the National Provident Institution. These positions brought him into contact with the men whose lives formed the text for some of his best books. One of his earliest works, "Physical Education, or the Nurture and Management of Children," no doubt owed its being to his medical studies but "Self Help," the work by which he is perhaps best known, "Thrift," and other similar books were based upon lectures and addresses which he delivered before young men's debating and mutual improvement societies. Possibly the secret of the enormous popularity of these works—and until recently they were the most usual prize in the lower forms of every school in the kingdom—lay in the fact that the manuscripts had been used to lecture from, so that the author was able to revise them in a very practical way. He knew which were the passages that were effective and where to make his deletions, which is another way of saying that he learned the art of composition. The life of Dr. Smiles, whose doctorate was LL.D. given to him by the University of Edinburgh, well illustrated the principles of industry and integrity which he has inculcated into so many of his younger countrymen.

THE SHAKING OF THE DOOR-MAT.

THE mat at the front door is necessarily the receptacle of all kinds of filth picked up from the streets. In dry weather there is little use for the mat but in wet weather all cleanly disposed persons use it. The time comes when the mat is loaded with dirt in a more or less dried state and the simplest way of removing the burden of dirt is to submit the mat to shaking, generally on the curb-stone, or to bring it into sharp contact with a wall. This is the *modus operandi* generally adopted much to the annoyance and discomfort of the passers-by. Frequently a most offensive cloud of dust is thus raised and that this can be a source of ill-health cannot be disputed. The street door-mat must teem with potentialities for evil having regard to its purpose. The method of shaking dirty mats in the face of the pedestrian in the street is an offence against decency and hygiene and the local authorities should take steps to suppress the objectionable practice. If this clumsy method cannot be altered the mat should be taken to a place where the evil dust would affect nobody and every endeavour should be made to localise the cloud of dust. The beating of carpets is another necessary evil which, however, we do not allow in our streets, and yet most probably the dust of the more privileged door-mat would show a much more dangerous bacteriological flora than the carpet.

OVARIOTOMY AND HYSTERECTOMY IN MARTHA WARD, ST. BARTHOLOMEW'S HOSPITAL, DURING THE YEARS 1897–1903

IN the St. Bartholomew's Hospital Reports, Vol. XXXIX., an interesting paper is published by Mr. Harrison Cripps on Ovariotomy and Hysterectomy in Martha Ward during the years 1897–1903. In these six years 182 ovariotomies have been performed, with a mortality of 2·7 per cent., and 58 hysterectomies, with a mortality of 6·8 per cent., or a total of 240 cases of ovariotomy and hysterectomy, with a death-rate amounting to 3·7 per cent. These operations are performed in a special theatre and the improved results of the last six years are attributed by Mr. Cripps to the use of the Trendelenburg position and the employment of biniodide of mercury as an antiseptic. Drainage is very seldom used and the abdomen is flushed out and drained only in those cases where there has been some escape of pus or fæcal matter into the abdominal cavity. In place of the thick silk that was at one time in use No. 2 Chinese twist is now employed and with this pure silk a ligature sinus very seldom occurs. In the performance of abdominal hysterectomy the cervix is usually left and any bleeding from the stump is checked by the use of the actual cautery at a heat of a little above that of boiling water only. Mr. Cripps likes to use both sponges and pads; the latter are made of soft woven cellular wool, are about half an inch thick, and are of a diameter varying from four inches to 14 inches. In closing the abdominal wall he uses large curved Hagedorn's needles and passes the sutures through the whole thickness of the wall including all the tissues. He has discarded the plan of sewing up the abdominal wall in layers after having given it a thorough trial. This report calls attention to the fact that St. Bartholomew's Hospital is one of the few remaining hospitals in which the physician accoucheurs are not allowed to perform abdominal operations in cases of disease of the pelvic organs. All the cases in which an abdominal section is considered necessary are seen by one of the surgeons, at the present time by Mr. Cripps, and if an operation is decided upon he performs it and takes subsequent charge of the case. We must say that we fail to see any valid reason for the continuance of this obsolete custom. We are quite prepared to admit that the question as to whether obstetric physicians should be allowed to operate at all or not is one upon which there may well be much difference of opinion. If they are to be allowed to do so then they should undoubtedly have had a proper surgical training. To allow the obstetric physicians at a hospital like St. Bartholomew's to perform operations upon the vagina and not to allow them to perform abdominal sections appears to us to be absurd. The removal, for example, of the uterus and appendages by the vagina in a case of chronic pelvic suppuration is often a much more difficult and dangerous operation than the great majority of ovariotomies and hysterectomies. To permit an obstetric physician to perform such an operation or to carry out a Cæsarean section and to forbid him to perform abdominal ovariotomies and hysterectomies is a prohibition which appears to us to be unreasonable.

THE HOLMAN TESTIMONIAL.

DR. Holman, whose devoted service in behalf of the medical profession is to be recognised suitably, has been for the last 50 years a strenuous worker in public and private capacity. His career was largely shaped by the influences under which he fell at the beginning of his medical course. In accordance with the recognised professional education of his day he commenced his curriculum as an apprentice to Messrs. Thomas and Peter Martin, a firm of medical practitioners in Reigate. Mr. Thomas Martin aided Sir Charles Hastings in the foundation of the association which was later to be known as the British Medical Association, and Dr. Holman aided his principal. He at the same time acted as assistant secretary to Mr. Martin at the Surrey Medical Benevolent Society where, in 1848, he met Propert, the founder of Epsom College, so that while still *in statu pupillari* he became connected with the three institutions to which he has given up so much of his life. In due time Dr. Holman proceeded to Guy's Hospital, where he won prizes, served under distinguished men, and made many friends. After qualifying and a course of study at Edinburgh and Paris, he settled in Reigate in 1852 and was appointed joint secretary of the South-Eastern branch of the British Medical Association, the branch of which later he was secretary and president. Dr. Holman has done yeoman's service for the British Medical Association. He was treasurer at a critical time in the Association's history and chairman of the editorial reference committee which was appointed during the later period of Mr. Ernest Hart's editorship and which was discontinued when Dr. Dawson Williams became editor. He was also on the premises committee and has seen the acquirement by the Association of its freehold property. For these services Dr. Holman was made a vice-president for life, though the reconstitution of the Association deprived him of his seat on the Council. In 1887 he was elected treasurer to Epsom College. His services to this last institution will be apparent when we remind our readers that in 1887 the school was in debt to the amount of some £7000 and that this debt has now been wiped out, although—we mention this lest we should impede the flow of donations—there is still a mortgage on the property of £10,000. In addition to these multifarious works Dr. Holman carried on a large practice at Reigate, founded the Reigate Cottage Hospital, started a dispensary to which every medical man in the borough belonged, and served on the town council and was the first magistrate to be sworn in on the borough bench. This is a record of good work and Epsom College particularly owes to Constantine Holman a debt which can hardly be paid. It is fitting, therefore, that the testimonial about to be raised for him, further subscriptions to which are acknowledged on p. 1172, should in some way increase the influence for good of the foundation of that institution. Dr. Holman was recently elected an honorary member of the Medical Society, a compliment that is not often paid to British medical men.

THE REGISTRATION OF NURSES.

AT a meeting of the executive council of the Association of Poor-law Unions of England and Wales on April 12th the parliamentary committee of the council, which has had under consideration the Nurses and Private Nursing Homes (Registration) Bill, reported briefly that it disapproved of the measure since it believed that its passing would have a prejudicial effect on the supply of probationers for Poor-law nursing. This opinion is noteworthy as supporting the manifesto to which we had occasion to refer in THE LANCET of April 2nd (p. 946) and might, if it stood alone, be accepted as confirming the position of those who object to State registration. At the same meeting, however, a discussion on workhouse nursing took place which may be taken to indicate the train of reasoning by means of which the above verdict was arrived at and we are fain to admit that whatever merit there may be in the conclusion the premisses are wofully lacking in appreciation of the true interests of the nursing profession. After a long debate the following propositions were adopted by large majorities:—

1. That the minimum age for commencing training should be 18 years.
2. That "qualified" nurses as distinct from fully certificated nurses should be recognised.
3. That an infirmary without a resident medical officer may yet be a training school for nurses.

Stronger evidence of the necessity for erecting some definite and suitable standard of technical education, conformity with which should alone justify the employment of the term "nurse," could hardly be tendered. But will the Bill now before the House of Commons supply that standard? There is ample ground for thinking that it will not. In so far as it admits the advisability of intrusting the registration of nurses to an independent authority rather than to any chartered corporation of nurses the Bill is a step in the right direction. Everything, however, turns upon the constitution of the central board which is to be formed, and it may be said at once that the board described in Section 4 is not of a kind to inspire confidence. In the first place, the women on the board will be at least in the proportion of 2 to 1; indeed, it would be quite consistent with the Bill to have none but female members. Now, many persons hold that women rarely display that capacity for mutual concessions which makes for a united policy. Although it is of the first importance to the efficient performance of a nurse's duties that she should be under the direction of the medical practitioner whom she is supposed to be assisting, the Bill requires that only three members out of the 21 making up the board should belong to the medical profession. The result will inevitably be the removal of medical supervision from the training and examination of nurses and the reduction of the medical man to a subordinate position in the control of the wards of hospitals and infirmaries. This consideration applies more particularly to Poor-law institutions under medical superintendents. As far as the hospitals supported by voluntary subscriptions are concerned there can be little change in this respect since in them the matron already exercises a preponderating influence and faithfully exacts her tribute of deference from staff and students. While the definition of a "nurse" given in Section 17 covers both men and women it is quite clear that nurses of the former sex will have no voice in the management of affairs and we are promised the anomaly of a council dominated by women attempting to regulate the training of a body of men whose *raison d'être* is the very fact of their undertaking work which women are not thought competent to perform. It is further to be noted that such a large employer of labour in the way of nursing as the Metropolitan Asylums Board has no direct influence in deciding upon the claims of various persons to the style and title of "nurse," and more remarkable still is the fact that no allusion is made in the Bill to the Local Government Board which is, in effect, the court of appeal in nursing matters for the large body of men and women, constituting a majority of nurses, who work under the Poor-law. Another point is perhaps worthy of attention. No provision is made to remove that ambiguity attaching to the word "person" which has so often given rise to trouble. There appears to be nothing to prevent the formation of "nursing companies" by unqualified individuals who could set the Bill, if passed, at defiance, just as has been done in the case of druggists and dentists. Altogether the Bill is unsatisfactory and since it has little prospect of passing this year it is to be hoped that drastic changes will be made in it if it is to be again introduced.

THE NAUHEIM SPRINGS.

THE paper read before the Hunterian Society on March 23rd by Dr. Paul C. Franze on the physiological action of the Nauheim springs and the indications for their use chiefly in circulatory disorders once more directs the attention of the medical profession in this country to the value of those springs in the treatment of affections of the heart and blood-vessels. The first effects produced on entering a Nauheim bath are acceleration of the pulse and contraction of the peripheral vessels of the skin and subcutaneous tissue. Congestion of the internal organs ensues; soon, however, the contraction ceases, the superficial vessels dilate, and the pulse becomes slower and stronger; "reaction" is manifest. Dr. Franze considers that the presence of the salts in solution and the carbonic acid gas intensify the stimulation of the skin and modify the action of the coldness of the water, the aggregate result being that in a Nauheim bath reaction supervenes much sooner and with a greater intensity than is possible with ordinary fresh water. Many authorities on balneology consider that the salts in solution in the various mineral waters are not absorbed by the skin to any appreciable extent. Dr. Franze, however, whilst admitting that it is improbable that any salts completely permeate the skin, believes that they are imbibed by the epidermis to a sufficient extent directly to stimulate the peripheral nerve endings and capillaries of the corium. The salts then maintain their action for some time after the conclusion of the bath. The entire nutrition of the skin is thus increased, it holds a greater amount of blood, and its excretory functions exhibit a revivification which is more than transitory. It must be acknowledged that as yet no scientific basis for balneo-therapeutics has been established but it must nevertheless be granted that special bathing and drinking "cures" are most efficacious in many chronic morbid conditions and cannot be replaced by any other modes of treatment. We venture to suggest, however, that the good results often obtained at Nauheim in patients suffering from chronic cardiac affections cannot altogether be assigned to the virtue of its waters. Patients may purchase "salts" brought from Carlsbad or other spas, dissolve them, and drink the solutions in their own homes in England but they will not experience the same beneficial effects as from a course of treatment at one of those spas. The difference is that at the continental resort the patient is subjected to a *régime* which is highly beneficial. So it is at Nauheim. The hour of rising, the time, quality, and quantity of meals, the journey to and from the bathhouse, and particularly the amount and nature of exercise are most carefully regulated. Cases of "cardio-vascular neurosis" are especially favourable cases for treatment at Nauheim and doubtless the strict *régime* under which they are placed has much to do with their recovery. It is exceedingly difficult, if not impossible, to impose the same restrictions upon these patients in their own homes; they are therefore sent to Nauheim for a special purpose and devote all their energies to "getting well."

SPRING SLACKNESS.

THERE are certain persons to whom the advent of spring, instead of bringing that sense of rejuvenescence which was referred to in an annotation in our columns last week, provides a very different sensation. The youth of the year, when nature seems to revel in growth and development, ought to give, it might be thought, to the human species too a sense of vigour and of the natural joyfulness of fecundity. When the birds are breaking into song and the plants into flower poor man might also exult in life and its annual time of awakening growth. Yet to many the return of spring is only the return of a vague feeling of listless languor, a slack sense of fatigue that comes without labour and of weariness that is uncalled for by any unusual effort To those who dwell in cities, at any rate, spring has trials that are peculiar to itself. To some extent these arise from the knowledge that abroad in the country all is new life, refreshened vigour, and inspiring atmosphere, while in town the wonted thraldom is enhanced by the suspicion of these things that is gained from the trees and the plants of public parks and open spaces, where poor little bits of nature bloom only to suggest in vain all that awaits the town dweller if he could escape. It is not only dissatisfaction though at being unable to partake in nature's gaiety that produces the feeling of which we speak: something is due to climatic conditions. Who does not know the enervating sense that accompanies the first warm day of the year. We may agree with Johnson that he is a weak creature who is influenced by the weather but if we do we must confess with the same breath that to-day most of us are weak creatures. If, like Johnson, we lived in more leisurely times and regaled ourselves heartily in Fleet-street about the middle of the day, following the meal with a comfortable discussion, maybe we, too, should be indifferent whether the sun shone or the rain fell. Unfortunately we work our nervous systems more and our alimentary organs less than did our grandparents. Inevitably we have a sensitiveness that was unknown to most of them. Their fits of "the spleen" were well earned, probably, by loads within the stomach. We acknowledge no such consoling cause for the ennui that often in the spring assails the town dweller. Happy he who can dispel it by a week-end in the country or at the sea before his regulation summer holiday arrives.

THE DISTRIBUTION OF PLAGUE.

THE medical officer of health of the Cape Colony reports that for the week ending March 26th the plague state of the colony was as follows. No case of plague in human beings was discovered at any place in the colony during the week in question but plague-infected rodents were found at Port Elizabeth and at East London. In the Cape Town and Harbour Board area 302 rats were examined during the week but none was affected with plague. As regards the Mauritius, a telegram from the Acting Governor received at the Colonial Office on April 15th states that for the week ending April 14th there were 2 deaths from plague. With respect to the Transvaal a telegram from Lord Milner, dated April 16th, states that the suspected cases up to that date numbered 158: coloured persons, 140; and whites, 18. Deaths 75: coloured persons, 68; and whites, 7.

THE PRODROMATA OF THE PSYCHOSES.

AN interesting article on the prodromata of the psychoses and their meaning is published by Dr. T. S. Clouston of Edinburgh in the *Journal of Mental Science* for April. It is a fact of psychiatric medicine not sufficiently recognised, says Dr. Clouston, "that attacks of mental disease have early symptoms that are often not mental in character and it is equally true that in neurology the fact has not attracted sufficient attention that all sorts of sensory, vaso-motor, and motor symptoms may be the mere preludes to an attack of insanity and not be of themselves the real disease." Such prodromata are important because the recognition of their true character might enable us in many cases to anticipate and possibly to ward off the mental attack. The practitioner who is called to see a woman suffering from an unusual form of headache, with anorexia, insomnia, and obscure paræsthetic sensations, often misses the real point of the case because he does not realise that such symptoms are, in this particular patient, of higher cortical origin and may mean an attack of acute mania in a week if nothing can be done to arrest their course. The occurrence of a widespread disorder of action of the highest cortical nerve centres, such as underlies an attack of acute insanity, affects almost of necessity the sensorial, vaso-motor, and nutritive functions of the brain and the body. Often the indications of oncoming disease are shown by disturbance of such functions accompanied with insomnia for some time before insanity is developed. Of the sensory disturbances headache and obscure cephalic pains and sensations (paræsthesiæ) easily set up by slight causes are of warning import. Indigestion, worry and anxiety, mental over-fatigue, constipation, and slight alcoholic excess may be exciting causes of such disturbances and may lead to slight or severe, but usually not serious, "nerve storms." The persistence of insomnia and of melancholic depression makes the outlook a little more serious. Dr. Clouston reports a typical case of a woman, 50 years of age, who had been subject at times to headache and a "weary," painful feeling in the back of her neck and back all her life when tired, but who otherwise was strong and well-nourished. During a period of special anxiety and much exhausting nursing which she had to go through these head and spine symptoms got worse and became continuous instead of being intermittent. They unfitted her for work, mental or bodily, and she had to remain in bed all day. There was neither rise of temperature nor local tenderness. Their persistence exhausted her strength and brought on insomnia and in a few weeks she became depressed mentally. "When the melancholia came on all the bodily pain went off. In the course of three months she was acutely melancholic and had to be placed in a mental hospital for treatment. She recovered but the first symptom of the passing off of the psychosis was the recurrence of the headache and bodily pains." She has had several such attacks since, each one with the same sequence of symptoms. She has now the impending feeling of danger and dread which so many melancholiacs have before an attack. This case is a type so commonly met with, says Dr. Clouston, as to cover very nearly half the field of melancholia. In most cases the headaches have not quite the character of the ordinary "woman's headache," they are more constant and intense, more distracting and disabling, and attended with "peculiar sensations" as of weight, lightness, local burning, or "bursting." Often they are accompanied by giddiness, creeping feelings, and sensations of heat and cold, and of soreness about the head. Dr. Clouston looks to a nutritional failure of the higher cortical nerve cells as the cause of such symptoms. Auto-intoxication, if present, aggravates the condition but is as likely to be a sequel facilitated by the lowering of the vitality of the brain and the nervous system. The mental areas or centres in the brain, says Dr. Clouston, are "like a busy city on an island, its food, its commerce, its electric wires, and every source of its life and activity being carried to it through the surrounding sea." The sensory paths, the gateways into the mind, are first disturbed and melancholia or mania, stupor or mental dissociation soon follows. "An over-sensitive constitution is commonly the basis of the melancholic diathesis." Visceral paræsthesiæ may be the starting points of delusional conceptions developed in melancholia. The facial muscles of expression are the first to fail in subtlety and beauty of coördination and before the mind gives way the eye is dull or listless or the cornea has the feverish light of oncoming mania. The brow is furrowed, fixed "lines of care" show themselves on the face, there is often an "abstracted" look, and the lively play of features characteristic of health is lost. Neurasthenia, insomnia, hysterical attacks, circulatory disturbances such as palpitation, "sinking at the heart," and attacks of flushing hot and cold, long precede the mental symptoms. We know little about blood changes because they have not been investigated in the prodromal stages and the same may be said, concludes Dr. Clouston, of the so-called auto-intoxication processes. Menstrual derangements are frequent prodromata of attacks of insanity in women, amenorrhœa being particularly common.

THE CRY OF PAIN.

No chapter in the book of natural science is more interesting than that which deals with the emotions of human beings and of animals, how they are aroused and how they are exhibited. Indeed, so far as man is concerned, it may almost be said that this study lies at the bottom of every art. To depict the emotions of his imagined beings and thus to arouse through sympathy the real emotions of those before whom they are depicted is the aim alike of the artist, the author, and the actor. Nor is there anyone amongst an audience at the theatre or amongst the readers of romance or the spectators at a picture gallery who is better able to value an artist at his real worth than the student of natural history who has looked a little into this matter of the emotions and has studied their origination and the true symptoms by which they are displayed in nature. Thus, too, it often happens that the painted picture of some human struggle or the artistic efforts of a sensational actor may appeal to the vulgar eye but through some obvious flaw in correct expression or in muscular action may fail to impress the more discerning eye of the biological student or the trained medical man. Emotion forms, even in the materialistic times of to-day, so large a portion of life, and we are all so ready to read in outward expression the emotions which move in other breasts, that the essential nature of the expression of emotion is easily lost sight of. We forget that all such expression is probably primarily a subjective affair. Emotion is given expression to not that another may be thus affected but that he who experiences the emotion may find relief in the expression to which he gives vent. It is this subjective side of the matter that our correspondent "Psychologus"[1] draws attention to in alluding to the value that the cry of pain possesses in consequence of reaching the ear of him who utters it. Nevertheless, it is not actually the hearing of the cry that is essential. The sufferer would be equally relieved if his ears were stopped and he did not hear his own cry, so long as he was conscious of performing the muscular exercises that should result in such a cry. What is required for the relief of his sufferings is violent expenditure of nerve force. Nature provides this in violent muscular action and this is performed along habitual lines. Darwin, in his "Expression of the Emotions," deals with this point and we cannot do better than refer our correspondent to p. 76 of that delightful work, although we have not succeeded in finding there or elsewhere any explanation directed pertinently to the exact point which he brings forward. Yet our correspondent will find in the book much cognate information and, supposing him not to be already familiar with it, much that is suggestive of the elucidation for which he is inquiring.

TREATMENT OF INGUINAL HERNIA BY EXERCISES.

In the *Yale Medical Journal* for February Dr. Jay W. Seaver recommends exercises in the treatment of inguinal hernia in the young, a method which does not appear to have received attention previously. The *rationale* of the treatment is obvious; the inguinal canal is surrounded by muscles which the more they are developed the more they resist the passage of any of the abdominal contents. Dr. Seaver finds that of college students nearly 3 per cent. have indirect inguinal hernia and that other forms of hernia are very rare. Physical examination of the Yale students showed that in only about 16 per cent. of those suffering from hernia was a truss worn; many were unaware of the existence of the hernia. By practice a patient can acquire the power of contracting particular parts of the abdominal wall. Almost any person can in a month learn to contract the lower abdominal wall near the pubic arch and can make this contraction pass as a wave up the abdominal wall. Or one side of the abdomen may be contracted and then the other. The following are some of the exercises which Dr. Seaver recommends. They are performed twice or thrice daily for from five to eight minutes. 1. Lying on the back on a rug with a thin cushion under the head the right knee is raised and drawn as close to the chest as possible. Then the leg is extended and the same movements are performed with the left. These movements are repeated five times. Then both knees are raised towards the chest and the pelvis from the floor, placing the hands palms downwards under the hips. These movements are repeated from five to ten times. 2. Lying on the back the feet are drawn up to the buttocks and then the hips are raised from the floor as far as possible bearing the weight on the feet and shoulders. This exercise is repeated ten times. 3. The right leg is raised to the perpendicular keeping the knee as straight as possible, the left leg lying straight on the floor and the hands with the palms downwards being under the hips. This is repeated five times on both sides. Then both legs are raised to the perpendicular an equal number of times. 4. Standing erect with the head and hips held well back the patient inspires deeply and at the same time retracts the lower abdomen as much as possible. Then he relaxes the abdominal wall and expires. He repeats this from five to ten times and while contracting the lower abdomen pushes out the upper; then he reverses the movement, contracting the upper abdomen, causing the wave of contraction to pass downwards over the abdominal wall. 5. Lying in the horizontal position the patient raises the body to the sitting posture, keeping the neck well extended. After from two to three months of this treatment Dr. Seaver advises the substitution for the truss of a flat pad (a convex one would tend to open the inguinal ring). He has used with good results a disc of polished wood 60 millimetres in diameter having a segment removed from the side which lies against Poupart's ligament. This pad is kept in place by a rubber-covered steel spring. When the growth of muscular tissue does not seem sufficiently rapid somewhat vigorous massage of the inguinal region may be performed. The best results are obtained in patients with an inclination for athletics. Dr. Seaver, after a period sufficiently long to test the permanent value of the treatment, has found it successful in 75 per cent. of patients under the age of 25 years. Though as a general rule the treatment appears to be applicable only to those who have not reached physical maturity, occasionally it is successful in older patients. For example, a man, aged 38 years, had worn a truss for 12 years to support a hernia The truss acted satisfactorily but the hernia descended when it was removed. Dr. Seaver recommended operation but the patient would try exercises though he was told that they were useless. The hernia never descended after the treatment was begun and a year later the ring was of normal size But the use of the truss was still advised. Subsequently it was worn only in the afternoon and still later it was worn only during vigorous exercise of which he was very fond. Finally, it was entirely discontinued and although he indulged in heavy gymnastics the hernia did not recur.

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[1] THE LANCET, April 2nd, 1904, p. 969.

HYGIENE AND TEMPERANCE AS SCHOOL SUBJECTS.

IT is proposed in a petition signed by a majority of medical practitioners in the United Kingdom that instruction in elementary hygiene, with special reference to the effects of alcohol, should be included among the compulsory subjects of school education. It is pointed out that such instruction is already provided for in the optional code. Attention is also directed to the fact that it forms part of the regular course in army schools. Of Canada as a whole, of Victoria, and of Natal the same is true. In South Australia temperance teaching is systematically carried out. In the United States of America the principles of health and the necessity of temperance are taught, if possible, with even more marked insistence. There can thus be no doubt that the terms of the petition are in accord with the views and the practice of the English-speaking world. Its wording is moderate and judicious and its object, as we have noticed, has already obtained the countenance of the Education Board. Of necessity any project of the kind can only be of limited utility while its promotion is left to the mere choice of individuals. On the other hand, the importance of the subject is generally admitted. Health and sobriety are obviously among our most indispensable national assets. The present relation of education to them can only be justified on the ground that our knowledge of them is instinctive or that it comes to us as a result of our social conditions. But this is not the case. We are therefore left with the alternative that such instruction as is needful for the right understanding of health and temperance must be systematically given. In the public interest we trust that it will be so given.

AN UNUSUAL FORM OF LEAD PARALYSIS

Dr. P. Merklen and Dr. H. Guiard have published in the *Archives de Neurologie* for April an account of a condition resulting from lead poisoning not recorded hitherto and believed by them to be rare The case was one of lead paralysis of very limited localisation, the causation of which was clear, though differential diagnosis was a matter of difficulty. Under prolonged treatment the cure of the patient was complete. The case was one of saturnine paralysis affecting only a small and limited group of muscles of one hand, its rarity being likely to embarrass the diagnosis. Tanquerel des Planches in his classical thesis of 1834 on lead encephalopathy, records a case of isolated paralysis of the fingers and ball of the thumb resulting from lead poisoning, together with a similar involvement of the extensor muscle of the great toe. The case recorded by Dr. Merklen and Dr. Guiard was that of a man aged 35 years, with a good family history except that his mother died at the age of 57 years from rheumatism. There was no personal history of syphilis or of other infectious disease. On June 20th, 1902, the patient suffered from neuralgic pains in the right ilio-lumbar region which disappeared after a little while. Afterwards he had a feeling of "swelling" of the last two fingers of the right hand and of the corresponding portion of the palm. This paræsthesia was accompanied by a general bodily feeling of coldness. Physical examination showed loss of sensibility to touch and pain in the affected area, while the thenar eminence was seen to be atrophied slightly. The first interosseous space also showed a marked flattening (atrophy) of the muscles, which was barely perceptible in the other spaces. He now found it difficult to pick up a coin from the floor. The atrophy and paralysis gradually increased locally. Meanwhile the troubles of sensibility disappeared and only the atrophy remained to disquiet the patient. The grip of the right hand as shown by the dynamometer was one-tenth of the power of that of the left hand. The movements of the thumb were limited and weak. Sensibility to touch and pain was found to be dulled along the radial nerve, especially in its palmar distribution, but sensibility to hot and cold sensations was well preserved. The muscles of the forearm reacted normally to electricity (faradic and galvanic) but the reactions were diminished in the muscles of the hand. There was, however, no reaction of degeneration. Excluding notions of myelopathy and myopathy a peripheral neuritis was diagnosed. On careful inquiry it was found to be due to lead poisoning, as the patient had to handle lead compounds in textile fabrics in the manufacture of which he was engaged. A slight "blue line" was discovered on the gums. He was put under treatment with alkaline iodides, massage, and local applications of electricity. In five weeks considerable improvement had resulted; in seven weeks more there were marked evidences of recovery and the atrophy was visibly passing away; eventually power returned to the right hand, the grip of which was equal to more than half of that of the left hand.

WEIGHTS AND CORRELATIONS OF THE VISCERA.

THE study of the biometric constants of the human body is almost confined to a somewhat limited group of workers who, in addition to an acquaintance with anatomy and pathology, possess a taste for statistics, the analysis of multitudinous data, and arithmetical computation. In a recently issued number of *Biometrika*[1] Mr. M. Greenwood, jun., has published a useful contribution to an important branch of the subject, the full title of his paper being "A First Study of the Weight, Variability, and Correlation of the Human Viscera, with Special Reference to the Healthy and Diseased Heart." His data were obtained from the pathological records of the London Hospital and are distributed for purposes of classification and comparison in 16 tables, most of which are of dimensions exceeding half a page of THE LANCET. He considers the subject under four aspects—namely (1) the average sizes, variabilities, and correlations of the heart, liver, spleen, and kidneys in the general population, diseased and normal, to be found within a London general hospital; (2) the same quantities or ratios for healthy or normal organs only; (3) the influence of age on the biometric constants for the viscera in man; and (4) the influence of certain special diseases. Selecting as illustrative examples only the figures relative to the heart and liver (of course taken jointly or in combination) we observe that for the general hospital population the mean weights of the heart and liver are given respectively as 13·53 and 63·01 ounces, the correlation of heart and liver being 0·1931 ± 0·0175 This weight of the heart is obviously higher than that usually given in anatomical text-books and in this place Mr. Greenwood remarks that in making the records there has been "some special reason for measuring livers in the case of very large hearts." For healthy organs the mean weights of the heart and liver are given respectively as 11·04 and 60·44 ounces, the correlation of heart and liver being 0·2780 ± 0·0329. In cases of pneumonia the mean weight of the heart is above that of the healthy heart but is slightly below that of the general hospital population heart. On the other hand, valvular disease and aortic aneurysm send up the weights of both the heart and the spleen not only vastly above their healthy values but markedly above the values for the general hospital population.

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[1] A Journal for the Statistical Study of Biological Problems. Vol. iii, Part 1. London. C. J. Clay and Sons (Ave Maria lane) and H. K. Lewis Gower-street). Pp. 112 Price 10s.

TRAUMATIC HÆMATOPERICARDIUM.

IN the *Boston Medical and Surgical Journal* of March 3rd Dr. J. L. Morse has reported an interesting case of hæmatopericardium due to an unusual cause. A girl, aged two and a half years, while looking out of a window fell forwards on a needle which was on the window-sill. The needle entered the chest near the right edge of the sternum and broke off. An incision was made over the point of entrance but nothing was found. She remained apparently well for two weeks and then her appetite failed, respiration became difficult, and she complained of pain in the side. On July 10th, a month after the accident, she came under Dr. Morse's care. The cardiac impulse could not be felt and the heart sounds were faint. Cardiac dulness extended on the right to the parasternal line and upwards to the junction of the manubrium and gladiolus and to the left first intercostal space. Dulness extended over the whole of the left chest in front and thence backwards as far as the posterior axillary line. Over this area respiration was diminished. The temperature was 100 6° F., the pulse was 130, and the respirations were 50. On the 11th radioscopy showed that the cardiac shadow extended up to the first rib on both sides, to the right two and a half centimetres from the middle line, and to the left three centimetres from the middle line. No needle was seen. Thus the physical signs were not characteristic of fluid in the pericardium but the radioscopic examination was. An aspirating needle was introduced into the right fifth intercostal space at the edge of the sternum and bloody fluid escaped under considerable pressure. As serous or purulent fluid was expected it was thought at first that the heart had been tapped and the needle was at once withdrawn. But it was soon evident that the heart had not been wounded, for its action was unaffected. The needle was then introduced into the sixth left space, nine and a half centimetres from the middle line. Dark bloody fluid issued under great pressure. More than 100 cubic centimetres escaped; then 400 cubic centimetres more were withdrawn by aspiration. The heart sounds became louder and a friction sound was heard. The child was much relieved by the operation. On the 13th a feeble cardiac impulse was visible. The cardiac dulness extended upwards to the upper border of the third rib, to the right two and a half centimetres from the middle line, and to the left seven and a half centimetres in the sixth space. The front of the left chest was still slightly dull. Radioscopy showed that the cardiac shadow extended upwards to the lower border of the second rib and to the right about one and a quarter centimetres from the middle line in the fourth and fifth spaces. It is difficult to explain why the cardiac area appeared to be normal on radioscopy but larger on physical examination. The child was discharged well on July 15th. Just before her discharge radiographs were taken and showed that half of the needle still remained behind the sternum. Operation was advised but declined. Dr. Morse explains the fact that an interval elapsed between the accident and the onset of symptoms by supposing that the needle did not at first reach the pericardium but later worked its way to it. The fact that the needle did not scratch the pericardium and cause fresh bleeding after the removal of the fluid was no doubt due to its becoming encapsuled.

A SESSIONAL meeting of the Sanitary Institute will be held at the Parkes Museum, Margaret-street, London, W., on Saturday, April 30th, at 11.30 A.M., when a discussion will take place on Food and Meat Inspection. The discussion will be opened by Colonel J. Lane Notter, R.A.M.C., and Mr. W. Hunting, F.R.C.V.S. General discussion is invited. The chair will be taken by Mr. Charles Game, chairman of the Cattle Markets Committee, Corporation of London. The meeting will adjourn for luncheon at 1.30 P.M. and at 3 P.M. a visit will be paid to the Metropolitan Cattle Market, York-road, Islington, conducted by Mr. J. King, M.R.C.V.S. Tickets for admission of visitors may be had on application to the secretary, Mr. E. White Wallis, 72, Margaret-street, London, W. The institute dinner will be held in the Whitehall Rooms of the Hôtel Métropole, London, S.W., on Monday, May 2nd. Dr. Robert Farquharson, LL.D., M.P., Vice-President of the institute, will take the chair and will be supported by the Right Hon. Sir John Ure Primrose, Sir William Church, Bart., Sir R. Douglas Powell, Bart., Sir R. M. Hensley, Sir Henry Norbury, Sir William Taylor, Sir William White, Mr. J. Tweedy, Dr. J. Groves, the Mayors of Hampstead and St. Marylebone, and the council of the institute.

WE have received the first of the scientific reports of the investigations of the Cancer Research Fund which deals with the zoological distribution, the limitations in the transmissibility, and the comparative histological and cytological characters of malignant new growths. Dr. E. F. Bashford's and Dr. J. A. Murray's paper read before the Royal Society on Jan. 21st and published in THE LANCET of Feb. 13th, 1904 (p. 413), contains the gist of this report which records fully the attempt made to investigate cancer from a standpoint in keeping with the extent to which it pervades the animal kingdom. The investigations have been conducted by Dr. Bashford, the general superintendent and director of the Central Laboratory, whose work has been, to use Dr. Bashford's words, "in every sense carried on conjointly with Dr. J. A. Murray, who shares with me the responsibility for the observations and the deductions based upon them."

AT a meeting of the Metropolitan Asylums Board held on April 16th a memorial signed by some 13 medical superintendents was considered protesting against a recent decision of the hospitals committee that the supply of coal, gas, or electricity should be limited. A somewhat heated discussion followed but eventually a motion, proposed by Mr. W. H. Ecroyd, seconded by Mr. G. S. Elliott, and warmly supported by Mr. W. Crooks, M.P., was carried to the effect that the memorial should be remitted to the General Purposes Committee for consideration and report.

His Majesty the King, having been invited by the secretary of the South London Schools' Athletic Association to be present at the Annual Athletic Festival at Herne Hill on June 22nd, has replied through Captain Ponsonby that, while regretting, owing to his numerous engagements at that time, he will not be able to be present, he regards with satisfaction the importance which is now attached to the physical development of children and that he takes great interest in all institutions which have for their object the improvement of the physique of the young.

VIVISECTION AND MILK-SUPPLY.

WITH the approach of warmer weather the necessity of increasing the severity of sanitary precautions annually recurs. Of course, it is on infant life that any defect in sanitation makes itself most felt. As infants depend on milk, and very often it is not the mother's but cow's milk, there is, no doubt, a marked connexion existing between the quantity and quality of the milk-supply and the prevalence of infantile mortality. So convinced are many of our sanitary authorities on this point that they have induced their town councils to obtain special legal powers more effectively to control the milk-supply. This is notably the case with the corporations of the cities of Manchester and Glasgow. The remarkable series of experiments made by Professor S. Delépine provided ample scientific evidence to prove how necessary it is to supervise minutely milk supply and distribution. After examining milk during many years, Professor Delépine concluded that to detect a small number of bacilli within a practical length of time the inoculation method was much more trustworthy than the mere use of the microscope. The tubercle bacillus was only detected with the microscope in one half of the samples of milk which were proved by inoculation to be tuberculous At the Congress on Tuberculosis held in London in 1901, Dr. James Niven, medical officer of health of Manchester, related that in 1899 samples of mixed milk from 401 farms supplying the city of Manchester were taken and on examination 47, or 11·7 per cent., proved to be tuberculous. Of 108 samples of milk taken at the railway stations 18·5 per cent. were tuberculous, consequently, and if this cannot be stopped, it would apparently mean that at least once in ten times the Manchester purchaser of milk is served with milk containing pathogenic germs of tuberculosis. It must be confessed that, in any case at first sight, these figures seem to defeat the purpose for which they are brought forward. If in every ten cups of tea we get one dose of the tubercle bacilli it does not seem as if these germs were very mischievous, otherwise no one would escape. It is, however, in regard to infants that the greatest danger arises and then also it is not merely a matter of infection but of the amount of infection. This question of the amount applies to infants, for with them milk is the sole or the principal food given and excessive infantile mortality is still very prevalent where it is difficult to obtain pure milk.

The difficulties of dealing with tuberculous cows are very great. It has been clearly shown that a tuberculous cow may at first appear perfectly healthy, that no mere manipulation of the udders discloses any suspicious symptom. Then, again, the contaminated milk, if only examined by the microscope, will not always appear to be infected. Nevertheless when the bacilli are not numerous enough to be detected by the microscope they will be very perceptible in the deep inguinal glands of the guinea-pig 15 days after inoculation. Later the presence of tubercle may be detected by the veterinary surgeon who examines the udders of the cow but there are periods when the presence of the disease can only be detected by experiments on living animals. How the antivivisectionists mean to meet this difficulty it is hard to say. Mr. J. S. Lloyd, late veterinary surgeon to the city of Manchester, calculated that out of a grand total of 9576 cows, the milk of which was tested for tuberculosis, there was 0·54 per cent. of the cows with tuberculous udders. According to the agricultural returns for 1900 the number of cows in milk in England was 1,899,623. If the proportion resulting from the very extensive examinations made by the Manchester authorities is applied to England then there should have been 10,257 cows with tuberculous udders. Applying thes ame calculation to Great Britain we have 2,620,901 cows in all of which 14,152 had tuberculous udders. Those persons who are so very much concerned about the welfare of animals might consider the condition of these 14 000 to 15,000 tuberculous cows that in all probability are now in our midst. It is, perhaps, of no use to ask the antivivisectionist to display some concern as to the fate of the infants who drink the milk derived from these cows and to consider that this milk being mixed with other milk we have, as a result, the contamination of about 10 per cent. of the total milk-supply, even though only about one cow in 200 has tuberculous udders. But these tuberculous cows are either prematurely slaughtered or live to suffer from the disease which they have contracted. It might be worth while to attempt to do something to save the cows from the danger of contamination. Setting human beings aside as unworthy of consideration where animal life is concerned the question might be put to the antivivisectionist whether it is not worth while to sacrifice a few guinea-pigs for the sake of saving a much larger number of cows. The fact that this would save a still greater number of human beings will, we trust, not mitigate against any effort being made on behalf of the cows.

The great points are the immediate detection of tuberculosis and the isolation of the affected cow before it has time to contaminate other cows. For this purpose some towns have acquired powers that are more extensive than exist elsewhere. Within the boundaries of the town itself the matter depends on the sanitary authorities but the greater part of the milk of large towns comes from beyond the boundaries. The cowsheds, &c., within the town may, of course, be inspected but special powers have to be confirmed by Act of Parliament so as to extend this right of inspection to farms situated in the country. Even when this is granted an order must first be obtained from a justice having jurisdiction in the place where the sample is to be taken. Should it then be proved that the cow in question is tuberculous the owner can be forced to isolate the animal and can be fined to the extent of £5 if he does not do so.

The farms, however, are scattered over so many counties that it is almost impossible to control them properly. When samples are taken at the station on the arrival of the milk train the farmer somehow hears of it and by the time a magistrate's order has been obtained to inspect his farm the cow or cows that contaminated his milk have been slaughtered or sold or sent elsewhere. But even if the cow remains and its diseased condition is demonstrated the farmer can only be compelled to isolate the cow and there is no one to watch in order to see that such isolation is constant and effective. But, what is worse, the farmer is free to sell the cow and it may be taken to some other locality where the fact that it is diseased will be more successfully concealed and there will be no one to prevent the sale of its milk. The last published annual report of the medical officer of health of the city of Manchester shows how the system works, for this is one of the towns which possess special powers in regard to milk-supply. It is stated that during the year 1902. though 5649 inspections of cows were made in the Manchester cowsheds, not a single cow was found to be suffering from tuberculosis of the udder. This shows what inspection can do and it is more difficult to keep cows healthy in town than in the country. Yet how different was the result when dealing with the milk that [illegible] of the Manchester Cor- [illegible] efficient control cannot [illegible] amples of milk coming from 345 farmers were taken at the Manchester railway stations. Of these farmers, 196 reside in Cheshire and 25 of them, or 12·72 per cent., sent tuberculous milk. 104 live in Derbyshire and nine of them—that is, 8 65 per cent.—sent tuberculous milk. From Staffordshire 4 01 per cent. and from Lancashire 8 31 per cent. of the farmers sent tuberculous milk. On the 345 farms there were 6210 cows and in following up the evidence of the presence of tuberculosis at 36 farms 1236 cows were examined. 31 cows were found with tuberculosis of the udder and 15 were forthwith slaughtered, but 15 disappeared, were sold, and no one knows what further mischief they may have done. As 36 samples from 345 farms taken during 1902 contained tubercle bacilli this is equal to a percentage of 10·43 There is surely something very striking in this percentage of contamination, particularly when compared with the fact that the cows in the town cowsheds were inspected 5649 times and not a single case of tuberculous infection of milk was found.

Such a comparison is a clear proof that great improvements are possible where efficient control can be established. But a long time must elapse before the numerous small farms scattered over rural districts can be brought up to the level of modern sanitary requirements. In the meantime the presence of infection has to be demonstrated positively before the legal power to act can be obtained. But the antivivisectionist would render such a demonstration impossible. The report, after giving the above figures, goes on to say :—

> There is no doubt that as time goes on the detection of tuberculosis of the udder becomes increasingly difficult. The class of cases met with at one time are now almost never seen. I refer to the well-marked cases in which there was no difficulty in diagnosis. In by far the greater [illegible] ow found a reliable diagnosis is impossible [illegible] examination. The cases found being so sli [illegible] naking an inspection of a herd of dairy cows to make one's observations as complete as possible, always remembering that you can only form a suspicion, and that it is for the bacteriologist to say whether the suspicion is well founded or not. In several cases I have taken samples from cows whose udders have shown no sign of disease, my suspicions being perhaps aroused by some other symptom or combination of symptoms external to the udder, and the milk has been found to be tuberculous.

One of the worst cases occurring during the year related to five samples of milk taken at a railway station from separate cans that all came from a large dairy in Shropshire. Professor Delépine produced tuberculosis with three of these samples and the animals experimented upon with the two other samples died from septic infection. With such evidence to go upon it was possible to obtain magistrates' orders, and ultimately, arising out of this one case alone, 75 farms, 181 cowsheds, and 2420 cows were visited. Very little of the milk from these cows had been sent to Manchester, it being for the most part despatched to London. Many of the cowsheds were in a filthy and very insanitary condition and contagious abortion prevailed. In one farm, out of 47 cows 34 aborted. All these evils would probably have remained undiscovered but for Professor Delépine's experiments on animals. Again, it may be asked whether it was not worth while to sacrifice a few guinea-pigs so as to improve greatly the condition of the 2420 cows concerned in the experiments made with the five samples of milk. Nothing shall be said as to the human beings who in Manchester and London consumed the milk derived from all these cows and who were saved from further contamination by the sacrifice of a few guinea-pigs. The antivivisectionist does not admit that animal life should be sacrificed to save human life. In these circumstances he cannot logically be a meat-eater but even vegetarians recognise that it is necessary to have milk. Some might go so far as to allow that it is necessary to have leather. We are not aware that the antivivisectionist has ceased to wear boots or that he objects to leather harness for his horses. Then there are many industries that employ large bones, so that when the antivivisectionist vegetarians have triumphed along the whole line the existence of cows and the drawing of their milk may still be tolerated. How is the health of these cows going to be preserved? More than 2000 cows connected with one single Shropshire dairy have every reason to be grateful to Professor Delépine for his experiments on guinea-pigs. But the antivivisectionists would have prevented these experiments and therefore it seems that instead of reducing the amount of suffering which animals endure they would, on the contrary, greatly increase the prevalence of disease among them. It is obviously a mistake to imagine that vivisection is only useful to human beings. When applied for the control of milk-supply it becomes the means of saving from disease not human beings only but also a vast number of cattle. The discovery of a case of tuberculosis of the udder means official pressure being brought to bear so that the sanitation of cowsheds, &c., shall be improved. It has been stated that there are more than 2,500,000 milk-giving cows in Great Britain. Is this not a total of animal life worth considering from the humanitarian point of view? The sanitary improvements which the control over milk has shown to be necessary will also affect beneficially the cows that are not milk-givers, and the bulls, the bullocks, and the calves as well. The argument might be carried much further, as it applies to many other animals. What, however, has been said in regard to milk will doubtless suffice. Here the practice of vivisection has proved of benefit to the cows. Of course, it is obvious that what is useful—for instance, good sanitation and antiseptic precautions—to the medical practitioner when treating human beings as his patients is also useful to the veterinary surgeon when treating animals as his patients. Animal life, especially in the case of animals of higher organic development such as horses, dogs, cattle, sheep, and others, has as much to gain from the knowledge which is derived from the practice of vivisection as has the human family itself.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A quarterly meeting of the Council was held on April 10th, Mr. John Tweedy, the President, being in the chair.

In accordance with the recommendation of the Jacksonian Committee the Jacksonian Prize was awarded to the author of the dissertation on the Various Forms of Conjunctivitis, their Pathology and Treatment, bearing the motto "Fiat lux." The President opened the envelope bearing this motto and declared Mr. M. Stephen Mayou, F.R.C.S., to be the author of the successful essay and it was resolved that Mr. Mayou should be requested to attend the next meeting of the Council to receive the Jacksonian Prize. It was resolved that the subject for the Jacksonian Prize for the year 1905 should be the Pathology and Treatment of Deformities of the Long Bones due to Disease occurring during and after Adolescence.

In accordance with the recommendation of the Triennial Prize Committee the Collegial Triennial Prize was awarded to Mr. T. R H. Bucknall, F.R.C.S., for his dissertation on the Pathological Conditions arising from Imperfect Closure of the Visceral Clefts. It was resolved that Mr. Bucknall should be requested to attend the next meeting of the Council to receive the Collegial Triennial Prize and that he be asked whether he would prefer the John Hunter Medal executed in gold to the value of £50 or the said medal executed in bronze with an honorarium of £50 It was resolved that the subject for the next triennial prize should be the Effects of Nerve Lesions on Growth and Development.

A report was received from the Laboratories Committee and was adopted. Among other matters it contained the statement that Dr. T. G. Brodie has collected one volume of papers relating to researches carried out in the laboratories during the early period of his tenure of office and that he hopes shortly to be in a position to issue a second volume containing the papers published during the later period. It has not been found possible to compile a volume of papers published during Professor G. Sims Woodhead's term of office as director and therefore the secretary has been requested to print an index of all papers issued from the laboratories, with references, where known, to the publications in which they appeared.

A report was received from the Conjoint Committee and was adopted. It dealt with the course of study during the first year of the curriculum and the scope of the first examination. It submitted recommendations and syllabuses drawn up after consultation with the examiners and teachers on the various subjects.

Mr. W. H. A. Jacobson was elected a member of the Court of Examiners in the vacancy occasioned by the resignation of Mr. Henry Morris.

The Council proceeded to the election to the Fellowship of a Member of 20 years' standing and Mr. Edward Ward, professor of surgery in the Yorkshire College, Leeds, was elected.

A letter was read from the Irish branch of the British Dental Association calling attention to the judgment in "O'Duffey v. Jaffe, Surgeon Dentists, Ltd.," and asking the College to instruct its representative on the General Medical Council to support action on the part of that body towards petitioning the Privy Council to initiate legislation necessary to obviate the evils disclosed. Mr Henry Morris, the representative of the College, was requested to take such steps as seemed to him desirable in order to assist this matter.

The President reported that Mr. A. Pearce Gould's period of office on the Court of Examiners would shortly expire and that the vacancy thus occasioned would be filled at the next meeting of the Council on May 12th, together with the vacancy caused by the resignation of Mr. Henry Morris, Mr. Gould being a candidate for re-election. Applications for the examinership must be sent in on or before May 4th.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 22, 1826.

"THE Chinese, whom I venture to pronounce the most unique, and the most original people at this day on the face of the earth, look at medicine in two points of view, a favourable one, and an unfavourable.

The sincere, diligent, candid, and benevolent practitioner who toils for the health of his neighbours and fellow-countrymen, they regard as holding a place equal in importance to that of a virtuous minister of a powerful monarch, who is a blessing to the empire. On the other hand he who has no higher motive than his own emolument, and who, from his ignorance or his foolhardiness, as often kills as cures, they regard with sovereign contempt, and feel ashamed that such men should be called by the same name as the sincere votaries of the healing art, which, by a very appropriate and honourable distinction, they call Jinshuk, 'the benevolent art.' The ideas I have thus put into English, are taken from the preface of a work in forty volumes, compiled by the united efforts of about a hundred persons connected with the Imperial College of Physicians at Pekin during the reign of th- [illegible] monarch, known by the name, [illegible] which being interpreted, mean [illegible] which is the latest national work in China on the subject to which this paper has a reference, was published about the year A.D. 1740.

There is an individual and private work in eleven volumes, printed not more than fourteen years ago, entitled E-Shoo-Hwuy-Tsan, '*A Comparative Compendium of Medical Books.*' This is the latest publication which has any pretensions to particular notice that I have seen.

The imperial work above referred to, is entitled E-tsung kin-këen, '*A Golden Mirror of the most approved Medical Practice.*' All books in China referring to medicine, that could be procured by purchase or by loan, were collected, and traditional popular MSS. were sought by the order of government. In four years it was completed. In this work it is maintained, that in the remote ages of antiquity, medicine and the affinities and correspondencies in nature were better understood than at any subsequent period.

Chinese writers attribute the ascertainment of the properties of herbs to Yente, the illustrious monarch, an antediluvian personage in their annals, placed about 3000 years before our era. This illustrious king, Yente, is otherwise called Shinmuy, which appellation means 'Divine Husbandman.' About the same time lived another king, Hëen-yuen, and a statesman named Ke-pih, who, with the monarch just now named, formed, by their personal efforts, a sort of royal society for physical and medical research in China, and in allusion to them, medicine is sometimes called '*the art of Ke heen.*' To Ke-pih the origin of Tsze-chih, i.e., '*impuncture,*' is attributed. There are two fragments yet extant attributed to Ke-pih, and which (according to the imperial editors and other writers) are the most ancient notices in China concerning the cause and cure of diseases.

Both these medical fragments are given in the work published fourteen years ago by a private hand, to which I referred in the beginning of this paper. They are considered more ancient than the classical books collected and edited by Confucius; but how their authenticity and genuineness are traced, I know not.

The Shoo-king compiled by Confucius, mentions Woo-hëen as skilled in the cure of diseases about 3000 years ago. The next names of eminence in this department are Tsang-kung and his pupil Peen-tsoo, otherwise called (Looe) Doctor of Loo, who lived about 2100 years ago. Shun-yue, a doctor of some note, lived about this time.

In the fourth century Wang shuh-ho was chiefly famous for his work on the pulse, an epitome of which is given in Du Halde's China.

In the sixth century Chin-kwei lived, who is said to have cut into the abdomen, removed diseased viscera, stitched up the part again, and healed the patient in a month's time. He gave an opiate to the patient, which rendered him insensible, before he began the operation. The opiate is called Ma-fuh-san, which seems to express that it was in the form of a powder.

There was one man of eminence called Heuyin-sung, who rather undervalued the doctrine of the pulse, and said he could do without it.

The above-mentioned are a few of the desultory names of eminence connected with China; there are four persons still more eminent as writers, and who are well known by the epithet Sze-ta-kea, 'the four great masters,' or leaders of separate schools, and authors of distinct systems. From the first of them to the last embraced a period of twelve centuries.

The first is King-chung-chang. He lived during the How-han, A.D. 220, and was a native of Nan-yang.

The next is Lew-chow-chin. He lived under the Sung dynasty, A.D. 1200.

The third is Le-tung-hwan, who lived under the first Tartar dynasty, A.D. 1300; and the last is

Choo-tan-ke, a native of Che-keang province, who lived during the late China dynasty, Miny, A D 1500.

The first name is considered 'The father of Physic:' he left numerous writings, which are still much read."[1]

MEDICINE AND THE LAW.

Unqualified Practice under the Cover of a Limited Company.

AT Bolton borough police-court an unqualified person was recently convicted under Section 3 of the Dentists Act, 1878, of having unlawfully taken and used the title of dentist, implying that he was registered under the Act. Evidence was given that outside the premises where the unqualified practice took place appeared the inscription, "Reynolds, dentist," and that in a room fitted up as a dental surgery the defendant, whose name was Richard Willoughby Reynolds, was asked if he was "Mr. Reynolds, dentist," and answered that he was "one of them." In cross-examination it was denied that words were to be seen indicating that the business was carried on by a limited liability company. Evidence was, however, called by the defence to prove the registration of a company under the Companies Acts with the title, "Reynolds and Sons, Dentists, Limited," and an agreement was put in made by the "company" on the one side and the defendant on the other. It was also alleged that the full title of the company was displayed. It was not suggested that the defendant or anyone holding any shares in, or connected with, the company was qualified. The advocate for the defence contended that the defendant was merely the servant of a company, that the practice of dentistry by an unqualified person was not illegal, and that the magistrates must be satisfied that Reynolds had held himself out to be a person on the Dental Register. The magistrates found as a fact that Reynolds had committed the offence with which he was charged, and being further pressed for a finding as to his relations with the company found that he was acting as principal, basing their view upon his own admissions. They inflicted a fine of £10 with costs and declined to state a case for the consideration of the High Court. The position which arises when an unqualified person registers a company with a view to practising medicine or dentistry under a name which obviously implies qualification and registration but to which the word "limited" is appended was fully discussed in THE LANCET of March 19th, p 814. It was then pointed out that the company cannot be summoned as such and convicted of using a name or title implying registration because a corporation cannot in any case be placed upon the medical or dental register. On the other hand, an individual who practises under cover of a company can be convicted of the offence if the bench is satisfied that as a fact he committed it. The question, of course, is what the titles used would imply to the persons to attract whom they are displayed.

The Supply of Artificial Teeth by Unregistered Persons.

A somewhat analogous case came before the Divisional Court on April 18th when the Lord Chief Justice and Mr. Justice Wills upheld the decision of a county court judge in a case in which unqualified persons trading as a limited company sued for dental work. The claim was in respect of filling teeth and of a partial set of artificial teeth supplied. The county court judge had allowed the claim so far as it was for making the set of teeth and not for fitting them or for filling teeth, and the appeal was brought by the defendant against this decision. The Dentists Act, 1878, provides that "a person shall not be entitled to recover any fee or charge for the performance of any dental operation or for any dental attendance or advice unless he is registered under this Act or is a registered medical practitioner." In dismissing the appeal both judges expressed reluctance to adopt the construction of the Dentists Act which the terms of the section quoted rendered necessary, laying stress on the importance to the public that patients should be supplied with properly constructed teeth, supplied and fitted by qualified dentists. The Lord Chief Justice, however, was of opinion that "dental operation" must refer to an operation performed upon the mouth of the patient and he also called attention to the wording of the corresponding section of the Medical Act in which the words "any medicine supplied" are inserted. The Dentists Act contains no corresponding words applicable to artificial teeth. His lordship also pointed out that such teeth were no new invention but were well known as work within the scope of the dentist's profession when the Act was passed. The matter is therefore one for future legislation if any change is to be brought about and the decision settles a point which has long been considered doubtful.

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[1] Excerpt from Review of *Medical and Surgical Cases* by Edward Sutliffe, Queen-street, 8vo, pp 464. Vol. II. London, 1825. Printed [illegible]

The Regulation of Underground Bakehouses.

At Bradford police-court on April 16th the stipendiary magistrate, Mr. Charles Skidmore, gave his decision with regard to a summons taken out by the Bradford corporation under Section 161 of the Factory and Workshop Act, 1901, against a firm of bakers using an underground bakehouse. It had been submitted on behalf of the defence at the hearing of the summons that the bakehouse having been in existence before the passing of the Act was exempt from its provisions. The magistrate having referred to the authorities upon the subject upheld this contention and dismissed the summons. A case for the consideration of the High Court was applied for.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9230 births and 5142 deaths were registered during the week ending April 16th. The annual rate of mortality in these towns, which had been 18·7, 18 7, and 18 3 per 1000 in the three preceding weeks, further declined last week to 17·6 per 1000. In London the death-rate was 16·7 per 1000, while it averaged 17·9 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 8·2 in Reading, 9 7 in Southampton, 9·8 in Tynemouth, 10·3 in Walthamstow, 10·6 in Hanley, 10·9 in Hornsey, 11·0 in Hastings, and 11·5 in York; while the highest rates 22·1 in Birmingham, 22·3 in Smethwick, 22·9 Newcastle-on-Tyne, 23·2 in Wigan, 23·9 in Norwich, 24·0 in Great Yarmouth, 24 7 in Aston Manor, and 25 2 in Halifax. The 5142 deaths in these towns last week included 530 which were referred to the principal infectious diseases, against 532, 640, and 583 in the three preceding weeks; of these 530 deaths 216 resulted from whooping-cough, 191 from measles, 41 from diphtheria, 35 from diarrhœa, 21 from scarlet fever, 20 from "fever" (principally enteric), and six from small-pox. No death from any of these diseases were registered last week in Hastings, Bournemouth, Southampton, Northampton, Great Yarmouth, Burton-on-Trent, Smethwick, Grimsby, Barrow-in-Furness, York, West Hartlepool, South Shields, or Newport (Mon.); among the other towns the highest death-rates from the principal infectious diseases were recorded in Norwich, Wolverhampton, Handsworth (Staffs.), Birmingham, Aston Manor, Bootle, St. Helens, Salford, and Gateshead. The greatest proportional mortality from measles occurred in Tottenham, Norwich, Aston Manor, St. Helens, Salford, Burnley, Leeds, nd Hull; and from whooping-cough in Hornsey, Wolver- mpton, Walsall, Handsworth (Staffs.), Birmingham, Aston nor, Wallasey, Bootle, and Newcastle. None of the other ipal infectious diseases showed a marked excess in the large towns. Of the six fatal cases of small-pox registered in these towns last week three belonged to Gateshead and one each to Bristol, Leicester, and Tynemouth. The number of small-pox cases remaining under treatment in the Metropolitan Asylums hospitals, which had been 110, 126, and 134 at the end of the three preceding weeks, had further risen to 144 at the end of last week; 37 new cases were admitted during the week, against 54, 42, and 25 in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital on Saturday last, April 16th, was 1523, against 1585, 1570, and 1505 on the three preceding Saturdays; 172 new cases were admitted during the week, against 145, 153, and 141 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 383, 370, and 333 in the three preceding weeks, further declined last week to 295, but were 31 in excess of the number in the corresponding period of last year. The causes of 54, or 1·1 per cent., of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Salford, Bradford, Leeds, Newcastle-on-Tyne, and in 42 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Manchester, Sheffield, Hull, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 22·3, 20·6, and 20·3 per 1000 in the three preceding weeks, further rose last week to 20·9 per 1000, but was 3·3 per 1000 in excess of the mean rate during the same period in the large English towns. The rates in the eight S ranged from 13·8 in Perth and 15 0 in Greenock, to Paisley, and 26·5 in Dundee. The 690 deaths towns included 21 which were referred to meas whooping-cough, 15 to diarrhœa, four to "f to small-pox, one to scarlet fever, and one In all, 65 deaths resulted from these diseases last week, against 86, 72 preceding weeks. These 65 death rate of 2·0 per 1000, which the mean rate last week from 76 large English towns. T easles, which had been 22, 23, and the three preceding weeks, rose again last week to 21, of which 12 occurred in Glasgow, five in Greenock, and three in Dundee. The deaths from whooping-cough, which had been 29, 23, and 19 in the three preceding weeks, rose again to 20 last week and included seven in Glasgow, five in Edinburgh, four in Dundee, and three in Paisley. The fatal cases of diarrhœa, which had been 15, nine, and seven in the three preceding weeks, increased again last week to 15, of which seven were registered in Glasgow, three in Edinburgh, and two in Dundee. The deaths referred to different forms of "fever," which had been four, four, and three in the three preceding weeks, increased again to four last week. The fatal cases of small-pox, which had been seven, five, and seven in the three preceding weeks, declined again last week to three and were all registered in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 165, 157, and 138 in the three preceding weeks, rose again last week to 152, and were 43 in excess of the number in the corresponding period of last year. The causes of 25, or nearly 4 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 30·4, 28·5, and 29 7 per 1000 in the three preceding weeks, declined again to 24·4 per 1000 during the week ending April 16th. During the past four weeks the death-rate has averaged 28 3 per 1000, the rates during the same period being 18 1 in London and 19 6 in Edinburgh. The 177 deaths of persons belonging to Dublin registered during the week under notice showed a decline of 42 from the number in the preceding week and included 17 which were referred to the principal infectious diseases, against 14, 20, and 19 in the three preceding weeks; of these, 11 resulted from whooping-cough, four from measles, one from diphtheria, and one from "fever," but not any from small-pox, from scarlet fever, or from diarrhœa. These 17 deaths were equal to an annual rate of 2·3 per 1000, the death rates last week from the principal infectious diseases being 1·9 in London and 1·4 in Edinburgh. The fatal cases of whooping cough, which had been five, 11, and eight in the three preceding weeks, rose again last week to eight. The four deaths from measles corresponded with the number in each of the two preceding weeks. The 177 deaths in Dublin last week included 38 of children under one year of age and 42 of persons aged 60 years and upwards; the deaths both of infants and of elderly persons showed a slight decline from the respective numbers recorded in the preceding week. Four inquest cases and five deaths from violence were registered, and 55, or nearly a third, of the deaths occurred in public institutions. The causes of seven, or over 4 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet Surgeon Hamilton Meikle has been placed on the Retired List of his rank (dated April 6th, 1904).

The undermentioned Surgeons have been promoted to the rank of Staff Surgeon in His Majesty's Fleet:—Thomas Tendron Jeans, John Hunter Pead, and Hugh Somerville Burniston (dated May 16th, 1902); Harold Paget Jones and Albert Otto Bobardt (dated Nov. 14th, 1902); Sidney Thomas Reid (dated May 15th, 1903); and Charles Henry James Robinson and Harold Huskinson (dated Nov. 12th, 1903.)

ROYAL ARMY MEDICAL CORPS.

Captain St. J. B. Killery, attached to the Scots Guards, is nominated for appointment to the Royal Horse Guards. Captain J. M. Buist is appointed Clinical Pathologist to the Royal Herbert Hospital, Woolwich. Lieutenant-Colonel G. A. Hughes, D S.O., to be Colonel, vice R. de la C. Corbett, D S.O, deceased (dated March 25th, 1904); Lieutenant J. H. R. Winder to be Captain (dated Feb. 27th, 1904). Lieutenant-Colonel R. C. K. Laffan retires on retired pay (dated April 16th, 1904). Captain G. Dansey-Browning is seconded for service with the Egyptian Army (dated March 31st, 1904).

ROYAL ARMY MEDICAL CORPS (MILITIA).

Lieutenant R Le G. Worsley resigns his commission (dated April 16th, 1904).

CHANNEL ISLANDS MILITIA.

Royal Jersey Light Infantry: 2nd or East Battalion: Surgeon-Captain F. N. Gaudin to be Surgeon-Major (dated March 19th, 1904). 3rd or South Battalion: Medical Corps Section: Surgeon-Major P. B. Bentlif from Royal Jersey Artillery, to be Surgeon-Major, with seniority from July 27th, 1901 (dated March 19th, 1904); Surgeon-Captain A. C. Stamberg, from 2nd or East Battalion Royal Jersey Light Infantry, to be Surgeon-Captain, with seniority from Feb. 21st, 1903 (dated March 19th, 1904).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 2nd Devonshire: Surgeon-M [illegible] Colonel ([illegible] Joseph O' [illegible] 1904).

Royal Engineers (Volunteers): 1st Sussex: Sugeon-Lieutenant E. S. Cardell resigns his commission (dated April 16th, 1904).

Rifle: 1st Volunteer Battalion the Durham Light Infantry: Surgeon-Lieutenant L. J. Blandford to be Surgeon-Captain (dated April 16th, 1904).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Major T. W. Gibbard is permitted to complete three years as Adjutant of London Companies, R A.M.C. (Volunteers).

The London Companies: Surgeon-Major V. Matthews to be Surgeon-Lieutenant-Colonel and to command under paragraph 55A Volunteer Regulations (dated April 9th, 1904).

THE LATE STAFF SURGEON W. ROGERS, R N.: A MERITORIOUS ACT.

The late Staff Surgeon William Rogers, R.N., whose death was recorded in THE LANCET of April 16 (p, 1080), received his promotion to staff surgeon in 1845 for an act of devotion to duty which is well worthy of record. During 1845 H.M. steamer *Eclair* sailed from Sierra Leone with the crew suffering from yellow fever. At Buena Vista, one of the Cape Verde Islands, the whole of the ship's company were landed and the ship was thoroughly cleansed and fumigated. 31 of the officers and men died on the island in three weeks and it was then decided that the ship should return to England. Before leaving Mr. McClure, a naval surgeon, and seven seamen volunteered their services on the *Eclair* and Mr. McClure fell a victim to the fever. Before reaching Madeira the captain died and at that port Mr. Bernard, another naval surgeon, and two seamen volunteered their services. During the voyage from Buena Vista to England the ship lost at the rate of one man a day. On her arrival in England Staff Surgeon Rogers, then Surgeon, volunteered to board her and in attending to her stricken crew he contracted the disease himself. For a time he was dangerously ill but eventually recovered and received the promotion which he so well deserved. The *Eclair* was renamed the *Fair Rosamond* but a second outbreak of fever occurred on her and she was broken up.

A SOLDIERS' AND SAILORS' TEMPERANCE CLUB AT TOULON.

The *Revue Scientifique* of April 9th states that more than a year ago the Temperance Society of Toulon wrote to the majority of the officers in command of the Mediterranean squadron as well as to various commanding officers of the port inquiring what number of soldiers and sailors would be likely to make use of a temperance club. The result has been that upwards of 2000 men have declared themselves to be in favour of the formation of such a club provided that religion and politics are excluded. The institution will be an addition to the number of the "Foyers du Soldat" which already exist at Vincennes, Valence, and Saint-Etienne. Being situated at a naval station its full title will be "Foyer du Marin et du Soldat." The premises will comprise a large reading room provided with books, periodicals, and writing materials; a large recreation room with three billiard tables, a piano, and of course such games as chess, draughts, and dominoes; a store room for bags and other property belonging to the men; and a place for playing bowls, skittles, and similar outdoor games.

THE SENIOR MEDICAL OFFICER OF THE "PETROPAVLOVSK."

Andrew Nikolaevitch Volkovitch, who was the senior medical officer on board the battleship *Petropavlovsk* and who went down with his ship, came of a good family of the government of Smolensk. He was born in Minsk in 1870. He finished his course in the Military Medical Academy in 1894 and whilst still a student in 1892 he obtained leave to go into the Viatska government to assist to combat the then raging typhus fever and cholera. Amongst his numerous services there are counted three years which he passed with the Spitzbergen expedition in connexion with which he was decorated with a Swedish order for scientific services. Two years ago he was appointed senior medical officer on board the *Peresviet* in the Far East, but on his arrival there he was transferred by Admiral Scrydloff, then on the station and now again on his way there, to the *Petropavlovsk* where he remained until his death. He was married and leaves a widow and two young children. He obtained his doctor's degree in 1895.

DISEASE IN WAR.

In a lecture given on March 15th (states the *Novoe Vremya*) before the Society of Investigators of Military Science by Mr. V. N Okunev on infectious diseases in war and the struggle with them he said, *inter alia*, that the present theatre of war was an especially dangerous one. Inkow, for example, was recognised by various authorities as a plague centre. It raged there with varying intensity, and there were other such centres in Mongolia and Korea. In the Amur district cholera was common whilst in Korea small-pox might be called permanent. And of course besides the diseases named there were typhus fever and dysentery to fear. The wells in these countries were a difficult question as they had not been examined and might therefore be dangerous. Filters not being always trustworthy he recommended boiling the water. The lecturer did not conclude without a warning against the careless use of preserved foods.

THE ARMY JOURNAL OF THE BRITISH EMPIRE.

The proposal to issue a new military journal under War Office auspices, which has been set forth by direction of the Army Council in a special Army Order, has given rise to a good deal of comment but the idea strikes us as being a good one and well worthy of trial. Other nations —France and Germany, for example—possess official journals of the kind. The design of the publication is a bold and broad one—namely, to deal with subjects of a professional and scientific nature, to encourage the study of military science and history, and to circulate information likely to promote a knowledge of the principles of imperial defence amongst all ranks and all arms of the military forces of the Crown. Whilst upon this subject we may say that the numbers of the *Journal of the Royal Army Medical Corps* for March and April show that the journal is growing in scientific and general interest.

THE WAR IN THE FAR EAST.

Press reports state that many of the Japanese troops in Korea are suffering from symptoms resembling those of beri-beri. This disease has long been known to exist along the south-eastern coasts of Asia and in Japan. In THE LANCET of May 2nd, 1896, p. 1238, we gave some account of an outbreak which occurred in the year 1894 in the Fiji Islands, all the patients being Japanese labourers of whom about 300 were imported for the purpose of working on sugar plantations. The Japanese known to be attacked were 268 in number, of whom 65 died, and in February, 1895, the whole of the survivors were sent back to Japan. The disease was entirely confined to these immigrants, not spreading either to the native Fijians or to the imported Indian labourers. The medical officers of the Japanese army will no doubt do everything that may be possible to arrest the disease in the present circumstances.

THE ROYAL NAVY LIST.

The April issue of the "Royal Navy List," which is published by Messrs. Witherby and Co., 326, High Holborn, London, W.C., contains appointments, promotions, retirements, and such like details bearing date as late as March 26th and in the admirable "Current History of the Royal Navy," a comparatively new feature of the List, we notice that there is a reference to the lamentable accident to the submarine A 1. The war and meritorious services of officers of the Royal Navy, Royal Marines, and Royal Naval Reserve are arranged in a manner which admits of easy reference, not a small matter when it is remembered that the names of some 10,000 officers are dealt with. The book is full of information on all matters connected with our first line of defence.

MILITARY MEDICAL INTELLIGENCE.

While the Army Medical Service may not be disposed to regard with any favour the position recommended to be assigned to it in future by Lord Esher's Reconstruction Committee the proposal to attach an officer of the Royal Army Medical Corps, who will travel when necessary, to the section of the Director of Military Operations which deals with intelligence will be recognised by all as a necessary and valuable recommendation.

DEATHS IN THE SERVICES.

Surgeon-Colonel George Cochêt Chesnaye, I M.S. (retired), at his residence at Bournemouth in his 67th year. He entered the service in 1859.

LITERARY INTELLIGENCE.—A treatise by Dr. R. R. Rentoul, entitled "Trachoma (Granular Conjunctivis)" has just been issued by Messrs. Cornish and Sons, Lord-street, Liverpool.

THE ROYAL BRITISH NURSES' ASSOCIATION.—The fifteenth conversazione of this association will be held at the Portman Rooms, Baker-street, London, W., on Tuesday, April 26th, at 8 P.M. Princess Christian has signified her intention to be present. The band of the Grenadier Guards will play a selection of music. Tickets—members, 2*s.*; nurses (non-members), 2*s.* 6*d*; guests, 5*s.*—can be obtained from the secretary, 10, Orchard-street, London, W.

Correspondence.

"Audi alteram partem."

THE USE OF HOT BOTTLES AFTER SURGICAL OPERATIONS.

To the Editors of THE LANCET.

SIRS,—I should like to call attention to a matter in connexion with the nursing of surgical cases which is of the highest importance. In directions to nurses, especially in laparotomies, a great point is made after the operation of packing the patient with hot bottles. No statement of the temperature of the hot water in the bottles is vouchsafed and in the absence of such grave risks are run. Bottles filled with water practically at the boiling point are placed in close contiguity to a semi-conscious patient and even the ordinary covering of a blanket may not suffice to protect the skin. The danger has been very forcibly brought home to me lately and inquiries amongst professional friends have resulted in my hearing of 17 cases of burns which have recently occurred from the practice. I thus feel sure that surgeons ought to be a great deal more explicit in their instructions regarding this detail of the treatment of their patients. I am, Sirs, yours faithfully,

Oxford, April 18th, 1904. H. P. SYMONDS.

THE "N" RAYS AS A PROOF OF DEATH.

To the Editors of THE LANCET.

SIRS,—With reference to Dr. John Munro's letter suggesting that the absence of "n" rays might be used as a proof of death, allow me to point out that it seems advisable at present to draw a distinction between the rays under investigation by Blondlot and those discovered by Charpentier. The former are of interest to the physicist, being generated by the sun, Nernst electric lamps, steel under tension, &c.; while the latter, proceeding from living muscle and nerve under strain, are of physiological importance. I have experimented with muscle rays only and it is because their objective existence has lately been the subject of entirely negative experiments at Glasgow and elsewhere that I am asking you kindly to afford me space for this letter.

In order that the existence of muscle rays may be made evident in the most convincing manner the following conditions must be present:—1. A powerful generator of the rays. Presumably this will be a muscular man or animal. 2. A fluorescent screen the luminosity of which will increase and die away rapidly, so that the connexion between cause and effect can be easily noted. 3 A good receiver—i.e., vision naturally capable of detecting a small change of luminosity—used under conditions which render it as sensitive as possible. The common cause of bewildering results is the natural tendency of everyone to involuntarily open the eyes wider when expecting to see an increase which may not be forthcoming and therefore to interpolate false answers amongst real ones. I have by practice acquired some expertness in observation and shall be most pleased to give a demonstration of the objective existence of the rays to anyone who has failed in his experiments. I will ask him to bring up his hand and stretch the muscles of the wrist at uncertain intervals in a completely dark room behind a cardboard screen, made of two large sheets each one-sixteenth of an inch thick and separated by three-sixteenths of an inch air space. On the face of this the luminous disc will be fixed, and by observing it from a few feet in front I will undertake to tell him when he brings his hand up. If convinced there is no delusion about the matter I think the medical profession will take the investigation and application of "n" ray phenomena seriously in hand. I am, Sirs, yours faithfully,

Hatton-garden, E.C., April 18th, 1904. LESLIE MILLER.

PS.—Since writing last night I have heard from someone who was present at Blondlot's demonstration of "n" rays before the French Physical Society on April 15th that he was able to show the effect of a coiled-up watch-spring and a stropped razor—i.e., metals under tension—as sources of the rays. I have just repeated this experiment with a powerful clock-spring, held in the jaws of a test-tube holder and waved behind my cardboard screen. The effect is more evident than with strained muscles. The luminous strip unmistakeably brightens up even when the clock-spring is still some inches from it with the two thicknesses of card between. Professor Blondlot appears to have given a convincing demonstration.—L. M.

THE INTERNATIONAL CONGRESS OF SCHOOL HYGIENE.

To the Editors of THE LANCET.

SIRS,—In a note from your Berlin correspondent in THE LANCET of April 16th, p. 1086, I notice an announcement that the next International Congress of School Hygiene will be held in London under my presidency. Like all others interested in the subject, I am glad that the Congress has accepted the invitation to hold its next meeting in London in the first week of August, 1907, but although I have been appointed president of the International Committee the arrangements for the next meeting have been left very much in the hands of the English Committee and we hope to secure as president of the Congress at its next meeting some one of such position that even headmasters of public schools may be ready to work under him. The French delegates to the Congress, whilst expressing to me their [illegible] should not have taken place in [illegible] Congress to meet in Paris in [illegible] ourteous and kindly manner declared that they will do everything in their power to make the London meeting a success. The object of the Congress is one of vital importance, and I am sure that the English will collaborate not only with their French colleagues but with those from every country to render the next meeting in London a success, in forming bonds of friendship between the teachers of all lands, as well as forwarding the other objects for which the Congress has been established. I am, Sirs, yours faithfully,

Stratford-place, W., April 20th, 1904. LAUDER BRUNTON.

ON SYPHONAGE IN THE LARGE INTESTINE.

To the Editors of THE LANCET.

SIRS,—I am glad to find that Dr. A. Keith has examined my book and I must ask others interested in the subject to do the same before passing judgment on my views, for I cannot quite accept my critic's exposition of them and the space I can occupy here is insufficient to do them justice. 1. I think no one can deny that the large intestine with its [illegible] its long descending limb is (given [illegible] walls) structurally a syphon and I [illegible] rubber tubing bent to reproduce its flexures. With glass I was hampered by the limitations of the glass bender and I had to be content with equivalent, instead of identical, curves But I did more, I imitated the V colon and found, as I expected, that as long as its angle was higher than the outlet of the tube syphon action was unimpaired As for the consistence of the contents, I do not claim syphon action unless these are "capable of flowing" (p. 41), but I succeeded perfectly well with thick treacle and other dense substances. 2. Dr. Keith is also mistaken in thinking that I claim that syphonage explains the peculiar course of the colon, for it is obvious that since syphonage cannot exist with the trunk horizontal, syphonic evolution could not have been a factor in producing this course What I suggest is that man has only been able to maintain his existence in the erect posture because the colon happens to admit of syphonage 3. I am not so foolish as to deny the existence of peristalsis in the human colon; all I affirm is that it is inadequate *per se* to effect propulsion of the contents of the ascending colon in the erect position. In [illegible] act in opposition to the force of [illegible] consistent with i [illegible] in the question, [illegible] to counterbalance the intra abdominal pressure? It cannot be *proved* to be insufficient, because the human colon is never [illegible] rtuary [illegible] these [illegible] ough I cannot *prove* the resistance to be sufficient I can bring forward much evidence in support of it. For instance, the daily morning evacuation is due to the resumption of the erect position in which alone syphonage is possible. If it were due to peristalsis it would follow the heaviest, or perhaps each, meal in the day. Morning diarrhœa is explained in the same way as is also the curious fact pointed out by Brunton that a morning saline will not act satisfactorily if the patient gets back into bed again. Syphonage is necessarily followed by a partial vacuum in the cæcum since the latter is emptied much more rapidly than it can be refilled. This explains the frequency with which the cæcum is found nearly empty (under peristalsis it would be fuller than any other part of the bowel) and it also explains the occurrence of ileo-cæcal intussusception.

Dr. Keith says that he cannot conceive how contraction of the tæniæ can increase rigidity except by shortening. It does so, as I explained, by the deepening and doubling in of the internal inter sacculan ridges. In the case of a transverse colon which measured *in situ* only ten inches, but which, when drawn out, measured 20 I found that each ridge projected inwards for half an inch, while its thickness, of course, was double that of the colon walls. The effect of this in preventing collapse must be very great and it is aided by the fulness of the circular blood vessels and by the stiff tæniæ themselves which act like bridges from one full part of the bowel to another full part. Altogether I think it must be admitted that even the evidence given above points to the existence in life of sufficient rigidity to admit of syphonage. If more is required it will be found in the book.

I am, Sirs, yours faithfully,

April 16th, 1904. R. W. LEFTWICH.

THE EVIDENCE FOR THE HETEROGENETIC ORIGIN OF BACTERIA.

To the Editors of THE LANCET

SIRS,—In what purports to be a review of my "Studies in Heterogenesis" in THE LANCET of April 16th, p. 1060, the writer tells your readers nothing as to the actual contents of my work, though he gives them very false notions as to its purport and as to the methods pursued in regard to the particular questions to which he refers. He attributes to me conclusions "which, if rightly established, must," he says, "of necessity cause the whole fabric of bacteriology, infection, and hygiene to fall upon, and to annihilate, the multitude of investigators who have helped to build upon the foundations laid by Pasteur and to cause the name of Pasteur himself to be erased from the roll of fame." This seems to me utter nonsense and as unjustifiable as it is nonsensical. Let your reviewer quote anything he can from my book which would in the least justify what he says. The above surprising statements are followed by this further remark: "To review this elaborate book at length would be but to attempt to fight over again the battle ably fought, and we believe won, by Darwin, Pasteur, and their disciples." I never knew that Darwin had ever written a line on bacteria or heterogenesis, and on consulting the very full index to the sixth edition of "The Origin of Species" my impression was confirmed. Neither of these words are to be found therein. Yet your reviewer says his work in this direction "is, or ought to be, a matter of common knowledge"

A little further on this very unscrupulous and careless writing is followed by a statement directly untrue in its bearing upon my Section XXIII. on "The Origin of Bacteria and their Allies by Heterogenesis." He says: "The antiquated methods which still find favour in attempts to re-establish the *de novo* origin and interchangeability of lowly forms of life find no place in modern bacteriological technique." But the work which I have recorded in the section indicated, dealing with the origin of these organisms, was conducted almost throughout under strict antiseptic precautions. I trust, therefore, that you will permit me to make two quotations from that section in order to show, what your reviewer has not done, the kind of evidence adduced, and to correct the very erroneous impression which he has disseminated.

As an illustration of the appearance of one of the bacterial allies within closed vegetable cells, which the doctrines of the day declare to be germless, I would cite (from p. 301) the following experiment. "A small new potato, after careful washing, was placed in a small tin with a very tightly fitting cover and allowed to soak in 10 per cent. formalin for 20 minutes, the fluid having been shaken about several times so as thoroughly to wet the whole internal surface of the tin. The fluid was then poured off, leaving the surfaces wet with the solution as before; the tin cover was very tightly jammed down, and the vessel was placed within a copper incubator at a temperature of 75° F., and allowed to remain there for eight weeks. ...... When taken out and examined the cut surface of this potato presented just the same characters as in the others; the whole substance was firm throughout, there was no shrinking, and the central portion was rather darker than the other parts which showed the usual mottling. ...... On microscopical examination a large number of the cells scattered throughout the sections were found to show the most delicate branching tufts of a new kind of microphyte, probably a species of *Cladothrix*, which had taken the stain slightly, and such as are shown in Fig. 196 (× 500). These tufts were mostly seen to be sprouting from the external surface of the primordial utricle, where it had shrunk away from the cell wall. No Bacteria and no ordinary mycelia were found in either of the sections, though they were most carefully examined."

This may be taken as typical of many other experiments recorded in this section in which either bacteria or one or other of their allies were found within closed vegetable cells in the central portions of tubers or fruits. It is true that, according to Pasteur, the cells of healthy plants are free from any such micro-organisms. He has distinctly affirmed this on several occasions, and microscopical examination of them in their fresh state has convinced me of the truth of this proposition. Thus, whilst agreeing with Pasteur as to the germless condition of the healthy vegetable cell, I have gone further and have shown what may occur in such cells when they have been long kept under unnatural conditions. Now, what view does your reviewer wish to take in regard to these facts? Is he prepared to help to erase the name of Pasteur "from the roll of fame"? Has he independent evidence to show that Pasteur was wrong? and if not, How does he account for the appearance of these organisms within multitudes of the closed vegetable cells in the central parts of the tubers or fruits? The antiseptic has been proved to be adequate, since no organisms have ever appeared upon the surface or in the superficial layers of cells. Then, again, he cannot say the organisms were not there and that I must have been mistaken. The photographs afford an effectual check to that kind of statement.

I should like also to cite another observation, often repeated, which even in the absence of antiseptic precautions (here impossible) seems to me to be of a very convincing nature. At p. 307 I have pointed out the fact that the minute spines on the abdominal appendages of a Cyclops show nothing within but structureless protoplasm having a glass-like appearance, and I have described the very simple conditions under which, on the death of the animal, we may see minute *motionless* specks gradually appear within this structureless matrix. The description continues thus: "Still later we may see some of these specks growing into bacteria, as in Fig. 200, B (× 700), which is a representation of A after four days. At last the whole interior of the spine becomes filled with distinct Bacteria, as may be seen in C (× 700)." Of course it is easy for a person absolutely convinced that living units cannot arise *de novo* at the present day (whatever he may believe in regard to a far remote past) to attempt to explain away the cogency of such observations. But how does he do it? Only by postulating one or other assumption, not only unsupported by evidence but actually at variance with existing knowledge. He will ask you to believe that the tissues of this little animal are absolutely pervaded in their remotest parts by *invisible* germs of bacteria, even though he is aware that all known bacterial germs are readily visible under a power of 700 diameters, and if present would have been readily recognisable in the healthy spine when the observation was commenced Or he will wish you to believe that these minute germs, though devoid of all signs of motility, have yet been able to get from the drop of distilled water through intention to ·us envelope of the spine. Surely such reliance will play a s unsupported hypotheses is, from the point of nurses (non-mene, altogether immoral.

from the secretar attempt to say anything concerning other ·terogenesis dealt with in this work, as undoubtedly the question of the origin of bacteria and their allies is that portion of the subject which has the most important bearings upon medical science. I must, however, thoroughly repudiate what is said in conclusion by your reviewer when he speaks of the work as "the best possible statement of the case against the claims of modern bacteriology and unicellular biology." I have said absolutely nothing tending to minimise the enormous value of bacteriological work, and I defy your reviewer to quote anything to that effect.

I am, Sirs, yours faithfully,
Manchester-square, April 17th, 1904. H. CHARLTON BASTIAN.

*** Dr. Charlton Bastian is wrong in using the adjectives "unscrupulous," "careless," "unjustifiable," "nonsensical," and "untrue" because our reviewer does not hold the views ennunciated in his book. That an index to one of Darwin's books does not include the words "bacteria" or "heterogenesis" leaves unchanged the fact that Darwin's teaching generally is at absolute variance with Dr. Bastian's theories—and this is all that our article indicated. In reviewing Dr. Bastian's book we showed him, as a member of the medical profession distinguished in other fields of inquiry, a consideration which certain British and foreign learned societies have refused to extend towards the views that he expounds. Our courtesy has been entirely misconstrued.—ED. L.

REMARKABLE RESUSCITATIONS.

To the Editors of THE LANCET.

SIRS,—In your interesting leading article on Remarkable Resuscitations in THE LANCET of April 9th, p. 1005, you touch upon the possibility of premature burial. Some years ago I investigated this subject and came to the conclusion that although premature, or live, burial was not impossible yet that, on the other hand, in no single instance could I discover conclusive evidence that premature burial had taken place. Tales there are in plenty of terrible tragedies among the tombs but I failed to find one that would satisfy the ordinary proofs required, say, in a court of law. This investigation I published in the form of a small book entitled "Premature Burial, Fact or Fiction" (Baillière). I venture to call your attention to this fact, which has apparently escaped the notice of your leader writer as he makes no mention of this English book, although continental authorities are quoted.

I may add that one case of premature burial which was reported from America and widely quoted by the alarmists in the United Kingdom was condemned as a fable in my book on internal evidence alone. Some time afterwards an American medical man journeyed to the place where the incident was reported to have taken place and from inquiries entirely confirmed my view of the case.

I am, Sirs, yours faithfully,
Hanover-street, W., April 12th, 1904. D. WALSH.

THE METHODS OF ANTIVIVISECTIONISTS.

To the Editors of THE LANCET.

SIRS,—In reply to Dr. Murrell's letter in your issue of April 2nd it is only fair to him to say that he is quite correct in stating that he was an unintentional contributor to the book to which he refers. Let me add that this point was made clear in the book itself. It is there stated—first, that Dr. Murrell is unconnected with the London Antivivisection Society; secondly, that the article in question was copied from an American periodical; and thirdly, that "this article was not written by Dr. Murrell for this book."

I am, Sirs, yours faithfully,
SIDNEY TRIST, Secretary.
The London Antivivisection Society, Regent-street, S.W.,
April 14th, 1904.

*** The accuracy of Dr. Murrell's statement required no endorsement from the secretary of the London Antivivisection Society. To some people an explanation might seem due to Dr. Murrell, and to the editors who had previously published Dr. Murrell's work, for the annexation of that work, but our experience is that in matters of courtesy the antivivisection propagandist is a law to himself.—ED. L.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Dufferin Fund.—The Increasing Plague Mortality.—The Character of the Volunteer Force in India.—An Enterprising Nursing Association.—The Report of the Army Sanitary Commissioners.

THE report of the Dufferin Fund for 1902 recently issued gives a record of useful work. Of the women engaged 41 hold qualifications of the United Kingdom, 78 are classed as of the second grade, being trained and holding qualifications obtained in India, and 256 act as hospital assistants. In addition there are more or less trained midwives working under the association. The subcommittee appointed has recommended that the Government should raise the standard of female medical education in the medical schools and that all lady doctors should undergo practical training in a special women's hospital before obtaining their degrees. At the present time there are 114 Eurasian and native ladies being trained as assistant surgeons and 95 as hospital assistants, besides 281 as nurses, dais, and compounders. Up [illegible] been provided for several cent[illegible] Lahore, Agra, Benares, and [illegible] of women and children treated in the zenana hospitals, wards, and dispensaries throughout the country during the year was 1,792,000 which, it appears, was only a very slight increase over that of the previous years.

[illegible] th[illegible] pl[illegible] week as against 29,236 for the corresponding week of 1903. The local figures are important. In the Punjab there were 10,174 deaths as against 6431 in the previous seven days; in the United Provinces, 9427, as against 8504; in the Bombay Presidency, 7687, as against 7140; in Bengal, 4797, as against 4386; in the Central Provinces, 2804, as against 2290; in Central India, 1640, as against 955; in Rajputana, 1033, as against 621; in Kashmir, 526, as against 405; in Bombay city, 849, as against 925; and in Calcutta, 295, as against 230 In the last case later returns show 474 deaths for the week ending March 26th. The increase of plague is general throughout India, but it is curious to note that while in the Bombay districts plague seems to continue virulent all the year round, in the North-western districts it dies away in June and July to reappear a few months later in each year. There is no hiding the fact that plague is now worse in India than ever it has been

A recent inspection of volunteers by Lord Kitchener called forth the opinion from him that every Englishman by birth or descent should be a volunteer. It is to be hoped that under his ruling some improvement in the physique as well as in the status of the force will be brought about. The Government and the military forces have hitherto shown very little interest in volunteer movements. It is generally forgotten that by the Army Regulations the force should be a European one. This has not been adhered to. It is not very long ago that nearly every European in the Hyderabad (Sind) corps resigned and that the inspector general drew attention to the fact that some corps, especially the Allahabad and Poona Rifles, had ceased to be European in character. It does not appear that the Government has taken any action in this matter, but while so much attention is bestowed on the native troops and the permitted contingents of the native States very little is done for the volunteers. I had occasion to draw attention to the physique of those picked corps which attended the Delhi Durbar but the ordinary ranks of most corps are lamentable.

The first annual report of the Bengal-Nagpur Railway Nursing Association shows what can be done by an enterprising organisation. A bungalow was transformed into a hospital, a qualified nursing sister and nurse from England were appointed, and patients from the different sections of the line were received. The whole scheme is now being worked on a commercial basis and furnishes an organised medical and nursing staff for the whole of the employés. The Europeans in isolated stations must feel great comfort in having such assistance available.

It would be a service to draw the attention of Members of Parliament to the absurdity of issuing the report on the sanitary measures in India for the year 1901 towards the end of 1903. This annual report of the army sanitary commissioners is not only belated but is merely an abstract of other reports issued long before. Nearly all the information given is contained in the report of the sanitary commissioner with the Government of India and the added memoranda of the army commissioners merely repeat what is given in the early pages of the same report. The report when issued is practically two and a half years old.

March 31st.

CHOLERA IN MESOPOTAMIA AND PERSIA.

(FROM THE BRITISH DELEGATE TO THE OTTOMAN BOARD OF HEALTH.)

THE cholera outbreak at Bagdad is declining, if it has not indeed come to an end; that at Basra, on the other hand, is increasing and the disease has recently crossed the Turco-Persian frontier and appeared on Persian territory. The following are the returns for Basra since the date of my last letter (THE LANCET, March 26th, p. 897):—

From March 13th to 19th ...	25 cases ...	27 deaths.
,, ,, 20th ,, 26th ...	21 ,, ...	20 ,,
,, ,, 27th ,, 31st ..	36 ,, ...	36 ,,
,, April 1st ,, 10th ...	37 ,, ...	28 ,,

A considerable number of cases continue to be hidden from the authorities during life and only come to their knowledge after death. Thus in the above four periods the numbers of cases returned as "trouvés morts" were respectively 13, 8, 24, and 13.

At Bagdad the following are the weekly returns of cholera cases and deaths since the reappearance of the disease there on March 7th:—

On March 7th	2 cases	0 deaths
From March 8th to March 13th	19 ,, ...	11 ,,
,, ,, 14th ,, 20th	16 ,, ...	15 ,,
,, ,, 21st ,, 27th	9 ,, ...	4 ,,
,, ,, 28th to April 3rd ...	6 ,, ...	13 ,,
On April 6th	1 ,, ...	0 ,,

The case reported on April 6th is the only one which has been observed in Bagdad between April 3rd and 12th and it is therefore hoped that the disease may really have died out there.

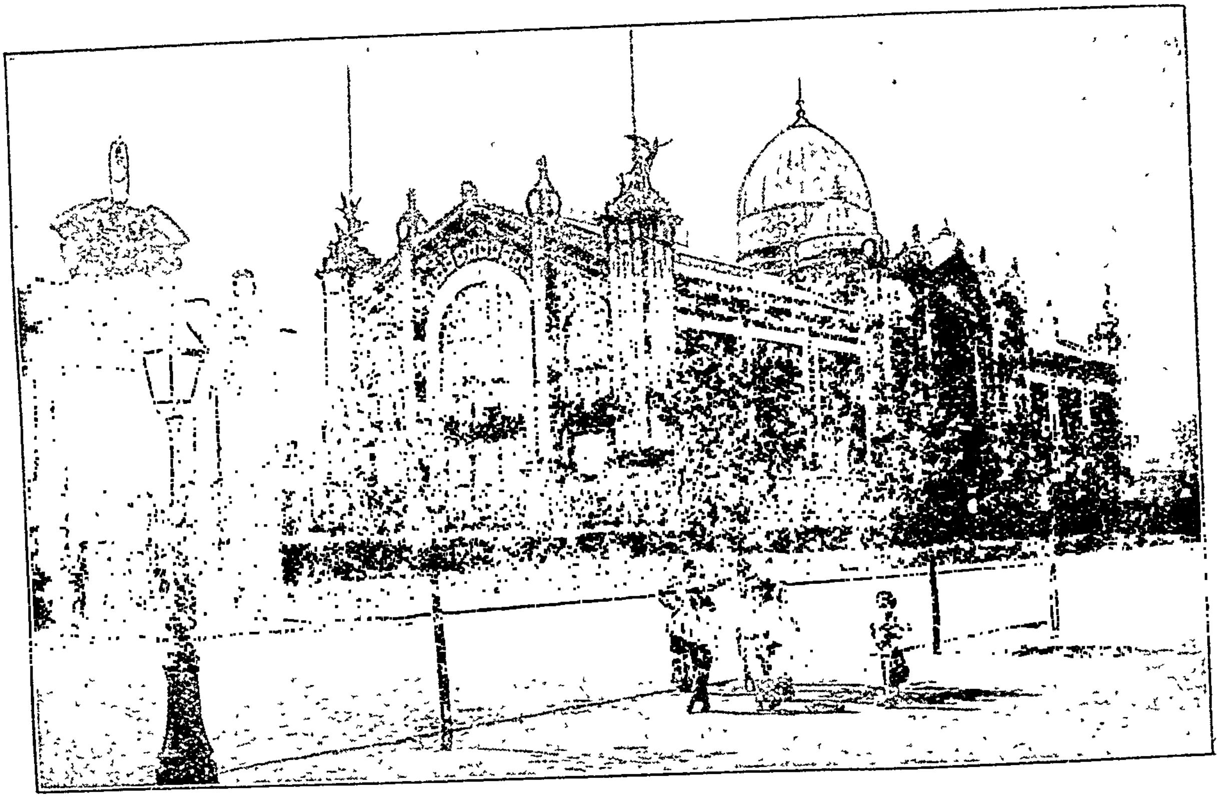
On April 5th it was reported that cholera had appeared at Kermanshah, on the Persian side of the Turco-Persian frontier. On the 9th it was stated that six cases and four deaths had occurred up to that date. No further details have yet been received but the fact that the infection has crossed the frontier and entered Persia is a regrettable one. On several occasions during the last few months there have been rumours that cholera had reached the important town of Meshed in Northern Persia but the rumours have not been confirmed and were probably not true. But should the disease spread from Kermanshah through Persia and ultimately reach Meshed the danger would arise of its passing thence across the Perso Russian frontier and spreading by the Transcaspian Railway eastwards to Siberia and westwards to European Russia, as it did in 1892.

Constantinople, April 15th.

LATIN-AMERICAN CONGRESS OF MEDICINE AND HYGIENE.

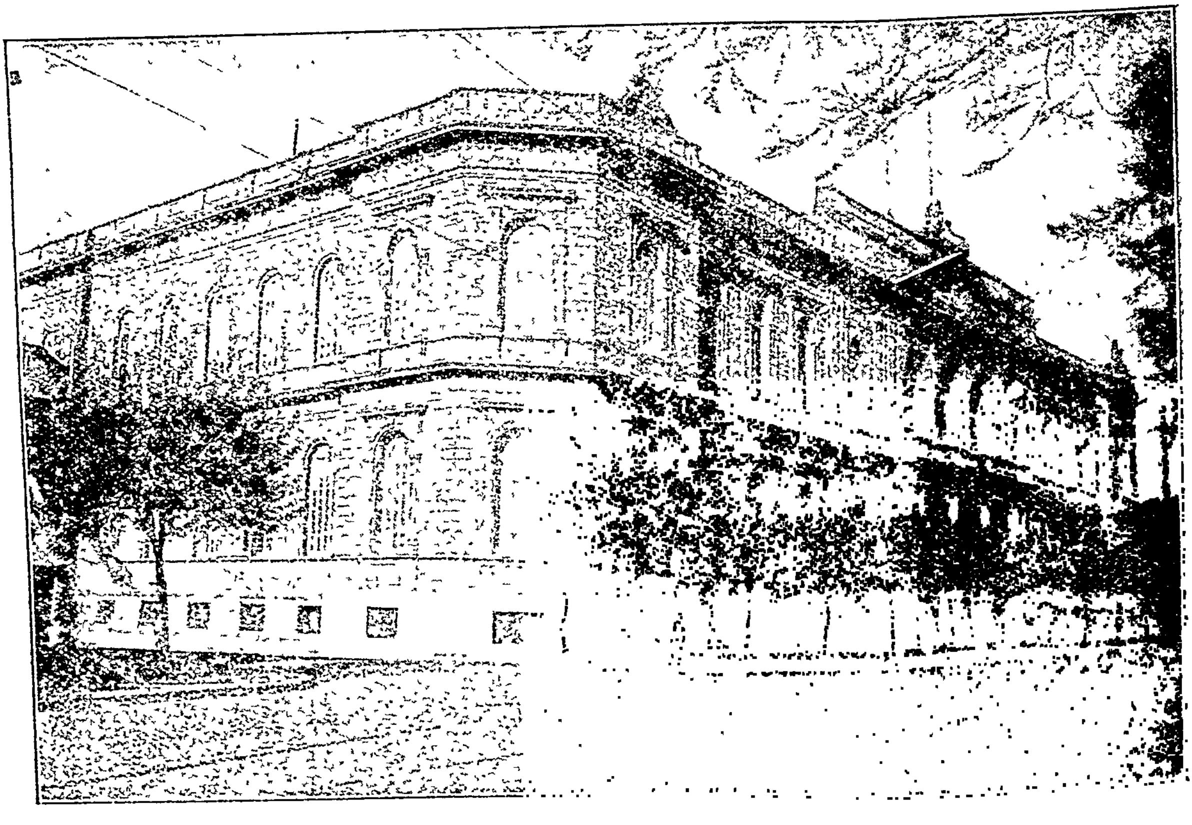
IN THE LANCET of Jan. 23rd we gave a preliminary account from the pen of our special correspondent, mainly as regards the medical side, of the Latin-American Congress of Medicine and Hygiene which is still, so far as the hygienic section is concerned, in progress at Buenos Ayres The Congress opened on April 3rd and the medical portion of it closed on April 10th, but the exhibition of hygiene which opened at the same time as the medical portion remains "in being" until May 30th. We have now before us the official programme of the hygienic exhibition of which Dr Emilio R. Coni is the president and Dr. Samuele Gache is the secretary. The architect is Virgilio Cesari. The principal building in which the exhibition is housed is the Pabellon Argentino of which we give a

FIG. 1.



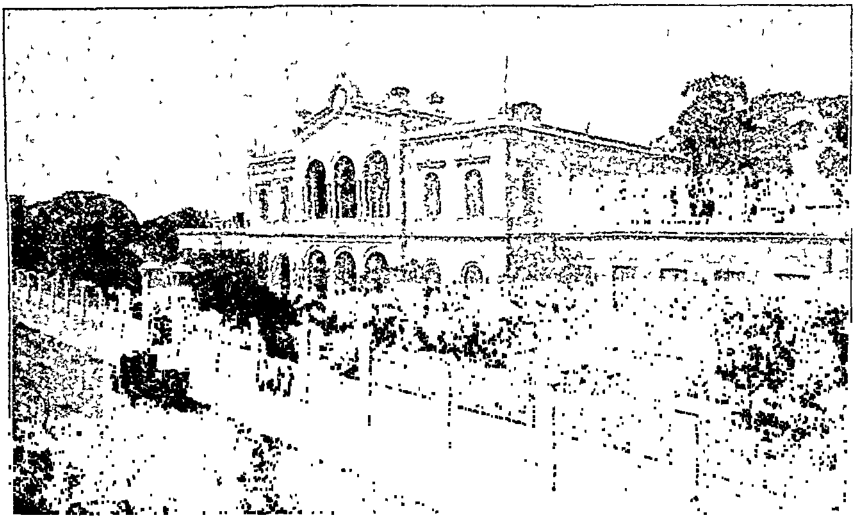
The Pabellon Argentino.

FIG. 2.



The Faculty of Medicine where the medical portion of the Congress met.

FIG. 3.



The San Roque Hospital

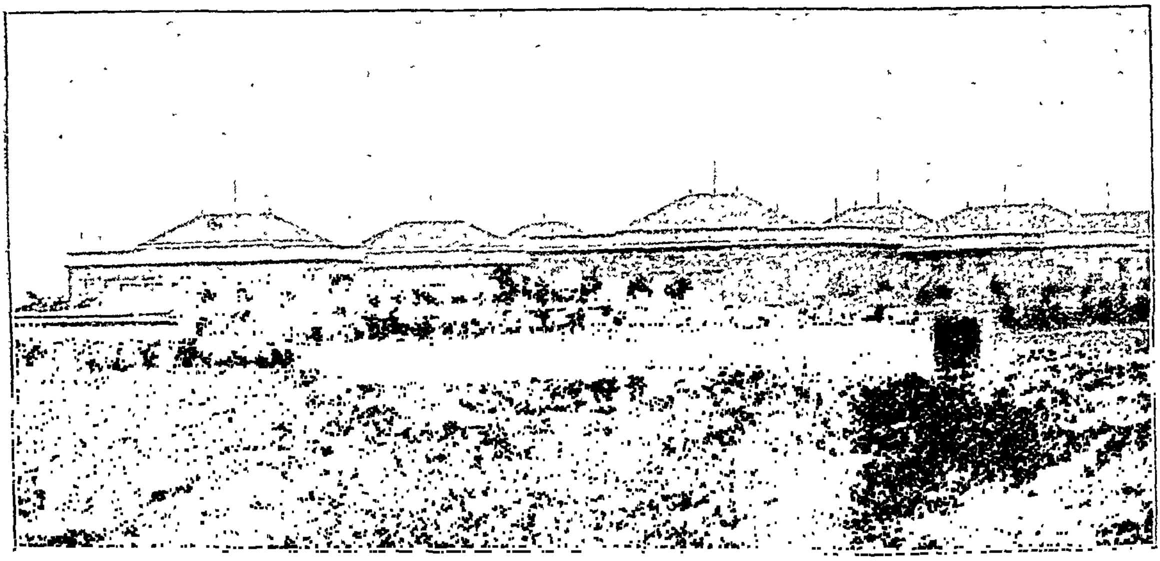
FIG. 4.

Interior of the San Roque Hospital.

view (Fig. 1). This building includes a floor space of 1267 square metres and has been, as will be seen, erected in a somewhat ornate style. In addition to this the principal building are five others comprising 1452 square metres of floor space. One of these is allotted to military hygiene and sanitation, another to the municipality of Buenos Ayres for an exhibition of apparatus and the like concerning public health, and another is devoted to an exhibit from Uruguay and Chile.

The exhibition is divided into 15 sections which are as follows:—Section 1: Instruments and apparatus for hygienic investigation and demonstration, such as apparatus for the analysis of air, soils, water, drinks other than water, and foods. There is also an exhibit of apparatus for the study of ventilation, the humidity of walls, photometric instruments and bacteriology, chemistry, and physiology in so far as these apply to hygiene. Section 2 is devoted to sanitary statistics and demography; Section 3 deals with the all-important question of water-supply; and Section 4 with the no less important question of drainage, sewage, and the like. Section 5, a very comprehensive section, has for its subject the hygiene of the dwelling and hence includes drainage, lighting, warming, ventilation, and many other matters. Section 6 deals with the hygiene of streets, Section 7 with baths and washhouses, Section 8 with clothing, Section 9 with food and drink, both fresh and preserved, and Section 10 is concerned with infant life protection. Section 11 deals with the question of the sick and wounded, including removal of infectious cases and hospital hygiene, and Section 12 is devoted to epidemiology and the prophylaxis of transmissible diseases. Here will be exhibited bacteriological apparatus, serum therapeutics, disinfecting apparatus, and much other cognate material. Section 13 deals with the disposal of the dead; Section 14 with the hygiene of barbers' shops; and, finally, Section 15 is allotted to industrial and professional hygiene.

FIG. 5.



The Buenos Ayres Isolation Hospital for Infectious Diseases.

Many firms have applied for space for exhibits, but only five or possibly six seem to be British. The exhibition should be of great interest if the actual exhibits carry out the programme in anything like its entirety and Buenos Ayres is certainly a well-ordered city from a hygienic point of view.

Our other illustrations show the Faculty of Medicine where the Medical Congress sat, the interior and exterior of the San Roque Hospital, and the isolation hospital. San Roque or Roche was one of the saints who was specially
d against the plague, the others being the Blessed
St. Antony, and St. Sebastian, so it is natural that a
hould be dedicated to him. San Roque was a
other medical saints, who were of the con-
n type, were St. Cosmas and St. Damian,
n.

THE FIRST INTERNATIONAL CONGRESS OF SCHOOL HYGIENE.

(FROM OUR SPECIAL CORRESPONDENT.)

THE SECTIONAL MEETINGS.

THE meetings of the Congress were arranged in seven sections and dealt with the following subjects: Group A, School Buildings and the Furnishing of the School Room; Group B, the Hygiene of Residential Schools, the Methods of Hygienic Investigation and Research in Schools, and the Physiology and Psychology of Educational Methods and Work; Group C, Instruction in Hygiene for Teachers and Scholars; Group D, Physical Education and Training in Personal Hygiene; Group E, Contagious Diseases, Ill-health, and Conditions affecting Attendance; Group F, Special Schools, including Feeble-minded, Blind, Deaf, Dumb, Cripple, Invalid, and Exceptional Children; and Group G, Out of School Hygiene, Holidays, Camps, and Schools; the Relations of the Home and School and the Hygiene of the Teaching Profession.

The sectional meetings of Congress held at Nuremberg took place in the Royal Industrial School—a building admirably adapted for the meeting of such a congress as it supplied a sufficient number of rooms for the various sections and accommodation also for the museum. Nothing but praise can be given for the general administration of the Congress. There was no undue delay in obtaining all information required and the daily publications. The one noticeable defect in the sectional meetings of the Congress was the ventilation of the rooms. The school building is perfectly new, is warmed and ventilated *on the most modern principle*, and yet without the rooms being unduly crowded the atmosphere was such that it became in some rooms unbearable. In other rooms in which the chairman and others did not object to an open window the atmosphere was better, but even that did not efficiently ventilate the room. It is also to be regretted that the chairmen in the various sections exercised so little control over the length of time allotted to the reader of a paper and it not infrequently happened that the time limit was exceeded by ten or 15 minutes, the result being that many papers were crowded out. It may be said, however, that all the sections were well attended. Many of the papers read were fully discussed and criticised. The papers generally were of interest, some of practical value and others only of academic interest, and were discussed not only by medical men but also by schoolmasters.

Dr. **LIEBERMANN** (Budapest) spoke on the Duties and Education of the School Medical Officers. He said that the scholar of the higher classes needed as much medical supervision as did the children in the elementary schools and in this respect no difference should be made between the lower grade or higher grade schools. The school was not a sanatorium but an institution for the development of knowledge and it was the duty of the school to see that this knowledge was not acquired at the expense of health. There was, however, no doubt that attendance at school was accompanied by dangers just as dangers accompanied the workmen in the factory. And as the manufacturer was obliged by every possible means to provide against accident, so it was the duty of the school authorities to prevent as far as possible the spread of disease in school. This duty had been greater since attendance at school was now compulsory. He considered, however, that it was the duty of the school not only to guard the pupils against disease but to teach the pupils the necessity of hygiene and this was far more important than a great deal of book work. If hygiene were taught in schools it was carried into family and home life and benefit resulted to the community at large. Opportunity should be taken to warn the scholar against immorality and excess. It was the duty of the medical officer to examine a scholar when admitted into school, but the systematic weighing and measuring of the scholars, although it might be of statistical value, was not the duty of the school. He stated that in Hungary every practitioner before he could become a school medical officer must undergo a special course of hygiene. When school hygiene was carried out in this way then it would become an educational method of the greatest value.

Professor **HUEPPE** (Prague) read a paper on the Prevention of Infectious Disease in Schools. In all infectious diseases the predisposition was of first importance. The presence of this predisposition was the origin of all infection and therefore it was of the greatest importance to increase the power of resistance. The younger the individual the greater the liability to infection. As soon as any symptoms were noticed everything should be done to prevent the spread of infection. This was one of the most important duties of the school medical officer. A child who had a suspicious illness must be excluded from school and if required the whole class must be closed. The home conditions of the child should be inquired into, since it often happened that the disease was carried from the home to the school. The insanitary dwellings of the poorer classes had much to do with the spread of infection. If cholera, dysentery, or typhoid fever was proved to be acquired in the school then it was certain that some marked defect in the hygiene of the drains, closets, or water-supply was present. The most powerful weapon against infectious diseases was cleanliness. The infectious disease of school life might be divided into three groups, the most important of which, measles and whooping-cough, might be considered typical school infections. Mumps and chicken-pox were placed in the second group. In the third group came diphtheria and scarlet fever. The last two, although dangerous diseases, were from the school point of view of less importance than the diseases of the first two groups. Small-pox might be disregarded, since vaccination had made it almost extinct. With regard to measles and whooping-cough, the susceptibility and disposition of the individual were of greater importance than the infection and those diseases were infectious at a time when the symptoms were hardly recognisable. Owing to the sudden outbreaks of measles and whooping-cough it was important that the classes should not contain more than 40 or at the most 50 children. Closure of schools and isolation were most important in these diseases. Mumps and chicken-pox were easily combated by isolation. In tuberculous infections the most important factor was the power of resistance of the individual; it was therefore the duty of the school by strengthening the body to increase the power of resistance. The school had not only to deal with the development of the mind but also with the whole development of the man. The speaker advocated that children should be sent to holiday camps by the sea and elsewhere and he thought that in this way the number of cases of pulmonary infection would become less.

Dr. G. E. **SHUTTLEWORTH** (London) read a paper on the Educational Treatment of Epileptic Children in Great Britain. He said that up to the present time the education of epileptic children had been undertaken by private enterprise and little had been done by the Government, although the Act of Parliament of 1899 provided for the elementary education of defective and epileptic children. He had examined some 470 cases of epileptic children and these he divided into four classes: (1) 17 per cent. were fit to continue in the normal school; (2) 27·5 per cent. were so far mentally impaired as to need separate instruction in the special classes for defective children; (3) 40 per cent. required to be cared for and taught in a residential institute for epileptics; and (4) 15·5 per cent. were unfit for any education and required only medical and nursing care He calculated that accommodation was required for nearly 3000 epileptic children and that at the present time there was not accommodation for more than 200. He was of opinion that epilepsy was no disqualification for education but that the length of school hours should be reduced and that no hard and-fast rule could be laid down for the education of epileptic children but that each case must be considered by the medical officer in charge.

Dr. **CLEMENT DUKES** (Rugby) read a paper on the Organisation of Physical Education. He said that the physical development of the body was of importance for the mental development and that an energetic manhood could only be obtained by a healthy boyhood. He was of opinion that school games were important for the education of the boy, that such games should be made compulsory on all boys, and just as times were arranged for work in school so there should be a definite arrangement of play. A boy who did not play became dull and apathetic and became unfitted for the struggle of life. He was not in favour of Swedish exercises except in certain instances. Excessive exercise was as bad as deficient exercise and tended to stunt the body. He pointed out how necessary it was for a boy to train for his games and he stated that most accidents during play happened at the beginning of a season when a boy returned from holidays and in an untrained condition took up some violent form of exercise. The boy was an active animal and it was important to give him active employment or he would almost certainly find some occupation which might not only be useless but even dangerous. For young children he considered carefully arranged physical exercises most important, but it was to be remembered that the staying power of the young child was very limited.

Dr. F. **MAY DICKINSON BERRY** (London) read a paper on the Physical Examination of 1580 Children from Elementary Sch[illegible] to the Prevalence of Albumin[illegible]ildren examined were those who had gained scholarships given by the Technical Education Board of the London County Council to enable them to continue their education in higher grade schools. Each [illegible]o take up the scholarship had to [illegible] Tables of the average weight [illegible]e of these children were shown [illegible]ables from other countries. The London children compared favourably as regards height with all others; in weight they were slightly below both the Swedes and the Americans. The two points in the examination chiefly dwelt upon were (1) the large number of cases of slight lateral curvature of the spine (11 per cent. of the total number) which demonstrated the need for more gymnastic training and physical exercises than were at present to be had in our elementary schools; and (2) the occurrence of albuminuria in nearly 10 per cent. of the children examined. A considerable number of these were kept under observation for periods varying from one to five years. In more than half these cases the albuminuria had disappeared at the last examination; in many, however, it persisted at each examination and remained of a considerable amount. In no case was any deterioration in the general health recorded.

Mr. P. **SIDNEY SPOKES** (London) read a paper on the Care of Children's Teeth. He said that whilst it was important to insist upon the necessity of a good dentition it was equally urgent that the evils dependent upon the presence of diseased teeth should be recognised. Apart from the suffering caused by exposed pulps of teeth or abscesses at their roots there was the possibility of constitutional disturbance other than that brought about by prolonged pain. A septic state of the mouth might provide the material and absolute starting point of a general infection. Children were subject to many diseases which might be attributed to bad teeth. Many boards of guardians, and especially those in London districts, had, with the sanction of the Local Government Board, appointed dental surgeons during the past decade and he was sure that much good had resulted. The children in the public elementary schools were, however, left without conservative treatment and were in a much more neglected state than the Poor-law children. The only way to get preventive treatment adopted was by means of properly appointed dental surgeons to the schools and under the new Education Act it was to be hoped that something might be done for these children. Mr. Spokes advised that children should receive instruction as to the importance of sound teeth and the necessity of taking care of them; that in all Poor-law schools dental treatment should be compulsory; that in board schools it should be at first optional and later obligatory and that in public and private boarding schools there should be compulsory inspection on arrival with reports to parents when necessary; and that for all scholars the use of a tooth-brush, at least once a day after the last meal, should be enforced.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Coloured Milk.

AT a recent meeting of the health committee of the city the medical officer of health made a report on the extent to which milk which was intended for sale in the west-end of Birmingham was coloured in order that really poor milk might appear to be of good quality. From sellers in this part of the city a number of samples have recently been obtained which, in addition to being diluted with water, were coloured. It may be mentioned that the district in question contains a large proportion of the better class residences within the city boundary. On a recent Sunday 33 samples were taken in Edgbaston and Harborne which are two of the best suburbs of the city. Of these samples no fewer than 18, or 55 per cent., were found to contain colouring matter. The report of the medical officer stated that there might be some reason for adding colouring matter to sweets of various kinds and to butter and cheese in order to make them more uniform and presentable, but in the case of milk such addition is entirely unnecessary and the main object of it was to deceive the customer. In most cases milk is stored in a basin or jug and when so stored it is not easy to detect the presence of colouring matter, but if coloured milk is put into a tumbler until the cream rises it will be noticed that the skimmed milk is of a somewhat brownish tinge instead of the ordinary bluish one. The health committee, after considering the report, instructed the medical officer of health to draw the attention of all milk sellers in the city to this objectionable system of mixing colouring matter with their milk and to inform them that the health committee was determined to take the strongest possible measures to put a stop to it.

Oysters and Typhoid Fever.

In his ninth annual report as medical officer of health of Erdington Dr. A. Bostock Hill draws attention to the fact that three out of 30 cases of typhoid fever which occurred during the year were undoubtedly due to the consumption of oysters and other shell-fish. His report states that one case was particularly interesting because it occurred in a man who had been recently operated upon for appendicitis. During his convalescence he was advised to eat oysters. He did so and within the period of incubation became attacked by well-marked typhoid fever. In another case a woman became infected a fortnight after eating oysters, whilst in a third case, that of a man, it was found that he had been eating mussels on many occasions just previous to the incubation period of the disease. There is no doubt, therefore, says the report, that it is a most urgent requirement at the present time that power should be given by legislation to protect oyster layings and shell-fish beds from the sewage pollution which occurs so largely in estuaries and other places. The danger of acquiring typhoid fever from shell-fish has been proved up to the hilt and it is to be hoped that the recommendation of the Royal Commission on this subject will bear fruit at an early date.

Foresters' Homes.

At the recent meeting of the delegates in connexion with the Foresters' Convalescent Home for the Midland Counties it was reported that more patients than ever had been admitted during the year, the total being 316, an advance of 22 upon last year. At the same time the cost per head for maintenance had been slightly reduced. The results so far as the patients were concerned were as follows: able to work 176, improved 18, much better 1, no better 2, relapses 4, expelled 1, and extension 114. It was considered that the number of members able to work after leaving the home was very satisfactory. Some of the patients sent were not fit for the home and it was decided to urge the different lodges to exercise more care in this respect. It was also decided to shorten the period of extension except in cases considered urgent by the medical attendant.—The joint committee of Foresters and Odd Fellows appointed to consider a scheme for providing a sanatorium for consumptives reported that it had found a suitable site and buildings at Barnt Green, a place on the Lickey Hills, about ten miles from the city. The house, which is situated on three and a half acres of ground, had been built for a gentleman who suffered from consumption and who regained his health whilst residing there. To purchase the freehold and to furnish the house would cost £3000, of which £1000 would have to be paid in cash. The cost of maintenance would probably be from 25*s*. to 30*s*. per week per patient. In moving the adoption of this report the President, Mr J. H. Smith, reminded those present that 15 out of every 100 persons in this country died from consumption which attacked men in the prime of life. If submitted to the fresh-air cure in the early stages of the disease experience showed that from 80 to 90 per cent. of cases could be cured. When the treatment was followed in a sanatorium near the patient's home the chances of permanent cure were greater than if the patient went to the seaside. Several members expressed sympathy with the scheme, but some doubted whether the courts could afford another levy on the funds of their members. It was pointed out that similar schemes were being undertaken by county councils. The president replied that apart from what the county councils might do the friendly societies had enough consumptives amongst their own members to fill a sanatorium. He contended that it would be cheaper to cure a consumptive brother than to give him sick pay until he died and then to pay his funeral expenses. After a lengthy discussion a committee was appointed to confer with the representatives of other societies and to call a large meeting to consider the scheme further.

Medical Institute.

The annual report of this institution, which has recently been circulated, shows that the membership has been increased by 16 during the past year, the total now reaching 219. The number of books added during the year was 168, the total number of volumes upon the shelves being now 13,493

Health of Aston Manor.

This large district has recently become a municipality and the report of the medical officer of health, Mr. F. H. May, is the first which has been submitted to the newly elected corporation. In the report the corporation is congratulated upon the good health of the district and its continued low death-rate. For the past year this was 14 8 per 1000 of the population, and this, although calculated for the first time on the gross deaths belonging to the borough, whether registered therein or not, was 1·2 below the average of the past ten years. Mr. May attributes this lessened death-rate in part to the low mortality from infantile diarrhœa, although he adds that the improved sanitary condition of the town has no doubt borne its share in reducing the mortality and particularly that arising from zymotic disease. The number of cases of scarlet fever notified exceeds that of the preceding year, a fact which is very disappointing considering that 65 per cent. of the known cases have been removed to hospital. There were 383 cases notified of which 19 died, as compared with 361 cases and 18 deaths during the preceding year. There was a diminution in the number of cases of diphtheria and of membranous croup. With respect to measles Mr. May states that 25 deaths were registered as occurring from this disease during the year, as compared with 24 in 1902 and 29 in 1901. All of these were in children under five years of age. He says that many cases of measles and some deaths could be avoided if parents took a more serious view of the disease. He alludes to the common mistake that all children must have measles sooner or later which exists, especially amongst the uneducated and poorer classes, and when a case occurs in their households, he says, they seem to disregard altogether the greater incidence of the fatality amongst those who contract it under five years of age, and often the other children of the house are deliberately exposed to infection. In his opinion, mothers would be better educated up to a sense of the danger and of their responsibilities in this respect by the visitations of a female health inspector to the homes of the poorer classes where measles is reported. The notification of chicken-pox has not been required in Aston and Mr. May gives the following reasons for adopting this policy: (*a*) Only a small number of cases of chicken-pox are medically attended and therefore only a small number would be reported. Some slight cases of mild modified small-pox are less likely to be seen by a medical man than severe cases of chicken-pox. (*b*) The Infectious Disease (Notification) Act is a dual one but it is practically impossible to secure notification by members of the general public even if prosecutions were undertaken to enforce it. (*c*) School attendance officers notify many cases of chicken-pox which are medically unattended and doubtful cases which are under the charge of a medical man are usually brought under the notice of the health department without any compulsion. (*d*) Supposing that anything like complete notification could be secured it would be of little use unless every case were visited for purposes of verification either by the medical officer of health or some expert. (*e*) Such action on the part of the medical officer of health in supervising and checking the diagnoses of his medical brethren in the homes of their private patients, either with a consultation or independently, might lead to friction and has no legal justification, since the Local Government Board has decided that it is no part of the duty of a medical officer of health to verify notifications received by him unless there is any suspicion of *mala fides*. Moreover, by following such a course the onus of diagnosis is placed on the medical officer of health and the sanitary authority assumes a responsibility which does not belong to it.

April 19th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Lancashire Inebriates.

THE first reformatory of the Lancashire Inebriates Board was opened by Sir John T. Hibbert on April 14th. The board, constituted in 1899, represents the Lancashire County Council and all the county boroughs in the county except Oldham and consists of 44 members. The reformatory is near Whalley and the estate contains 326 acres. The contract for the building was £73,418. It is arranged in separate blocks round a quadrangle, with 12 separate "homes," each accommodating ten persons, with single and separate bedrooms. Women only are to be received at present. There is sufficient room on the site for the addition of a men's reformatory as soon as it is considered advisable. The intention is to employ the inmates at farm work and gardening and so far as possible to make the reformatory self-supporting. How much the 44 women will be able to do in this way is not very clear. The longest period of detention for women committed by the county and county borough justices is three years and there are now over 100 Lancashire women of this class in various reformatories outside the county. The director and medical officer of the reformatory is Dr. F. A. Gill who was formerly deputy medical officer at the Manchester prison and afterwards at Liverpool, while more recently he held a similar position in the Government Inebriates' Reformatory at Aylesbury. Dr. J. M. Rhodes of Manchester, in proposing a vote of thanks to Sir John Hibbert, said that nothing could be done with a drunkard unless detained for at least a year and he could not be got hold of in the present state of the law till he was practically hopeless. He thought the law should be so altered that the authorities could confine drunkards before their cases became chronic. Sir John Hibbert said there were 4,500 000 people in the county and last year alone 38,901 cases of drunkenness had come under the notice of the police, and these included 229 cases eligible for treatment in reformatories. The board had built first for women because their case was more urgent than that of the men. He spoke of the £160 000,000 spent annually in the United Kingdom on alcohol and said that "if rightly spent there would not be a poor man in the country." He hoped the reformatory would do something to reduce the evil that was eating into the vitals of our nation. Dr. R. W. Branthwaite, Home Office Inspector of Inebriate Homes, said that the first lot of cases received would be "practically irreformable." They had been drinking 15, 30, even 50 years, and were not to be reformed in three. But these cases must be "worked through" before the reformable ones were reached. "Because a case was not reformable they had no right to leave it about the streets" The simple facts brought forward at the meeting impress, and at the same time almost oppress, one with the magnitude of the evil done by alcohol, the misery it occasions, and the difficulty of preventing it so long as it is freely obtainable.

Are Town Dwellers Degenerating?

In a discussion rising out of a paper by Professor James Long descriptive of a colony of small holdings in Surrey, read to the Manchester Statistical Society on April 13th, Dr. J. Niven had something to say in favour of the town. He said that the statistics of this country for the last 50 years showed that "at the younger ages the death-rate had enormously improved and it was incredible to him that there had not been also an enormous improvement in physique," and that as so many crowded into the towns it was impossible to disbelieve that improvement was going on in the town population. Against the fresh air and sunshine of the country he set the high wages of the townsman, which enabled him to get wholesome and cheap food to an extent country people could not do. He had also a better house and better clothes. Some of these propositions will not be accepted unconditionally.

Bad Fish for Good Friday.

Although some people are said to prefer cod when it shines in the dark the majority believe that fresh fish is more wholesome and a pleasanter food than when it is stale. But some members of the Manchester city council seem to have doubts on the matter, for at the meeting on April 13th there was a long discussion as to whether or not one of the wholesale dealers in the fish market should be prosecuted for having offered for sale on Good Friday 371 pounds of unsound fish. A subcommittee had decided to prosecute but the markets committee reversed this decision, allowing the delinquent to apologise and to be the recipient of a "severe reprimand." The dealer explained that it was the fault of one of his men who opened a box of unsound fish and offered it for sale unknown to him. Slink meat and bad fish are known in most large towns and it is important that the municipal authorities should do all that can be done to protect the poor—for it is by the poor that such food is consumed—and not be diverted from their purpose by such letters as that in which the market tenant assured the committee that the offer of 371 pounds of bad fish "was a matter that had escaped his notice." In the end the council instructed the markets committee to institute a prosecution which most people will think was called for.

Cooperative Convalescent Homes.

The Coöperative Association, formed a few months ago to establish convalescent homes at Lytham and Otley, has now been registered under the Industrial and Provident Societies Act. At present 135 societies, members of the association, have subscribed for shares to the amount of £8640. To carry out the scheme £24,000 will be required and when the societies in the section have raised £16 000 the Coöperative Wholesale Society will take up shares to the value of £8000. This is a case of self help for which we may hope success.

April 19th

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Death of Professor Andrew Peebles Aitken.

Dr. Andrew Peebles Aitken, who has for nearly 30 years [illegible]ology in the Royal [illegible]ied on April 17th at [illegible] received his educa- [illegible]here he graduated as [illegible]science in the department of chemistry in 1873 He subsequently worked at Heidelberg and on his return to Edinburgh he was appointed assistant to Dr. A. Crum Brown, the professor of chemistry in the University.

Public Health Appointment.

Mr. James McR. Cowie, M.D. Aberd., D.P.H., has been appointed medical officer of health and public analyst for Burton-on-Trent. Dr. Cowie has for some time been assisting Dr. J. Niven, medical officer of health of Manchester.

Aberdeen Dispensary: Appointment of Medical Officer.

At a meeting of the managers held in the town hall, Aberdeen, on April 15th the chairman, Lord Provost Walker, proposed the following motion which was agreed to unanimously:—

> That the managers resolve to enter in the minutes an expression of their deep regret at the early death of Dr. W. Findlay who had been for several years one of the medical officers of the General Dispensary and who had during the whole of the period conducted with marked ability the work falling to him in affording advice to the poor of the district and in imparting instruction to the medical students attending the practice of the institution.

The applicants for the post vacated by Dr. Findlay were Dr. J. W. Adam, Dr. W. F. Croll, Dr. Henry Fraser, and Dr. Anne Mercer Watson. The voting was by ballot. The first vote resulted as follows: Dr. Adam, 33; Dr. Croll, 28; Dr. Watson, 7; and Dr. Fraser, 6. The final vote resulted in the appointment of Dr. Adam, he having 38 votes to 35 given for Dr. Croll.

Public Health of Aberdeen.

A meeting of the public health committee of the Aberdeen town council was held on April 13th. It was reported that the death-rate for last month was 20·93 which is rather higher than for the corresponding month last year but somewhat below the average. Three cases of small-pox were reported, including one recent case of a woman in Palmerston-road.

University of Aberdeen General Council.

The statutory half-yearly general meeting of this council was held at Marischal College on April 13th, Principal Lang presiding. The report as to the statistics and finances of the University was submitted. The Principal said they would see that their position as a University was much more encouraging than it was a few years ago. For the first time for long he thought the University felt in the condition of being somewhat easy, not crippled and burdened with financial outlooks. Not that they should lay any flattering unction to their souls and think that all was right, but they were in a better position certainly than they were and they could hope to be in a better position still.

April 19th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The New Provost of Trinity College.

Dr. A. Traill, the recently appointed Provost of Trinity College, was entertained by the Corinthian Club on April 16th, Sir Charles A. Cameron, the President, occupying the chair. In reply to a remark of the President, Dr. Traill said that he was the first graduate of the medical profession who had been made Provost.

Royal Academy of Medicine in Ireland.

Dr. James Craig and Dr. R. Travers Smith are candidates for the office of general secretary to the Royal Academy of Medicine in Ireland about to be rendered vacant by the resignation of Mr. J. B. Story.

Chair of Botany in Trinity College.

At a meeting of the board of Trinity College held on April 16th Dr. Henry Horace Dixon was appointed to the chair of botany vacant by the resignation of Dr. E. Perceval Wright. Professor Dixon, who has been Dr. Wright's assistant since 1892, is the author of many important papers which have appeared in the Transactions of the Royal Society, the Royal Dublin Society, and the Royal Irish Academy.

The Registration of Nurses.

A meeting of the Irish Nursing Association was held at the Royal College of Physicians of Ireland on April 15th. Dr. James Little occupied the chair and in introducing Mrs. Bedford Fenwick said that he had an open mind on the questions which were to be brought before the meeting. The questions which had been raised in the discussion on the State registration of nurses as put forward had raised a storm which he had not any idea of until he received by post some documents bearing on the subject. Mrs. Bedford Fenwick addressed the meeting which was large, the hall being filled to its utmost capacity. In her statement she alluded to the fact that there were now 60,000 trained nurses in England and 6000 in this country; that registration of nurses was no novel question as it had been advocated for more than 30 years. A Bill, moreover, was now introduced which proposed that there should be a central executive body of 31 to control the registration of nurses in the three countries, the duties of which body had not been too closely defined, as what was desired was that a Bill should be brought forward which could be discussed in committee by those qualified to do so. Sir John W. Moore said that, like the chairman, he had an open mind on the subject, with a leaning towards registration. The motions which he proposed were:—

> 1. That it is essential the nurses throughout the United Kingdom should be efficiently educated for the performance of the responsible duties intrusted to them. 2. That a minimum standard of education and common rules of discipline can be secured only by an Act of Parliament. 3. That as a preliminary to such legislation it is desirable a Select Committee of the House of Commons should be appointed at an early date to inquire into the whole nursing question.

He went on to say that the British Medical Association had given its opinion in favour of registration many years ago but that a sudden opposition had sprung up in London to the proposal for the State registration of nurses. The proposal that a committee of the House of Commons should be asked to consider this question was certainly a reasonable one. He did not think it was wise on the part of the nurses to describe their calling as a "profession"; it would be much better to use the designation "calling." Dr. O'Carroll, in seconding the motions, remarked that at present there was nothing to prevent anyone being employed as a nurse who put on a uniform. Dr. A. R. Parsons said that there was no demand either by the nurses themselves or by the public for any State recognition of nurses. Sir Thomas Myles, on the other hand, could not understand why there should be any opposition to the proposed reform. Sir Christopher J. Nixon considered that the proposal was one which deserved to be supported by the Dublin medical schools. The motions were carried by a substantial majority.

The Belfast Board of Guardians.

A question of the payment of a medical fee came before the Belfast guardians on April 12th which illustrates the way in which Irish dispensary medical officers are treated. Dr. W. D. Donnan, dispensary medical officer of Holywood, near Belfast, wrote to the board stating that he had felt it to be his duty on April 9th to call in Dr. Gardner Robb, physician to the workhouse fever hospital, to see a dispensary patient who had a suspicious rash which he feared might be small-pox and whom he did not wish to send to the union fever hospital without having Dr. Robb's opinion. Fortunately, Dr. Robb did not consider the case to be one of small-pox and he begged to ask the board to sanction the payment of Dr. Robb's fee which was two guineas. The board declined to do so and one guardian, I regret to say a woman, said, "Let Dr. Donnan give Dr. Robb the two guineas himself," while the chairman added, "Yes, let him pay the fee himself. It is a great piece of audacity." The ground which the guardians take is that the city corporation receives small-pox cases into the Purdysburn Hospital and that they have nothing to do with such cases but they are clearly in error as such a contention could only apply to Belfast cases, while this was a *bonâ-fide* dispensary patient outside the area of the Belfast city corporation but within the Poor-law district over which the Belfast guardians have control, and Dr. Donnan was perfectly within his rights in asking for an expert opinion in what was undoubtedly a "difficult" case and a state of affairs provided for by the Local Government Board. Suppose the case had turned out to be small-pox and that Dr. Donnan had not been extra careful and that an epidemic of small-pox had as a result arisen, I wonder, then, what would this same board of guardians have said. Unquestionably it would have censured Dr. Donnan. The Belfast board of guardians must make provision for dealing with small-pox cases in its area which is outside the boundaries of the city of Belfast.

The Mater Infirmorum Hospital, Belfast.

From the twentieth report, just published, for the year ending Oct. 31st, 1903, it appears there were 1508 intern cases (932 medical and 576 surgical). 328 surgical operations were performed. 42 deaths occurred during the year, of which 32 were medical and ten were surgical cases. Of these seven were moribund on admission. The mortality was 3·5 per cent. There were 19,980 extern cases. The expenditure for the year was £5008 9*s*. 3*d*. The income was barely sufficient to meet current expenses and a special appeal is made for additional funds which are urgently needed.

Portrush Cottage Hospital.

The Hopefield Cottage Hospital, Portrush, a much needed institution, will shortly be opened formally. The wards have for the past three months been occupied by patients and efforts are being made to raise additional funds on behalf of the hospital.

April 19th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Number of the Tuberculous in the Paris Hospitals.

A MEDICAL journal has just carried through an inquiry into the number of tuberculous patients under treatment in the Paris hospitals. Of 4117 patients passed under review 1685 were tuberculous—namely, 1146 men and 539 females, or a proportion of 40 per cent. A similar inquiry had already been made by M. Mourier, formerly director of the Assistance Publique, who arrived at the result of 45 per cent These figures are important at the present time when it has been decided to reserve two or three of the Paris hospitals exclusively for the use of tuberculous patients.[1] As a matter of fact, the number of tuberculous persons in Paris is far greater than is indicated by the above figures. Even when the 2000 tuberculous patients who are to be treated in the hospitals are taken away f
easily be 2000 others to
whether the patients will
of death" where they ca
nature of their malady? In hospitals when the plan of reserving certain wards for tuberculous patients has been tried as soon as those suffering from phthisis saw that they were to be in company with their fellow sufferers they insisted on leaving.

The Therapeutic Uses of the Peroxides.

M. Gilbert recently read a paper before the Society of Biology on the Therapeutic Uses of the Peroxides and as a sequel to this paper M. Albert Robin read another before the Therapeutical Society giving his experiences of this drug which he has for some time past employed. The peroxides of calcium and of magnesium give up the whole of their oxygen when they come in contact with the gastric juice. If, however, they are given in a capsule of keratine so that they can pass into the bowel before being decomposed they have a powerful antiseptic action. Under their influence the conjugate potassium indoxyl sulphate present in the urine in cases of septic absorption rapidly diminishes. Peroxides diminish the fœtor of the stools and are the best means for overcoming diarrhœa due to a fermentative origin. On this account they may be made to serve as a diagnostic agent, for they have hardly any effect in diarrhœa due to serous, vaso-motor, bilious, nervous, or tuberculous causes. M. Robin quoted two typical cases which were under his care at the Beaujon Hospital. One was that of a patient in the third stage of phthisis who had profuse diarrhœa, probably of tuberculous origin. The stools were liquid, without marked fœtor, very slightly coloured, and neutral or alkaline in reaction. Peroxide of magnesium in doses of one and a half grammes per diem had no effect and reliance had to be placed upon astringents such as tannin, opium, and bismuth. If these were given up the diarrhœa returned and oxide of zinc had to be given. The other case was that of a patient suffering from pleurisy who during convalescence developed acute diarrhœa with very fœtid stools, giving a markedly acid reaction to litmus paper. This condition seemed to be due to gastric hyperacidity, the existence of which was confirmed by an analysis of the stomach contents and which in its turn was due to fermentation. Peroxide of magnesium was given at first in doses of one gramme per diem so as to act on the stomach contents and afterwards in a keratine capsule so that it might act directly on the intestinal contents. Within a few days the stools became less frequent and lost their fœtor. As, however, they remained acid the stomach contents at the end of a meal were saturated by a mixture of calcium carbonate and calcined magnesia, two days after which the stools became absolutely normal. In the belief that oxygen liberated from the peroxides would be absorbed by the blood Hatch, Havald, Monó, and Munstein have suggested that magnesium peroxide should be given in cases in which the direct action of oxygen seemed advisable. They recommend its use in certain cases of anæmia and in certain cases of joint disease.

April 19th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

The Midwives' Petition.

A QUESTION of practical importance is at present before
nton of Zürich. As the rules
the cantonal hospitals, both
ients as well as those which provide for the needs of the pauper population, are at present under consideration the midwives of the district have petitioned asking that the fees charged to the paying class of patients should be raised. They plead that the present charges at the obstetric clinic should be raised as the interests of both the ratepayers and the midwives are suffering severely in consequence of the system now in force. The number of women admitted at the obstetric clinic for the purpose of their confinement has been rapidly increasing from year to year; it has, in fact, more than doubled in ten years, for there were 1344 admissions in 1902 as compared with 540 in 1891. Thus nearly one-fourth of all the confinements of the town of Zürich, which has a population of 160,000, take place at the clinic and three-fourths are attended by the midwives and the medical practitioners. I must here mention that the great majority of all the normal confinements, perhaps over 90 per cent., are conducted by the midwives and medical aid is only summoned in cases of abnormal labour, this portion of the work is falling into the hands of the numerous medical specialists, male and female. I must also add that the midwives are well trained for their duties as they have to spend six months at the clinic in study in order to obtain a legal diploma. They also have to attend repetition courses at the hospital every three or four years as long as they continue in the profession. The ratepayers of the canton of Zürich are put to considerable expense owing to the fact that the middle-class patients are undercharged at the clinic where they get the best of advice and attendance for nominal fees. The daily cost at the clinic is 2*s.* 5*d.* per head; the average amount paid in is only 1*s.* 5*d.*, and the deficit to be covered amounted in 1891 to £1700 but has risen in 1902 to £5100 for the obstetric clinic alone. The midwives argue that if this arrangement extended only to paupers nobody would have reason to complain but the middle classes have begun to use, or rather to abuse, these charitable institutions to the detriment of the midwives who are under a legal obligation to attend normal pauper confinements for the meagre sum of 12*s.*, whereas the patients who could pay from £1 to £2 for a confinement make use of the hospital. At present persons declaring their incomes at £80 a year pay only 8*d.* a day when in the hospital; this sum should be increased to 1*s.* 3*d.* per day. Persons declaring their incomes at amounts up to £120 should pay 2*s* a day instead of 1*s* as at present. It must also be remembered that declared incomes are notoriously some 20 to 50 per cent. short of the real income, owing to the high rate of income tax—namely, 1*s* 6*d.* in the pound. It seems most necessary that the canton of Zurich, which is hampered by a deficit now amounting to £160,000, should do everything in its power to avoid useless deficits as in the above case. This petition has caused the scale of charges for admission to the cantonal clinics to be returned to the authorities for revision.

Zurich, April 12th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Cattle Plague.

THIS disease, also called rinderpest or bovine typhus, has often been introduced into Egypt from Turkey or Syria, where it is endemic as in South Africa and India. One of the first duties of the newly formed sanitary department in 1884 was to combat it and matters were then impossibly difficult owing to the complete absence of veterinary surgeons and all literature on the subject. In fact, the Egyptian Government of that day was so averse to increasing the number of English officials that it actually sent back to England, without even interviewing him, the first civilian veterinary surgeon who was brought out here to work for it. Now matters are happily improved, a large staff of English veterinary surgeons inspect the country, and a flourishing college for native students stands in the grounds of the sanitary department. In England and many other European countries cattle diseases are dealt with by the Agricultural Board but as this is unhappily non-existent in Egypt all veterinary questions are under the control of the sanitary department, so ably presided over by Sir Horace Pinching. Cattle plague died a lingering death in 1886 and Egypt remained free from it till about a year ago, when it was re-imported from Syria. Attempts were made last summer to get serum from Constantinople but inaccurate instructions which accompanied the supply caused the death of the cattle experimented on and the serum treatment became extremely unpopular. Now there is a well-appointed serum institute in the Abbassiyeh desert, near Cairo, where 100 bulls are kept immunised against cattle plague. Each bull is bled every fortnight and gives seven litres of blood each time; these seven litres yield 65 per cent. of serum and a protective dose of serum is 30 cubic centimetres per 600 pounds of the weight of the animal. Roughly speaking, fully grown beasts weigh 1000 pounds and bulls are chosen because they are stronger than cows and yield more blood. In order to immunise a bull five cubic centimetres of virulent blood are injected subcutaneously over one shoulder and an appropriate dose of serum over the other shoulder, according to the animal's weight. This is practically the simultaneous method of Dr. G. Turner of South Africa, which has been adopted in this country after experimenting with other methods. After the double injection the bull, the normal temperature of which is from 101° to 102° F., has fever for from six to ten days, the temperature running up to 105°. When the febrile reaction has subsided the bull is injected subcutaneously at one sitting with four litres of virulent blood which produces a second attack of fever lasting about a week, the temperature again rising as high as 105°. After the second attack of fever is over and the bull has rested four or five days he is ready to be bled to furnish protective serum. In two months' time, after four bleedings, he is reinforced with another four litres of virulent blood when febrile reaction again takes place. After another two months he is again reinforced and this may be repeated until he becomes "salted"—i.e., incapable of becoming affected by the toxin and unable to yield antitoxin—when he can be safely sold to the butcher. One animal, however, has now been in constant use for seven months. Virulent blood is obtained by bleeding at the height of the fever on the sixth day, allowing three days for incubation and three days for the fever to rise. To obtain serum as soon as a bull is bled the blood is allowed to clot in tall cylinders and the expressed serum is then decanted and centrifugalised in Cairo so as to get rid of any blood corpuscles which may be present, after which 0·5 per cent of carbolic acid is added as a preservative. Every 100 litres of serum so prepared are standardised by testing against virulent blood in a number of fresh bulls. The serum is then packed in bottles containing 220 cubic centimetres each and despatched to the veterinary staff in the districts. The quantity now prepared is 4000 doses a month, which is much less than the actual requirements, but it is hoped that shortly, owing to the increased strength of the serum, about 10,000 doses a month will be sent out. There are two methods of using the serum in the villages: (1) to give a dose of serum to each animal of a suspected herd, thus conferring a passive immunity for a period of from three to five weeks (the great advantage of this temporary treatment is that the farmer at a busy time of the year can continue to work his cattle on the land for ploughing, &c); and (2) to "vaccinate" by inoculating once by the simultaneous method already mentioned and thereby secure immunity for years. This second method is dangerous in the country districts because, owing to want of care and imperfect knowledge on the part of the owners, from 10 to 25 per cent. of the animals die. The chief causes of this high mortality, which has brought some discredit on the serum treatment, are that the ignorant owners unless prevented continue to work the cattle in the fields and also expose them without protection to cold air at nights even when the poor beasts are in the midst of their febrile reaction. However, at the Serum Institute, where the bulls are treated with the care necessary for all sick animals, very few die. For instance, not one has succumbed out of the last 80 immunised, though a slight mortality did occur early in the experiments before it was understood that sick nursing was so all important. Every beast's rectal temperature is taken by chart three times a day; it is stabled by night in clean sheds made of wood and matting, it is exposed to the sun all day, and its food is carefully regulated, consisting chiefly of clover, beans, and chopped straw, while of course it does no work. The institute since June has been under the control of Dr. W. St. C. Symmers, the professor of pathology and bacteriology at the medical school, assisted by one Englishman, two native veterinary surgeons, and a number of servants. Professor Symmers is specially fitted for this work after his long apprenticeship in the preparation of diphtheria and other antitoxins in England. In addition to this institute he is also controlling work at the slaughter-house in Old Cairo where a large number of animals are tested and partially immunised and whence suitable bulls are after quarantine transferred to the Serum Institute. The advantage of this quarantine process is that the animals can be carefully tested and if found to be suffering from any other disease they can be discarded and so less risk is run of infecting the bulls at the institute. Quarantine is just now of the highest importance because other diseases are prevalent, such as Texas fever (pyrosomiasis or hæmoglobinuria), foot and mouth disease, and a but little understood complaint which is thought to be Rhodesian fever. It is this last disease at which Professor Koch is now working in South Africa and which is associated with a rod-shaped protozoon in the red blood corpuscles, reminding one of malaria in the human subject. Professor Koch has been invited here in May by the Egyptian Government to give us the benefit of his knowledge on cattle diseases. Previous experience in Egypt and other countries tends to show that rinderpest will temporarily die down during the hot summer months but will reappear in the autumn and the Serum Institute must therefore continue to work at high pressure. Buffaloes also contract rinderpest but do not seem to be so susceptible as other cattle. Some gazelles which have recently died at the Zoological Gardens here had symptoms and post-mortem appearances closely resembling those of cattle plague. One of the best features of the Serum Institute is that it is practically self-supporting; over £6000 have been expended but this sum has been repaid by cattle owners, though the serum is invariably given to those who cannot afford to buy it. H. H. the Khedive, who is a considerable owner of cattle, has visited the institute several times and has sent many of his cattle to be immunised. This may encourage some of the disbelievers who are fully persuaded when their herds are attacked by food and mouth disease and Rhodesian fever that the serum is responsible. Already about 150,000 head of cattle have died, representing, it is calculated, a loss to the country of nearly £2,000,000. Fortunately, about one-fourth of the survivors in Upper and Lower Egypt are already immune after recent attacks of cattle plague. Veterinary tropical knowledge is quite in its infancy and experts cannot yet differentiate between some of the diseases I have mentioned either by clinical symptoms or post-mortem signs. Dr. Bitter and Dr. Dreyer are working daily at blood films from the sick animals and may in the future be able to throw some light on the problems which are of fascinating perplexity.

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[1] THE LANCET, April 16th, p. 1035

Cairo, April 10th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Quarantine.

THE necessity of federal quarantine regulations was alluded to in a former communication. Since then the Tasmanian health authorities have written to the Board of Health of Victoria urging the necessity of making further efforts to secure federal quarantine. The board replied "that the time had arrived when joint quarantine regulations for Australia should be framed." As is usually the case, the passengers quarantined at Melbourne on arriving from New Zealand, owing to the outbreak of small-pox there, have made protests. One complaint was, however, unusual—being a charge of favouritism owing to the use of undue "influence" by a very influential personage. Mr. J.

Thompson, a member of the Governor's Council of Madras, with his family and a nurse, was quarantined with the other passengers by the steamer *Victoria* from New Zealand and they were all almost immediately released as the result of telegrams which passed between Mr. Thompson and the "influential personage." Dr. D. A. Gresswell, the chairman of the Board of Public Health, denies that there was any favouritism and states that Mr. Thompson and his family were released because it was considered that they had complied with the regulations, having been vaccinated several times.

The Declining Birth-rate in New South Wales.

The appointment of a Royal Commission to inquire into the decline of the birth-rate and the mortality of infants in New South Wales was mentioned in THE LANCET of Oct. 17th, 1903, p. 1132, and the names of the members of the Commission were at the same time given, Dr. Charles K. Mackellar, M.L.C., being the president. The Commission held 40 meetings and took the evidence of 96 witnesses, of whom 26 were medical practitioners and eight were representatives of the various religious denominations. The report, which is published by the Government printer in Sydney as a Blue-book of 62 printed pages and 27 full-page or folded diagrams, is dated March 3rd, 1904, and is signed by the President and 11 of the other 12 Commissioners. It is an exhaustive document dealing with every phase of the subject. The commission finds that there has been a marked decline in the birth-rate in New South Wales since 1899. It points out the remarkable unanimity of opinion among medical men that deliberate prevention had become exceedingly common during recent years and that the means used to this end are both deleterious to the general health and frequently bring about pathological sterility. The evidence, the commission says, shows conclusively that the practice of prevention by artificial means is common in all classes of the community and has greatly increased during the last 15 years. The inducement of miscarriage, it is said, is alarmingly frequent and justifies it being regarded as a well-defined factor in the decrease of the birth-rate. The commission suggests amongst other things that with a view to counteracting the desire for prevention among women increased public hospital accommodation in the metropolitan and country districts should be established for parturient women, and especially for married women, and that a large number of women should be encouraged to train as obstetric nurses. In view of the growth of procuration of abortion and miscarriage it is considered advisable that a department of the State Government should be intrusted with licensing, supervision, inspection, and control of private hospitals, lying-in homes, and maternity homes (other than public hospitals) where pregnant women are received for treatment or care in relation to their pregnancy or for their confinement. The commission states that the Government of New South Wales should take steps to prohibit the sale, distribution, importation, manufacturing, advertising, or purchasing or receiving of goods, articles, contrivances, or other things designed to be used for the prevention of conception in women. With the view to strengthen the religious restraint the churches are invited to institute and to devise a general crusade of such an impressive character as would arouse a recognition of the immorality and selfishness of the practice of deliberately restricting the birth of children. The practices involved in the limitation of families were responsible for much physical suffering, for a deadening of the moral sensibility, and for a degradation of character among those who resorted to them. These effects must have an unwholesome influence on the general character of the people who moved in a social atmosphere so vitiated. Defective health, defective morals, and defective character were already manifesting themselves as warnings of a more marked deterioration likely to ensue. Mr. Teice, actuary and manager of the Australian Mutual Provident Society, has compiled some statistics on the subject. He finds that the decrease in the birth-rate has been about 30 per cent. in 21 years. During the census periods of 1881 and 1891 the proportion of married women at ages up to 34 years did not differ materially from those above that age. The figures for 1901 show that the married women of ages 35 years and upwards exceed those below the age of 35 years by 30·6 per cent. This change in the proportions has been coincident with the decline in the birth-rate and he attributes the decreased birth-rate to the fact that the proportion both of married men and married women at the ages at which generation is most active has largely decreased. The reasons for this, in his opinion, are (1) the increasing luxury of the time; (2) the increased independence and employment of women; and (3) the cessation of immigration.

Hospital Affairs.

The annual report of the Sydney Hospital stated that the subscriptions amounted to £55 more than last year. During the year 4657 in-patients and 16,877 out-patients had been treated and 2627 major operations had been performed. The work had been carried on smoothly and efficiently. The x-ray department had been reconstructed and a second outfit added. —The diphtheria branch of the Sydney Children's Hospital at the Glebe has been closed, except for very urgent cases, the Government having arranged to provide accommodation for 37 diphtheria cases at Little Bay. Patients received at the Glebe will be injected with antitoxin and then forwarded to Little Bay.—The Infectious Diseases Hospital, Melbourne, started seven years ago is not open for patients yet but something like finality seems near. A memorandum, prepared by a conference of municipal representatives, for the maintenance and control of the institution has been agreed upon. The hospital is to be vested in the municipalities as trustees. The cost of maintenance is to be contributed on the basis of the annual assessment of the municipalities with quarterly claims on the Government for its moiety of the amount expended. The trustees are to appoint the committee of management, the term of office being three years. There will be on the committee representatives of Melbourne, Fitzroy, Richmond, St. Kilda, North Melbourne, Brunswick, and Coburg. The cost of maintenance of all patients from districts other than those represented on the trust is to be charged for at rates fixed by the committee.—The medical staff at the Women's Hospital, Melbourne, has suggested the formation of an external midwifery department in connexion with the hospital and the committee has asked the staff to formulate a scheme.—A curious question in hospital management is raised by a decision of the Department of Public Health in New South Wales. A man was taken by the police to the Western Suburbs Cottage Hospital for admission. The medical officer who saw him refused to admit the patient as he was intoxicated and violent and the institution had no wardsman to control him. The police then took the patient to the lock-up and summoned a medical man to attend him. This practitioner said that the patient had concussion of the brain. The Health Department has decided to deduct from the Government subsidy to the Western Suburbs Hospital the expenses incurred by the police in obtaining treatment for the patient.—Mr. Charles MacLaurin, M.B Edin., has been re-elected honorary assistant surgeon to the Prince Alfred Hospital, Sydney.

Charge against a Medical Man.

At the February sittings of the Supreme Court, Warrnambool, Victoria, Mr. Edmund D. la Touche was acquitted on a charge of performing an illegal operation on a young woman.

March 10th.

Obituary.

SIR HENRY THOMPSON, BART., M.B. LOND., F.R.C.S. ENG.,

SURGEON EXTRAORDINARY TO H.M. THE KING OF THE BELGIANS; EMERITUS PROFESSOR OF SURGERY AT UNIVERSITY COLLEGE, LONDON; CONSULTING SURGEON TO UNIVERSITY COLLEGE HOSPITAL, ETC.

WE regret to announce the death which occurred on Monday afternoon last of the veteran and distinguished surgeon, Sir Henry Thompson. Sir Henry Thompson was only ill for a few days and bore his burden of 84 years so lightly and with such full appreciation of life that the announcement of his death has come as something of a shock to the medical world.

He was born on August 6th, 1820, at Framlingham in Suffolk, in which small market town his father, Mr. Henry Thompson, had resided for many years. His mother was Susannah the eldest daughter of Samuel Medley, the artist. Having received his early education at a neighbouring grammar school he determined to apply himself to the study of medicine and became apprenticed to a local surgeon in accordance with the custom of those days.

Having studied and assisted in practice for two or three years he proceeded to University College, London. His student days at University College have been described with some accuracy by him in one of his novels and seem to have been devoted to the pursuit of his science. His was a thoroughly healthy mind and his habits both of life and thought from the beginning of his working career were such as to encourage in a remarkable degree the development of the true surgeon, robust, active, and, above all, resourceful. He loved work and even as a student was never so happy as when mastering some intricate detail of surgical anatomy.

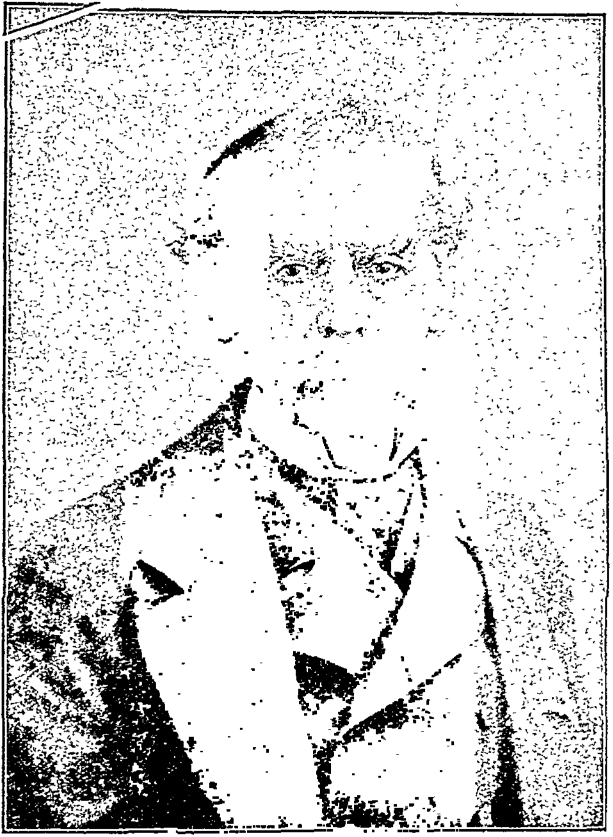
After an unusually successful career as a student Henry Thompson in 1850 took the diploma of Member of the Royal College of Surgeons of England, his great friend, the late Sir John Russell Reynolds, passing at the same examination, and a year later they both proceeded to the degree of M.B. at the University of London, Thompson securing the first place in obstetric medicine and the second place in surgery, and Reynolds the first place in medicine and the third place in surgery. His friendship with Russell Reynolds throughout the career of the latter, whose death we recorded in THE LANCET of June 6th, 1896, p. 1582, was unbroken and of the closest description. The mutual influence of these two leaders of our profession, the one upon the other, may be noticed in many steps of their respective careers and the following are Sir Henry Thompson's own words addressed to his old friend: "We first met among a crowd of freshmen, strangers, at the gate of University College, in the autumn of a year late among the forties. I know no other among the friendships then made which has so borne the test of time, none which has so soundly ripened, none which is now so highly prized as yours. You and I have watched with interest the other's course, divided as each has been between long periods of continuous devotion to professional study and short intervals of happy diversion in pursuit of art."

In 1850, on the retirement of Mr. Moncrieff Arnott from his post of surgeon to University College Hospital, Henry Thompson, who had served a portion of his term as house surgeon to that gentleman, was transferred in a similar capacity to his successor, the late Sir John Erichsen, and assisted the latter in his first operation as full surgeon. With Sir John Erichsen he maintained a warm and intimate friendship which continued until the death of the former in 1896. Thompson held more than one house appointment between 1850 and 1853, in which latter year he was appointed assistant surgeon to University College Hospital. This position he occupied for ten years and in 1863 became full surgeon. During this period he made a point of studying the methods of the great masters of other schools, for example, Civiale in Paris and Keith in Aberdeen. Three years later he became professor of clinical surgery in University College, of which body he had been for more than five years a Fellow. Throughout the most active portion of his career his old hospital and school received the benefit of his valuable work and during his connexion with the institution he was associated with a group of men whose names will ever be remembered in medicine. In addition to Reynolds and Erichsen, Sir Henry Thompson had as colleagues at different times Sharpey, the pre-eminent physiologist; Ellis, the anatomist; Richard Quain, the surgeon; Parkes and William Jenner, who need no qualification; Walshe, Wilson Fox, and Berkeley Hill. With these men he worked to raise the medical school of University College, London, to its very high level, and although his private practice was very extensive and successful it was not until 1874 that he retired from the active staff and became consulting surgeon.

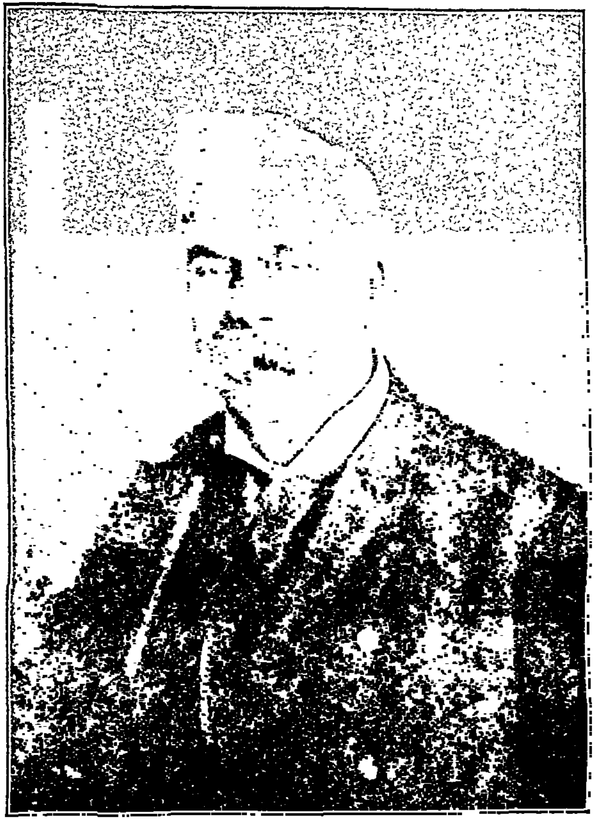
Sir Henry Thompson's connexion with the Royal College of Surgeons of England dates from 1850 when, as above mentioned, he became a Member of that body. In 1852 his masterly essay on Stricture of the Urethra gained him for the first time the Jacksonian prize; a year later he passed the examination for the Fellowship and in 1860 he again successfully competed for the Jacksonian prize, the subject being the Healthy and Morbid Anatomy of the Prostate Gland. He thus shares the honour with the late Mr. George Calvert of securing the prize on two occasions. This, when we call to mind that the prize was instituted in 1801 and that there is no regulation preventing several attempts to gain it, is a noteworthy achievement. In 1883 he was appointed Hunterian Professor of Surgery and Pathology at the Royal College of Surgeons of England in succession to Mr. Jonathan Hutchinson. While acting as assistant surgeon, and afterwards as surgeon, to University College Hospital Sir Henry Thompson performed a very large number of operations for stone with singular success and as this success likewise attended his operations in private practice his reputation from being local became virtually world-wide. Among his patients was the late King Leopold of Belgium, upon whom in 1863 he performed a most difficult and dangerous operation with perfect success. His Majesty had already been attended by the famous Civiale, under whom Thompson had studied, and a partially successful lithotrity had relieved his symptoms. They returned, however, with severity and when Thompson saw his patient in Brussels the King, sceptical of the value of surgery, refused to allow a proper examination to be made. Thompson, however, was firm as to the necessity, and persuaded the patient to trust him, with a completely happy result, the crushing of the stone being completed in three sittings. The King appointed him his surgeon-extraordinary and also made him a Companion of the Order of Leopold of Belgium, in which order he was promoted in 1876 to the grade of Knight. The present King of the Belgians also appointed him surgeon-extraordinary. Some ten years later Thompson, who in the interval had been made a Knight, was summoned to the bedside of the Emperor Napoleon III., then living in exile at Chislehurst. He diagnosed the presence of a vesical calculus and recognised the urgency of the symptoms, but the Emperor could not decide to have lithotrity performed until some months later. Too long a time had really elapsed and although the surgical proceedings were justified at the post-mortem examination, as being calculated to give the illustrious patient his only chance of life, he succumbed after the second sitting.

Sir Henry Thompson's special surgical experience enabled him to have very distinct views upon all the various methods of procedure in vesical cases, and his opinion was highly valued by medical men, because he was so clear in his explanations and so quick to suit treatment to circumstance. Throughout his career Sir Henry Thompson was a warm advocate of the suprapubic operation as opposed to the lateral, and for his advocacy he gave six reasons, viz.: (1) that in the suprapubic operation there is no important structure near the line of the incision that can be injured by the knife or forceps—the rectum and sexual organs being out of the way; (2) there is more space for removing the stone; (3) there is no risk of arterial hæmorrhage; (4) the incisions are more easily made in that they are made under the eye of the operator; (5) the outflow of urine is easy and direct; and (6) antiseptic dressings can be easily and readily applied. He had an unrivalled opportunity of verifying his views, for throughout five-and-twenty years he was engaged in operating on such cases with extremely successful results. His tact in the management of a patient was almost equal to his skill, while his mechanical ingenuity has been of great service to the profession and a large number of improvements were introduced by him in such instruments as are in common use in vesical and prostatic operations.

The literary works of Sir Henry Thompson were popular as well as practical, for the profession, students and practitioners alike, recognised in what he wrote his perfect mastery of his subject His principal work was "Diseases of the Urinary Organs," which was first published in 1868, and consisted of a series of lectures delivered by him at University College, which, having been reported verbatim by a shorthand writer, were printed with a few alterations and condensations in THE LANCET. The volume of 1868 was a somewhat meagre-looking work, but in its seven subsequent editions it has gradually increased in size until in 1888, when the eighth edition was published, it formed a substantial text-book. This edition contains a *résumé* of Sir Henry Thompson's entire experience in operations for calculus up to the end of 1885, numbering in all about 900 cases The general aim of the work was to produce in condensed form an epitome of practical knowledge on the subject of urinary diseases, culled not only from the author's experience but from the works of the leading British and foreign writers and operators. The book has been translated into French, German, Italian, Spanish, and Russian. His other and supplementary work, "Practical Lithotomy and Lithotrity" has perhaps achieved an even greater success than the foregoing, being used as a guide to successful operation throughout the medical schools of Europe. "Diseases of the Prostate," founded on his Jacksonian essay of 1860, has been through six



SIR HENRY THOMPSON, BART., F.R.C.S. ENG.



SIR PHILIP CRAMPTON SMYLY, F.R.C.S. IREL.

large editions, and "Stricture of the Urethra," based upon his former successful dissertation, has in a much enlarged and improved form been re-published three times. He contributed largely to the medical journals, to the Transactions of various learned societies, and to such compilations as "Holmes's System of Surgery," in which he supplied the section dealing with the Surgery of the Urinary Organs. Although his special subjects occupied the more active moments of his life Sir Henry Thompson took the widest interest in the topics of the day and was the author of a very large number of articles which appeared in various first-class magazines and reviews, dealing with such diverse subjects as Moderate Drinking, Cremation and the Disposal of the Dead, Diet in its Relation to Age and Activity, and a Serious Attempt to Estimate the True Value of Prayer for the Sick, the last named, in the form of a letter to the late Professor Tyndall, causing considerable stir in theological circles. His opinions on the subject of cremation were very decided and he may, in fact, be said to have been in great measure the moving spirit in the inauguration of the revival of that method of disposing of the dead. From 1874 onwards he was president of the Cremation Society and did much to forward its propaganda both in England and on the continent. On several occasions Sir Henry Thompson called public attention to the loose system prevalent in the matter of giving and receiving certificates of death. He was largely instrumental, by his letters to the medical and lay press, in drawing attention to the risks run by the public under existing methods, and when in 1892 Neil Cream, the poisoner, was condemned to death Sir Henry Thompson returned to the attack. By means of a deputation to the Home Secretary the matter was brought under the notice of the Government which ordered a Select Committee of Inquiry on Death Certification.

As a novelist Sir Henry Thompson—under the *nom de plume* of "Pen Oliver"—on two occasions made a more or less successful bid for popular favour. "Charlie Kingston's Aunt," if it does not rank high as fiction, undoubtedly shows imaginative gifts on the part of its author and is interesting in that it presents also a truthful picture of the life of a medical student some 50 years ago. His second work of fiction, "All But, a Chronicle of Laxenford Life," published in 1886, is a more ambitious work, and although its plot is commonplace it forms interesting reading. The earlier chapters comprise sketches of life in a Suffolk village and are full of humorous touches. Sir Henry Thompson was at his best when describing the quaint sayings and doings of the old-fashioned village folk among whom he had been born and bred, while in this book there is a fairly successful attempt at a psychological study—namely, the complex character of Lord Arthur Wynstanley. An additional charm is given to this novel by 20 full-page drawings by the author, in one of which he has portrayed himself as he appeared in 1885.

As an artist Sir Henry Thompson was much more successful than as a novelist. He had doubtless inherited his artistic talent from his grandfather, Samuel Medley, the painter of the well-known picture of a meeting of the Medical Society of London which hangs in the rooms of that society; while it must be remembered that he hailed from the county of Constable. From student days he had cultivated the habit of drawing what he saw, and after his appointment as surgeon to University College Hospital he painted regularly under the tuition of well-known academicians and was frequently "hung" at Burlington House.

As a host Sir Henry Thompson was famous for his "octaves," dinners of eight courses for eight people at eight o'clock. The company was always as carefully selected as the food, and during a quarter of a century the most famous figures in the contemporary worlds of art, letters, science, politics, diplomacy, and fashion found themselves sitting at his board.

Sir Henry Thompson, who was created a baronet in 1899, married in 1851 Kate Loder the famous pianist. Lady Thompson, who has been an invalid for years, survives her distinguished husband and her son, the present Sir Herbert Thompson, succeeds to the title. To them we tender our sympathies on the loss of the many-sided brilliant man who for so many years adorned the ranks of our profession. As man of letters and man of science, as man of work and man of pleasure, as artist and social reformer alike, Sir Henry Thompson has left his mark upon his generation.

The funeral took place on Thursday at the Golder's Hill Crematorium, the ceremony being brief and private, in accordance with Sir Henry Thompson's instructions.

SIR PHILIP CRAMPTON SMYLY, M.D. DUB., F.R C.S. IREL.,

HONORARY SURGEON TO THE KING.

ONE of the most prominent members of the medical profession in Ireland has been removed by the death of Sir Philip Smyly, a man endowed by nature with many gifts and worthily occupying a high position. His last illness was of only a few hours' duration but he was a chronic sufferer from gout and his intimate friends had for about two years been aware that his constitution was seriously undermined. He had recently been on a visit to England, from which he had returned to his residence in Merrion-square, Dublin, and was there attacked with symptoms of cerebral hæmorrhage which proved fatal on April 8th.

His father, Josiah Smyly, was a well-known Dublin surgeon whose two sons, Philip Crampton Smyly and William J. Smyly, have in different branches of practice conferred honour on the family name which is commemorated by the Smyly Ward for children in the Meath Hospital. Sir Philip Smyly was born in Ely-place, Dublin, in June, 1838. When his thoughts were turned towards the medical profession the apprenticeship system was still in operation and he was accordingly indentured to his grand uncle Sir Philip Crampton who was made a baronet in 1839 and was three times President of the Royal College of Surgeons in Ireland. Sir Philip Crampton died in 1858 and his pupil was then transferred to Professor W. H. Porter. Young Smyly also attended classes at Trinity College, Dublin, and at the school of the Royal College of Surgeons in Ireland and acquired a knowledge of clinical work in the wards of the Meath Hospital. His student career gave some premonition of his future distinction from the importance of the prizes which were awarded him. In 1860 he became qualified as M.B. Dub. and L R C P. Irel., after which he studied surgery and ophthalmology in Berlin and Vienna under Langenbeck, von Graefe, and other notable professors. In 1861 he was admitted L.R C.S Irel. and was appointed surgeon to the Meath Hospital as the successor to his former teacher, Professor Porter, an appointment which he continued to fill for more than 40 years. In 1863 he graduated as M.D and was admitted F.R.C S. Irel. In 1878, at the age of 40 years, he had the exceptional fortune to be elected President of the Royal College of Surgeons in Ireland and from 1893 to 1900 he represented the College in the General Medical Council. From 1869 to 1895 he held the appointment of surgeon-in-ordinary to successive Lords Lieutenant of Ireland. In 1892 he was honoured with a knighthood. In 1895 he was made surgeon-in ordinary in Ireland to Queen Victoria and in 1901 honorary surgeon in Ireland to King Edward VII., a position which he retained to the end of his life. In 1897 the Household medal was conferred on him and in 1902 he received the Coronation medal. Other appointments which he held were those of president of the Irish Medical Association, president of the Irish Schools' and Medical Graduates' Association in London, consulting surgeon to the National Children's Hospital in Harcourt street, consulting surgeon to the Rotunda Hospital, and vice-president of the Royal Zoological Society of Ireland.

Sir Philip Smyly's practice was naturally both extensive and lucrative. He was at the same time noted for his kindliness of disposition, his generosity to deserving causes and charitable objects, and his sympathetic manner towards his patients of all classes. For many years before the appearance of specialists in Dublin he was looked upon as the foremost expert in Ireland on affections of the mouth and throat. So long ago as 1862 he published a paper on the Surgery of Cleft Palate, introducing some specially curved knives suitable for staphylorrhaphy. In the *Dublin Journal*, 1883, he described a variety of mirrors for demonstrating the larynx. Besides being surgeon to the Throat and Ear Hospital for many years he filled the office of president of the British Laryngological Association for 1889–90. In connexion with general surgery he associated himself with his late colleagues at the Meath Hospital, the eminent surgeons Professor Porter and Dr. Macnamara, in advocating ligation of the common femoral—known as Porter's operation—for the treatment of aneurysm of the femoral artery.

In personal appearance Sir Philip Smyly possessed the advantages of good looks and must be described as a man of fine presence. He was also a good conversationalist and possessed a variety of agreeable accomplishments, one of which was a proficiency in playing the violin. He had a high position in the Masonic Order, being a member of the Supreme Council of the thirty-third degree for Ireland; of which body he was the Grand Chancellor. He was also the representative of the Supreme Council of England. In 1864 he married the Honourable Nina Plunket, daughter of the third Baron Plunket and sister of the late Archbishop of Dublin. Three sons and five daughters were born to them, one of the sons being the present Chief Justice of Sierra Leone.

His funeral, which took place at Mount Jerome Cemetery, was attended by a great concourse of mourning friends and sympathetic spectators. On the arrival of the procession at the cemetery the draped mace of the Royal College of Surgeons in Ireland was placed on the coffin, the College being officially represented by Sir Lambert H. Ormsby, the President.

Medical News.

University of Edinburgh.—The following is the official list of passes at the recent professional examinations for degrees in Medicine and Surgery:—

First Professional Examination.—G. J. Adams, R. C. Alexander, A. C. Barker, William Beggs, J. A. Belcham, Henry Blyth, William Boyd, Alexander Bremner, F. V. Nanko Bruce, Henry Burns, P. D. Cameron, Peter Chalmers, George Coats, C. E. A. Coldicut, H. M Cook, A. C. Court, John Crocket, F. J. Davidson, C. H. Derksen, J. A. Duggan, W G. Evans, J. P. Falvey, John Findlay, William Fleming, Kenneth Fraser, K. N. Ghosh, A. B. Gordon, Peter Gorrie (with distinction), A. G. M. Grant, R. D. Latimer Greene, J. O. Hamilton, R. W. Hauman, F. W. Hay (with distinction), W. S. Heron, A. M. Hewat, St. G. M. L. Homan, J. J. Jervis, M. J. Johnston, C. W. Kay, A. W. Kendall, H. W. Kerrigan, A. F. Lee, A. R. Leggate, Cecil R. Lethem, C. L. Louw, H. B. Low, G. J. Luyt, B.A., David M'Carroll, L. G. M'Cune, W. S. M'Cune, John Macdiarmid, John V. MacDonald, Thomas MacEwen, A. E. M'Iver, G. M. Mackay, W. J. M'Keand, J. C. Mackenzie, E. R. D. Maconochie, Edward P. Maitland, Norman Martin, W. J. Mayne, R. C. J. Meyer, B.A., J. E. Mitchell, T. S. Mitchell, J. A. Morris, G. S. Norman, J. H. H. Pearson, A. A. W. Petrie, J. P. du Plessis, N. H. Prior, E. M. Reid, J. J. van Rensburg, Philip Roytowski, M. W. Ruthven, P. H. Salmond, Charlotte D. Schaeffer, Frederick Shannon, R. G. Sherlock, John T. Simson, J. D. Skinner, E. Drybrough Smith, W. B. Somers (with distinction), H. M Spoor (with distinction), W. A. Stewart, J. Wightman Stirling, William Stobie, Adam Tait, J. C. Tennant, Eleanor M. Thompson, A. E. Turnbull, H. S. Wallace, F. K. te Water, and Adam White.

Second Professional Examination.—J H. Aikman, M.A., J. A. Ainscow, A. W. Atkinson, R. C. E. Atkinson, R. G. A. Bagnall, C. F. Bainbridge, C. R. M. Baker, D. M. Barcroft, A. J. Beattie, E. H. Black, Richard Bladworth, F. H. Bradley, I. W. Brebner, Mary Brown, T. Graham Brown, B.Sc., D. S Buist, C. H. Burgess, S. T. Champtaloup (with distinction), A. E. Chisholm, J M. Christie, W. I. M. Clark, R. D. Clayton, William Core, M A., S. G. Corner, Denis Cotterill, Willi Cramer, Ph.D., R. G Cunningham, Jagonmohon Dass, Arnold Davies, A. M'D. Dick (with distinction), J. T. Dickson, T. H. Dickson, M G. Gill, A. M. Drennan (with distinction) Robert Duncan, James Dundas, D. D. Dunn, E. W. Dyer, S. S. Dykes (with distinction) David Eakin, J. G. Fleming, M. S. Fraser, Robert Fraser, J. W. Frew (with distinction), W. J. Geale, Laurence Gibson E. C. Girling, G. A. Gordon, W. L Gordon, W. H. Gowans, K K. Grieve, James Grimoldby, George Gunn, J. A. Harley, G. H. Howe, F. O. Inglis, Blanche M. L. Johnston, T. B. Johnston (with distinction), N W. Kidston, A. G. K. Ledger (with distinction), Alfred Leitch, Olive T Leonard, Peter Lornie, J. P. Lowson, R. D. M'Allister, J. S. Macdonald, W. K. Macdonald, J. W. S. Macfie, W. O. S. M'Gowan, G. B. Macgregor, T. S. M'Intosh D. F. Mackenzie, J. N Maclaughlin, Murdo Maclean M.A, John A. MacLeod, Helen M. M'Millan, John B. M'Morland, Robert P. M'Morland, A. C. B. M'Murtrie, Kenneth M Murtrie, J. M. Macphail, J. N. M Turk, David Mann, J. S. Manson (with distinction), Jamesina J Marr, R. P. Mathers, John Mathewson, M.A, G. M. Melville, C. Irvine Milne, C. James Milne, H. J. More, R. H. Nolan, J. S. Orwin, J. S. Peebles, A. M'Tier Pirrie, B Sc, George Pollock (with distinction), H. B. Porteous, Austin Priestman, C. A. Purnell, Claude Pycroft (with distinction), Mabel L. Ramsay, Gustav Raubenheimer, W. H. Riddell, C S. U. Rippon, John Ritchie (with distinction), H D. Robb, R. M N. Robb, W. S. I. Robertson, Æneas Rose, M A., Frank Ross, J M Donald Ross, Z M. H. Ross, Eustace Russell, James Scott, T. H. Scott, A. D. Stewart (with distinction), H. G. Sutherland, W. J. Taggart, K. R. Tampi, D. R Taylor, H. V. Taylor, William A. Taylor, C. H. Tewsley, E. R. Thompson, H. H. Thorburn, J N. Turnbull, Annie D. Urquhart, A G. Visser G. F. C. Wallis Thomas Walsh R H. Walton, A. I. Shepheard Walwyn, Richard Wilkins, C. H. Williams, W. E. R Williams C. R. Wills, Ethel Wiseman, R. M. Wishart, A. F. Wright, Emily C. Wybourne, and A. W. Young.

Old Regulations.—George A. Grierson.

Third Professional Examination.—Thomas Addis, Francis Aitken, D. C. Alexander, J. C. D. Allan, A. C. Alport, A. G. Anderson, William Anderson, G. S Banks, D. M'F. Barker, J. M Barkley, W. J. E. Bell, C. E Blair, D. P. Blair, George Blair, R. A. Blake, Herbert Brown, J. W. Cairns, T. F. Campbell, H. M. Cargin, Marjorie Duake Cohen, H. P. Cook, James Craw, D. C. Crole, J. A. Cruickshank, A. B. Darling, Thomas Davidson, M.A., J M. Dickson, H. A. Edwards, C. E. Elliston, F. E. Field, C. N. Finn, N. C Forsyth, R. S. Trew, W. G. Fröhlich, Jessie H. Gellatly, William Gemmill, Eleanor A. Gorrie, J. M. Grant, Joseph Green, C. Rose Greenfield (with distinction), J C. Grieve, James A. Gunn, M.A, B Sc., George Hadden, J. D. Harmer, Ada A. Hatchard, A. S. Hendrie, W. M. Hewetson, Jean S. Hogg, J. R. Holgate, Joseph Ings, T. Scoresby Jackson, J. P. S. Jamieson, J. H. H. Joubert, G. P. Joy, M.A., Solomon Kark, Ethel Landon, J. M Lauder, James Lindsay, W. L. Locke, John MacDonald, Peter M'Ewan, M A. (with distinction), T. A. MacGibbon, J. D. M'Kelvie, K. W. Mackenzie, Murdo Mackinnon, A. C. M'Master, Stewart M'Naughton, Charles M'Neil, M.A., N. N G. C. M'Vean, S. E Martin, E S. Massiah, Alexander Mathieson, D. M. Mathieson, M.A., A. I. Miller, C. M. Mirylees, C. E S. Mitchell, J. S Mitchell, H. B. Morris, D. L. Morrison, R. R. Murray, A. W. Neill, G. P. Norman, A. J. R. O'Brien, A. A. Ollivierre, D. H. Paul, H. E. Rawlence, Charles Reece, A. E. Carey Rees, B.A [illegible] M A., W. [illegible] Alexander [illegible] Selkirk, [illegible] tinction), S. A. Smith, T. R. Smith, A. G. V. van Someren, A. B. Spence, J. R. Tannahill, J. A. R. Thompson, R. B. Thomson, Nettie B. Turnbull, Edward Valenzia, A N. J. Vizarat, Frances M. Wakefield, R. C Walker, H. E. A. Washbourn, H. C. Weber, J. D. Wells, W. H. Welsh, F. P. Wernicke, Elsie B. Wilkie, H. C. Wilson, and James Young.

London School of Tropical Medicine.—Of the students of the above school who presented themselves for the examination at the end of January-April session, 1904, the following have passed:—

Norah Lenwood,* A. L. Hoops,* W. M. Eaton,* J. B. Cleland,* Olive McDougall,* K. McGahey,* J. Eldon, J. E. M. Brown, M. E. Leicester, A. E. E. Twynam, R. L. Roe, H. G. McKinney, G. F. Whyte, C. T. Costello, and C. W. Somerville.

* Passed with distinction.

Conjoint Examinations in Ireland by the Royal College of Physicians and the Royal College of Surgeons.—The following candidates have passed the first professional examination:—

A. Honours.—James Murray and E. Waide.

B. Pass.—P. H. Black, S Blake, A. Curry, E. Evans, H. S. Johnston, G. S Levis, F. Mahony, A. E. S. Martin, Richard Power, G. W. Stanley, and J. P. Zeederberg.

Completed the Examination.—W. Breen, R. J. Brookes, P. Ferguson, J. P Grainger, C. A. O'Burne Ryan, G. G. Stephenson, and P. J. Williams.

Foreign University Intelligence.—*Bologna:* Dr. Salvatore Levi-Catellani has been recognised as *privat docent* of Surgery and Operative Medicine.—*Cracow:* Dr. Hoyer has been promoted to the Ordinary Professorship of Comparative Anatomy. Dr. Ludomil Korczynski has been granted the title of Extraordinary Professor.—*Florence:* Dr. Carlo Tonarelli has been recognised as *privat-docent* of External Pathology and Dr. Giuseppe Guicciardi as *privat docent* of Midwifery and Gynæcology.—*Frankfort (Institute of Experimental Therapeutics):* Dr. Julius Morgenroth has been granted the title of Professor.—*Freiburg:* Dr. Franz Knoop of Shanghai has been recognised as *privat-docent* of Physiological Chemistry and Dr. W. Trendelenburg of Rostock as *privat-docent* of Physiology.—*Giessen:* Dr. Bruno Henneberg, Prosector of Anatomy, has been promoted to an Extraordinary Professorship. Dr. Paul Strömer has been recognised as *privat docent* of Gynæcology.—*Greifswald:* Dr. Franz Soetbeer has been recognised as *privat-docent* of Children's Diseases.—*Halle:* Dr. A Siegert of Strasburg has been appointed Extraordinary Professor of Pediatry.—*Heidelberg:* Dr. Ernst Schwalbe, First Assistant to Professor Arnold, has been promoted to an Extraordinary Professorship Dr. Rudolf Magnus, First Assistant to Professor Gottlieb in the Pharmacological Institute, has been also promoted to an Extraordinary Professorship. Dr. Erwin Kehrer has been recognised as *privat docent* of Midwifery and Gynæcology.—*Kieff:* Dr. Lapinsky has been appointed Extraordinary Professor of Neurology and Psychiatry.—*Königsberg:* Dr. Ernst Meyer, son of the late Professor Ludwig Meyer of Göttingen, has been appointed Professor of Psychiatry in succession to Dr. Bonnhoeffer who goes to Heidelberg. Dr. Martin Gildemeister has been recognised as *privat-docent* of Physiology.—*Leipsic:* Dr. J. H Rille, Extraordinary Professor of Dermatology, has been promoted to an Honorary Professorship.—*Lille:* Dr Ausset, *agrégé*, has been appointed to the chair of Therapeutics.—*Naples:* Dr. Raffaele Minervini has been recognised as *privat docent* of External Pathology, Dr. Noè Scalinci as *privat-docent* of Ophthalmology, and Dr. Anacleto Romano as *privat docent* of Electro-therapeutics.

TRAINED NURSES ANNUITY FUND.—A meeting will be held on behalf of the Trained Nurses Annuity Fund at 19, Stratford place, by kind permission of Emily, Lady Ampthill, on Wednesday next, April 27th, at 3 30 P M. Lady Loch will preside and among the speakers will be Mrs. Garrett Anderson, M.D., and Lady Helen Monro Ferguson.

THE STATE CHILDREN'S ASSOCIATION.—The fifth report of the State Children's Association dealing with the years 1901–03 is a document which will repay careful perusal. The association was founded in 1896 and seeks to better the condition of the large number of children dependent on the rates, of whom 60,000 are wholly in charge of the guardians. The objects of the association are: (1) to obtain the dissolution of large aggregated schools, so that the children may be brought up when possible in families or in small groups, where they will be in daily touch with the varied interests and activities of social life; (2) to dissociate the children from all connexion with the workhouse and the officials who have to deal with a pauper class; and (3) to obtain for the State further powers of control over neglected children. Through its Parliamentary committee, by interviews and by memorials, the association has secured attention from the Local Government Board to necessary reforms, not only with regard to boarding out but to many points which concern the welfare of State children generally. The report can be obtained (price 3*d*) from the office of the association, 58, Old Broad-street London, E C, or from Messrs. P. S. King and Son, 2 and 4, Great Smith-street, Westminster, S W.

UNIVERSITY OF OXFORD: SECOND EXAMINATION FOR THE DEGREES OF B M. AND B.CH.—The Board of the Faculty of Medicine gives notice that on and after Trinity Term, 1905, the whole of the regulations under the head IX. Forensic Medicine and Hygiene (see Examination Statutes, pp. 191, 192) will be struck out and the following will be substituted for them—viz.: "IX. Public Health and Forensic Medicine. The examination shall consist of (1) a written paper of three hours, (2) a *vivâ voce* examination. The subjects of the examination will be: Part I, Public Health.—1 *Water.*—Sources of supply. Questions relating to (*a*) quantity, (*b*) quality, (*c*) storage, (*d*) distribution, (*e*) sources of pollution. 2. *Food.*—Diets in relation to age and occupation. Principles involved in estimating the sufficiency and wholesomeness of foods. Dangers due to specifically infective and toxic impurities 3. *Air.*—The chemical and bacteriological examination of air with reference to its effects on health Quantity and quality of air. Natural ventilation. Principles involved in artificial ventilation and warming of air. 4 *Soil.*—Principles involved in the physical, chemical, and bacteriological examination of soil with reference to its influence on health and to the presence of specific causes of disease. Ground and sub soil water. 5. *Dwellings*—Sites and structure. Sanitary arrangements. The dwellings of the poor in towns and rural districts. The methods of the disposal of excreta in town and country. 6. *Hospitals and schools.*—Principles involved in the construction of general, surgical, and isolation hospitals and of schools. 7. *Disinfection*—Ordinary methods of disinfecting rooms, clothing, bedding, and excreta. 8 *Vital statistics*—The elementary interpretation of statistical data relating to births and deaths Effects of age, distribution, density of population, occupation and infectious disease on mortality. 9 *Offensive and dangerous trades.* 10. *Sanitary laws and administration*—A general knowledge will be required of the following: the law relating to the duties of medical officers of health; the relations of the medical officer of health to the general practitioner of medicine; general statutes and regulations relating to the notification and treatment of infectious disease, to the correction of nuisances generally, and of insanitary conditions in houses; the law relating to vaccination. 11. *Infectious disease.*—The prophylaxis against enteric fever, diphtheria, scarlet fever, and small-pox, and the methods to be adopted in preventing the spread of infectious disease. Part II, Forensic Medicine—I. The proceedings of legal tribunals with reference to medical evidence and the conduct of medico-legal investigations. II. The subjects to which medical evidence relates—namely: 1. *Life.*—Expectation of life, life insurance, identity of the living, proofs of criminal violence, general nature of injuries. 2 *Death.*—Signs and modes of death, time of death, death from natural causes, death by violence, accident, poisoning (including poisoning by gases), starvation, asphyxia. 3. *Birth and reproduction*—Conception and gestation, living and still-birth, criminal abortion, impotence, sterility, violation, unnatural offences. 4. *Lunacy.*—The laws relating to lunacy."

THE ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN—The first section of the new buildings of this hospital was opened for inspection by the press on April 20th. At present, however, only the out-patient department is apparently far enough advanced for use. When fully completed the new buildings will contain provision for about 200 beds with a separate nurses' home. The portion of the hospital now in progress provides for about 100 beds, and the out-patient department, which occupies the whole of the lower ground floor, is approached from Waterloo-road with separate entrances and exits. The ground floor contains the administrative offices, with accommodation for secretary, committee, matron, resident medical staff waiting rooms, hall and entrance porch, situate at the corner of Waterloo-road and Stamford-street. The first, second, and third floors are devoted to the wards. Each ward has an open balcony facing Waterloo-road, with separate sister's room and ward scullery. The bath rooms and sanitary offices are separated by a ventilated corridor on each floor. Provision is made for a day room on the first floor, an isolation ward on the second floor, and an operating theatre on the third floor. The fourth floor is reserved for the kitchen offices and bedrooms for the staff. A hydraulic patients' lift and service lifts from top to bottom of the building are provided. The floors are of fire resisting construction throughout. Hydrants with fire-hose will be attached to each landing and an iron escape staircase will be provided outside with exits from every floor. The heating will be by hot water, and electric light will be provided throughout. The front of the new buildings is of red brick and terra-cotta. The corner entrance porch is of glazed ware, the cost of which is being defrayed by Messrs. Doulton and Co as a gift to the hospital. The contractors are Messrs. Holliday and Greenwood, Limited, and the architects are Messrs. Waring and Nicholson of 38, Parliament-street, London, S.W.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Another Weights and Measures Bill

A BILL introduced by Mr. BOUSFIELD to secure greater uniformity in the administration of the law relating to weights and measures has been read a second time in the House of Commons and referred to the standing committee on law. It will be recollected that a Bill for the introduction of the metric system of weights and measures was presented in the House of Lords some six weeks ago. In the interval it has been read a second time and considered and amended in committee but an incident that occurred in the second reading debate of the Bill "to secure greater uniformity" seems to foreshadow its fate when it reaches the Lower Chamber. In the fourth section of Mr. BOUSFIELD'S Bill it was proposed that after Jan. 1st, 1908, troy weight and apothecaries' weight should be abolished in favour of the metric system. Several members approved of this. It was stated, indeed, that 20 per cent. of the Members of the House were willing to support the introduction of the metric system But as the debate proceeded it became clear that the retention of the section would wreck the Bill and Mr. BOUSFIELD was compelled to promise that in committee he would withdraw the proposal. Mr. GERALD BALFOUR, speaking later, said he was glad to learn of this decision. It was a wise one and he ventured to think that the provision ought never to have been introduced into the Bill at all. The fringe only of the question was touched and it raised very great difficulties without solving them. It certainly would have raised against the Bill the opposition of those trades which were more directly concerned with the tr [illegible] and if the promoters had insisted [illegible] the Bill he would have felt bound [illegible] Government.

Tuberculosis in Animals.

Another Bill which has been read a second time during the week and referred to a committee deals with the question of tuberculosis in animals. The promoters' contention is contained in these words:

"Whereas it frequently happens that it is impossible to detect the presence of tuberculosis in a living animal from its outward appearance and yet such disease may exist to an extent which may justify the condemnation of the carcass after slaughter as unfit for human food, it is expedient to make provision for compensating the owner." From the medical point of view three of the speeches were interesting. Sir Herbert Maxwell, who presided over the Royal Commission which reported six years ago, complained that nothing had been done to give effect to the recommendations of that Commission. If the question of tuberculous disease in cattle had been properly grappled with in this country as it had been in certain continental States any grievance would, in his opinion, have been removed and the question of compensation would not have arisen. It was with a feeling akin to shame that they must contemplate what had been done in coping with tuberculosis successfully and practically and with the concurrence of the people in a small State like Denmark, while no attempt was made in this country to stamp out this most destructive disease. Dr. Farquharson pointed out that it was a very serious fact that while consumption among grown persons had decreased the same disease among children was largely increasing and the problem was whether this was not due to tuberculous milk, and Dr. Hutchinson protested against the attempts to stop the Bill which was, in his opinion, for the benefit of the public health.

Superannuation of Irish Poor-law Medical Officers.

Mr. T. W. Russell has brought in a Bill to provide superannuation for Poor-law medical officers in Ireland.

HOUSE OF COMMONS.

WEDNESDAY, APRIL 13TH.

Vivisection of Dogs.

Five minutes before midnight Sir Frederick Banbury moved in a sentence the following motion: "That in the opinion of this House no operations for the purposes of vivisection should be performed on dogs." As was inevitable in the circumstances the proposal was "talked out."

An Error of Judgment.

Mr. Griffith Boscawen asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been called to the action of Dr. Tierney, J.P., in adjudicating at petty sessions at Clones in cases where he had already acted as medical adviser to, and had accepted fees from, one of the parties; whether a specific case was brought before the Lord Chancellor on Jan. 2nd last; and, if so, whether any notice had been taken of Dr. Tierney's conduct.—Mr. Wyndham replied: This case was brought to the notice of the Lord Chancellor who upon consideration of all the circumstances arrived at the conclusion that official action in the matter was not called for. Steps were taken, however, to convey to the justice named an intimation that the Lord Chancellor considered he had been guilty of an error of judgment in adjudicating in the case in question.

Medical Officers in the Highlands.

Mr. Cathcart Wason asked the Secretary for Scotland whether he would say what system, if any, was adopted by parish councils in the Highlands and Islands of Scotland to acquaint the medical officer of the sickness of paupers, more especially those situated at a considerable distance from his residence; whether the rules as to medical relief of the poor were strictly adhered to by parish councils in remote parishes in the Highlands and Islands of Scotlands, or whether these local bodies were permitted by the Local Government Board to place limitations on them to suit the convenience of the general public, and, if so, whether the Board would take steps to satisfy itself that a laxity with regard to its rules was to the advantage of the paupers; and whether the medical officers were required to visit the houses of paupers throughout the parish at short intervals to ascertain if the paupers were ill, or whether it was the duty of inspectors of poor to intimate to the medical officers when the paupers were requiring medical and surgical attention. Mr. Graham Murray replied: The matters touched upon in the question of the honourable Member are dealt with in the report (already submitted to the House) of the Departmental Committee appointed by the Local Government Board for Scotland to inquire into the system of Poor-law medical relief, &c. That report will shortly be available and I beg to refer the honourable Member to the recommendations contained in it.

The Plague in India.

Sir Walter Foster asked the Secretary of State for India whether he could give the number of deaths from plague in India and the Bombay and Bengal districts respectively for the four weeks ending March 26th.—Mr. Brodrick replied: Except as regards the Bombay Presidency the returns of plague deaths in India received up to to-day do not go beyond the week ended March 19th. The totals for the three weeks ended on that date are 13,187 for Bengal, 24,390 for the Bombay Presidency, and 102,962 for the whole of India, including the above. The number of plague deaths in the Bombay Presidency alone during the month of March was 35,416.

THURSDAY, APRIL 14TH.

The Plague at Hong-Kong.

Answering Sir Walter Foster Mr. Lyttelton said: According to the weekly telegraphic reports from Hong-Kong on the subject, which are regularly communicated to the press as soon as received, there have been 11 cases of plague and 11 deaths at Hong-Kong this year up to April 9th. I have received no detailed report as to the occurrence of plague during the current year but I have given instructions that a report of the acting medical officer of health on the epidemic of plague during the first seven months of last year, which has just been received, should be sent to the honourable Member.

Inoculation for Plague.

Sir John Rolleston asked the Colonial Secretary whether, in view of the results of serum inoculation for plague in India, he would prohibit the use of plague serum in Johannesburg.—Mr. Lyttelton replied: I am not prepared to interfere with the local medical authorities in this matter and I am not aware of any reasons for the suggested prohibition of the use of plague serum to which no objection is taken by my medical advisers.

Adulterated Spirits.

Mr. MacVeagh asked whether the attention of the Government had been called to a recent decision of the Justiciary Appeal Court o Scotland declaring it illegal to describe and to sell as brandy a mixtur of patent spirits and brandy and upholding a conviction by th Sheriff Court of Hamilton under the Sale of Food and Drugs Acts fo this offence; whether they were aware that the officers of excis and customs were compelled by their regulations to allow, i the Government bonded warehouses, German spirit to be labele as brandy and English spirit as Scotch whisky, and whethe such legislation would be promoted or such alterations in the excis and customs regulations made as would render it impossible for thes frauds to be perpetrated under official supervision. Mr. Cavendish replied that the regulations of the Boards of Customs and Inlan Revenue merely prescribed that revenue officers were not to concern themselves in any way with labels placed on spirits issued from bon for home consumption beyond seeing that the labels did not contain any expression implying official supervision. It was not possible unde the rules that German spirit should be labeled in bond as whisky.

MONDAY, APRIL 18TH.

Treatment of Lunatics.

Mr. Sloan asked the Chief Secretary to the Lord Lieutenant o Ireland whether his attention had been called to the practice of takin lunatics to the workhouses without first having them certified by medical practitioner or examined by a magistrate as prescribed by law and, if so, whether he would say in what circumstances it wa permissible to admit such cases without the necessary safeguards t the safety of the persons; and whether instructions would be give for the carrying out of the law in this respect?—Mr. Wyndham replied A person of unsound mind who is *primâ facie* destitute is entitled t be admitted to a workhouse. It is not legally necessary that he sha be certified by a medical practitioner or examined by a magistrat before admission. But such a person may, after admission, be tran ferred to a lunatic asylum if the circumstances justify the transfer.

Deaf and Dumb Children.

Mr. Clancy asked the Chief Secretary to the Lord Lieutenan of Ireland whether he meant to deal this session with the question o extending to Ireland the provisions regarding deaf and dumb childre which have been in force in England for several years past and unde which a sum of £37 090 for deaf, blind, and defective children i England has been placed on the Estimates for the current year, whil no grant is made for such a purpose in Ireland.—Mr. Wyndha replied: I hope to be able to deal with this matter by legislatio during the present session but I cannot at present give a pledge.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institution and others possessing information suitable for this column, ar invited to forward to THE LANCET *Office, directed to the Sub Editor, not later than 9 o'clock on the Thursday morning of eac week, such information for gratuitous publication.*

Abram, G. Stewart, B.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P. Lond., has been appointed Junior Assistant Physician to the Roya Berkshire Hospital.

Adam, J. Wilson, M.B., C.M. Glasg., has been appointed Medica Physician to the Aberdeen Dispensary.

Anderson, C. A., M.B., M.S. Edin., has been appointed Assistant Hous Surgeon to the Portsmouth Hospital.

Burnet, James, M.A., M.B., M.R.C.P. Edin., has been appointe Registrar to the Royal Hospital for Sick Children, Edinburgh.

Cowie, James M., M.D. Aberd., D.P.H., has been appointed Medica Officer of Health and Public Analyst for the County Borough o Burton-upon-Trent.

Ellis, L. Erasmus, M.D. Brux., M.R.C.S. Eng., L.R.C.P. Lond L.S.A., has been appointed Clinical Assistant at St. John's Hospital for Diseases of the Skin, Leicester-square, London, W.C.

Glegg, R. Ashleigh, M.B., D.P.H. Edin., has been appointed Assistant Medical Officer of Health of Leith, and Residen Physician to Leith Public Health Hospital.

Lloyd, William, F.R.C.S., has been appointed Surgeon in Charge o the Nose, Ear, and Throat Department, St. Pancras and Grea Northern Dispensary, W.C.

Moir, D. R., M.A., M.B. Aberd., has been appointed Visiting Surgeon to the Hull and Sculcoates Dispensary.

Pentreath, C. H. R., B.A., M.B., B.C. Cantab., has been appointe Resident Medical Superintendent of the Government Sanatorium for Consumption, Cambridge, New Zealand.

Wall, Cecil, M.A., M.D. Oxon., M.R.C.P. Lond., has been appointed Honorary Physician to the Poplar Hospital.

Vacancies.

For further information regarding each vacancy reference should b made to the advertisement (see Index).

Bradford Royal Infirmary.—Dispensary Surgeon, unmarried. Salary £100 per annum, with board and residence.

Brighton, Hove, and Sussex Throat and Ear Hospital, Church-street, Queen's-road, Brighton.—Honorary Consulting Surgeon, also Honorary Surgeon.

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke-road.—House Surgeon. Salary £80, with board, lodging, and washing.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—Pathologist. Salary £300 a year.

CHELSEA HOSPITAL FOR WOMEN, Fulham road, S W.—Clinical Assistant

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark —House Physician. Also House Surgeon. Salary £80 respectively, with board, residence, and washing.

FARRINGDON GENERAL DISPENSARY AND LYING-IN CHARITY, 17, [illegible] F C.—Honorary Physician.

[illegible] W.C.— Medical Registr[illegible]

LEICESTER INFIRMA[illegible] annum, [illegible])

MARGARET-STREET HOSPITAL FOR CONSUMPTION AND DISEASES OF [illegible] Salary [illegible] — House [illegible] alary at rate of 60 guineas a year, with board and residence.

ROYAL HALIFAX INFIRMARY. — Third House Surgeon, unmarried. Salary £80 [illegible]

ROYAL LONDON [illegible] Surgeon. [illegible] tion Assist- [illegible]

SAMARITAN F[illegible] Clinical Assistants [illegible] Salary [illegible]

[illegible] S E — House Physician. Salary £65 per annum. Also Junior Resident Medical Officer. Salary £40 per annum. Both with board, residence, and washing.

SHEFFIELD ROYAL HOSPITAL —Assistant House Physician, unmarried. Salary £50 per annum with board, lodging and washing.

SWANSEA GENERAL AND EYE HOSPITAL.—Assistant House Surgeon. Salary £50 per annum.

WESTERN DISPENSARY, Rochester row, Westminster, S.W.—Medical Officer.

[illegible] Salary £80 per [illegible] Salary £120 [illegible]

THE Chief Inspector of Factories, Home Office, S W., gives notice of vacancies as Certifying Surgeon under the Factory Act at Stocksbridge and at Denby Dale and Shepley, in the county of York, and at Ceres, in the county of Fife.

Births, Marriages, and Deaths.

BIRTHS.

HEN[illegible] Edward [illegible]

SHA[illegible] W., the [illegible]

MARRIAGES.

PARAMORE—GODSON.—On April 14th, at Christ Church, Woburn-square, W.C, Richard Horace Paramore, M B. Lond., M R C S., L R C P., to Lilian Mabel, the youngest daughter of the late Rev Edwin Godson, M A

RICE-CARROLL —On April 12th, at Mitchelstown, W. Rice, M B, B Ch, B A O. R U I, of Curraghmore, Fermoy, co. Cork, to Catherine, youngest daughter of the late Michael Carroll of Doneraile.

DEATHS.

FAULKNER [illegible] M R C [illegible]

MASON.—[illegible] year, [illegible] upon Trent.

MORICE.—On Feb 20th, 1904, at Greymouth, New Zealand, Charles Lloyd Morice, M R C S., L S A.

THOMPSON —On April 18th, at Wimpole-street, W., Sir Henry Thompson, Bart., F.R C S., in his 84th year

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A COURTEOUS PRIEST.

WE received a few days ago a letter from someone signing himself (Rev.) Montague Fowler and writing from 41, Wilton-crescent, S.W. The letter inquired from us information about the books which treated of certain diseases To this we replied that we made it an almost invariable rule never to answer questions with regard to the treatment of disease unless they were addressed to us by a medical man. The Rev. Montague Fowler acknowledged our letter in the following terms.—

> 41, Wilton-crescent, S W.
>
> DEAR SIR,—I am in receipt of your letter of to-day's date, which has nothing to do with the question I asked you—to which, I gather, you are unable to give me an answer. I am sorry to have troubled you, but I was given to understand that you were *au courant* with the standard medical works.
>
> Yours fy.,
> MONTAGUE FOWLER.

We are asked constantly by members of the public to assist them to find in medical literature the way to treat disease. We, of course, tell such inquirers to consult their medical men, because they will [illegible] them. We do not give [illegible] supersede medical men [illegible] position thus taken up [illegible] of our correspondents, [illegible] r to do so. We do not know this gentleman, he is not a medical man, and has no claim on our time. As he has been unable to understand our previous communication to him we will strive this time to make ourselves particularly clear. If the Rev. Montague Fowler wants medical advice let him seek it from his medical man, and pay for it.

"NOTHING ILLEGAL ENTERTAINED."

WE have received from a correspondent the circular which follows:

> Mrs. B. S. Arons,
> 27, Manchester Road, Blackpool.
>
> NOTHING ILLEGAL ENTERTAINED, strict confidence, no injurious drugs used. Advice Free.—State your case clearly.—Send full postal address. Stamped addressed envelope for reply.
>
> Womans' Remedies made by a woman for women.
>
> Female Pills.
>
> Removes Irregularities, Safe, Reliable The Pills are a never failing Remedy in the most troublesome disorders, in most cases where a woman has taken these pills, for about a week before and after, each month, they have kept her quite regular. Should also be taken during the month. They will purify the system, stimulate the blood and put a healthy colour in the cheeks and skin. They may be taken with perfect safety and success, by the young unmarried female suffering from Amenorrhea, equally so in the case of Females of mature years in the change of life.
>
> 2/9. PRICE 2/9 PER BOX. POST FREE TO ANY ADDRESS. 2/9.
>
> Female Mixture.
>
> The Safest and Surest Mixture for Females. Highly recommended by Ladies in all parts of the Empire It is essential that the Mixture should be taken, and should be persevered with until it has thoroughly established the natural flow (state time of supression)
>
> This Mixture has great strengthening and invigorating properties which act directly on the Female Organs Price 4/6 per Bottle, Extra Strong and Larger Size 6/- sent post paid securely [illegible] together quite harm- [illegible] you derive benefit.— [illegible] al Study and if you have been "gulled by Chemists and Quacks, don't despair, give my Pills and Mixture a fair trial, have relieved and given happiness [illegible] never be used, unnatural and [illegible] ncer and Tumours. [illegible]
>
> Barrenness in Women, in cases where a Woman, has not had [illegible] tting—But [illegible]
>
> All Cases and Diseases, treated with GREATEST CONFIDENCE.

The gentleman who has sent us the document asks "Can nothing be done to stop such frauds?" We confess that we do not know what are the principles upon which the police act. This woman is clearly advertising for clients whom she may assist in their desire to procure abortion upon themselves. The almost invariable cause of the suppression of menses in a young woman is pregnancy. What are "indiarubber goods" used for save to prevent pregnancy? And the woman herself puts forward her stuff as a substitute for "indiarubber goods." That Mrs. Arons's pure herbal remedies would not act as ecbolics is probable, but it is certain that she expects gullible females to think differently that they may invest 4s. 6*d*. or 6s. with her for some rubbish the initial cost of which is probably 1*d*. or 2*d* We do not know why the police ignore the manœuvres of Mrs. Arons and her like, but when we remember that until recently many reputable newspapers actually inserted the advertisements of such people, and note that some even do so still, we can understand that the authorities are puzzled.

HOLMAN TESTIMONIAL FUND.

The following further list of contributions has been forwarded to us by the honorary treasurer of this fund, Dr. John H. Galton, Chunam, Sylvan-road, Norwood, S.E., by whom or by Mr. W. A Berridge, Oakfield, Redhill, Surrey, subscriptions will be received:—

	£	s.	*d.*
Dr. Fred. Durham ...	1	1	0
Dr. Francis Bossey ...	2	2	0
Dr. J. Roberts Thomson, J.P.	3	3	0
Mr John Crew, J.P.	1	1	0
Dr. W. H. Tayler ...	1	1	0
Dr. E. L. Adeney ...	0	10	6
Mr. Geo. C. Croft ...	5	5	0
Dr. M. Baines	1	1	0
The Misses Maynard	2	2	0
Mary Ann Jaffray ...	1	1	0
Sir Hermann Weber ...	2	2	0
Sir R. Douglas Powell, *Bart., K C V.O.* ...	2	2	0
Mr. Malcom A. Morris	3	3	0
Mr. Jas. Nightingale	1	1	0
Dr. Seymour S. Sharkey	1	1	0
Mr. Jeremiah Colman	3	3	0
Mr. T. L. Grun	2	2	0
Professor Howard Marsh	2	2	0
Mr. H. T. Butlin ...	3	3	0
Sir Thomas Smith, Bart., K C.V O. ...	2	2	0
Dr. H. R. Crocker ...	1	1	0
Mr. E. F. Drake-Brockman	1	1	0
Dr. Edward F. S. Green	0	10	6
Mr. Clement L. Smiles ...	5	5	0
Dr. J. G. Glover, J.P. ...	1	1	0
Miss Adelaide Baxter ...	1	1	0
Mr. Hutchins Williams	1	1	0
Dr. W. A. Evelyn	1	1	0
Dr. G. Fielding Blandford	1	1	0
Sir Alfred Cooper	2	2	0
Dr. Leonard W. Sedgwick	1	1	0
Mr. R. W. Inglis	5	5	0
Mr. S. Parsons Smith, J.P.	1	1	0
Mr. T. M. Butler	1	1	0
Dr. William Travers ...	1	1	0
Mr. John H. Morgan, C.V.O.	1	1	0
Lord Alverstone	2	2	0
Dr. F. T. Roberts	1	1	0
Mr. Anthony A. Bowlby, C.M G.	1	1	0
Dr. David W. Roberts	1	1	0
Mr. Sydney C. Austin	1	1	0
Dr. John G. Ogle	1	1	0
Dr J. W. Bond	2	2	0
Dr. R. L. Bowles	2	2	0
Mr. J. L Siordet	1	1	0
Dr. W. Essex Wynter ...	1	1	0
Mr. F. W. E. Kinneir ...	1	1	0
Dr. A. P. Luff	1	1	0

THE ROYAL METEOROLOGICAL SOCIETY.

At the monthly meeting of the Royal Meteorological Society held on April 20th at the Institution of Civil Engineers, Great George-street, Westminster, a paper, which was of some medical interest, was read by Mr. W. L. Dallas on the Variation of the Population of India compared with the Variation of Rainfall in the Decennium 1891–1901. The author showed that during the four years 1891–95 the rainfall was generally normal or heavy over nearly the whole country, and during the six years 1895–1901 the rainfall was greatly deficient. During the former or "wet" period the rainfall was deficient over Upper Burma and Madras, was normal over the remainder of Burma, Assam, Bengal, and the west coast of the Peninsula, and was excessive elsewhere; while during the latter or "dry" period the rainfall was again deficient over Upper Burma, normal or excessive over the remainder of Burma, Assam, Bengal, the United Provinces, the North-West Frontier Province, and the South of Madras, and was deficient elsewhere, most so over Rajputana and neighbouring areas. The general census of India on March 1st, 1901, showed the total population to be 293,475,477, which, excluding the territories not included in the 1891 census, was an increase of only 1·3 per cent. The population had thus failed to increase according to the normal rate during the decade. Part of this failure was no doubt due to epidemics. The author, however, shows that there is an unmistakeable relationship between the variations of the population and the variations of rainfall during the dry years. The area within which the most serious decrease of population occurred coincides almost exactly with the area of greatest deficiency of rainfall.

PUS IN THE MOTIONS OF A CHILD.

To the Editors of The Lancet.

Sirs [illegible] hould be very grateful if any of the readers of The Lanc[illegible] throw light on the following case. The patient is a g[illegible] of age, who has periodical discharge of pus in the motion[illegible] nth or so. There is absolutely no sign of tuberculous peri[illegible] has never had appendicitis; she does not suffer from [illegible] symptom is an occasional pain described as "[illegible] ing the iliac crest when she runs about; otherwise she is [illegible] in g[illegible]. I may mention that the last time the disc[illegible] us w[illegible] med was after a dose of castor oil given for sligh[illegible] tion, to [illegible] she is subject.

I am, Sirs, yours faithfully,

A Puzzled G.P.

April [illegible]

BRITISH MEDICAL BENEVOLENT FUND.

To the Editors of The Lancet.

Sirs,—I shall be very much obliged if you will give me room to say that I am constantly receiving applications for clothing, &c, and am unable to comply with requests as our wardrobe is empty. For many years I have received and distributed clothing of all sorts and hav been able to afford most useful help to many of the recipients of al from the Fund. Any members of the profession who have clothin with some wear in it to dispose of may send it to me at this addres and I can guarantee that it shall be distributed to the best advantage I have now applications for men's clothing of every description women's clothes and underclothing, children's school clothes (boys an girls), black dresses to start girls in situations, hats, bonnets, jackets and cloaks, evening dress, furs of all sorts, and boots and shoes Everything comes in useful and finds its place and room can be founc for material to make up as wanted. The supply of clothing ha fallen off during the last three years and it has been found difficul to keep abreast of wants. I would particularly ask executors an those who have to deal with the wardrobes of deceased medical me or have a chance of influencing the disposal of the wardrobes o patients to think of their poorer brethren and remember our wants.

I am, Sirs, yours faithfully,

26, Linden-gardens, W., April 19th, 1904. Edward Rist.

DR. J. T. C. CONRY'S DEFENCE FUND.

To the Editors of The Lancet.

Sirs,—Since April 12th, when the amount received was £18 16*s*. 6*d* the following sums have been contributed:—

	£	*s.*	*d.*
Dr. Alexander Davidson	1	1	0
Dr. T. Neville	0	10	6
Sir William Whitla	1	1	0
Dr. H. Macnaughton Jones	1	1	0
Dr. E. S. W. ("A Poor Country Surgeon") ...	0	5	0
Dr. W. Pringle Morgan	1	1	0
Rev. D. J. Forbes	0	10	0
Mr. G. Vere Benson ...	0	2	
Surg.-Gen. C. Sibthorpe	1	1	
Dr. J. T. Higgins	1	1	
A. M O.	0	10	
Dr. T. W. S. Paterson ...	0	10	
Mr. Colin Campbell	0	10	
Dr. Jacob Pickett	0	10	
	£28	12	

We are, Sirs, yours faithfully,

Edwin T. Ensor.

162, Ladbroke-grove, W., April 20th, 1904. Walter L. Roberts.

THE REDUCING POWER OF CREATININE ON FEHLING'S SOLUTION.

To the Editors of The Lancet.

Sirs,—On p. 1026 of The Lancet I find that "Research" desires to have reference to some work on this subject. Dr. R. S. Thomson, professor of medicine in Anderson's College Medical School, Glasgow, h worked in this direction.

I am, Sirs, yours faithfully,

F. D.

April 11th, 1904.

A SIMPLE QUESTION.

To the Editors of The Lancet.

Sirs,—May I ask your opinion on the following incident? A hou vacated by a practitioner X is occupied by another practitioner Y. A former patient calls and finding X gone asks where. Y replies: "I don' know" (untrue), and adds, "I am doing his work" (untrue), thereb inducing the patient to take advice and to give a fee. Is this etiquette

Inclosing my card,

I am, Sirs, yours faithfully,

G.P.

April 16th, 1904.

*** No.—Ed. L.

SMOKING IN THE WARDS OF A HOSPITAL.

To the Editors of The Lancet.

Sirs,—Is the medical officer of the local fever hospital of a county borough justified in habitually smoking a pipe whilst making his daily ward visitations and would the sanitary committee of that borough b in order in asking him to discontinue the practice?

I am, Sirs, yours faithfully,

Nicotine.

April 18th, 1904.

*** As far as possible it is useful and right to treat the hospita patient as the private patient is treated, so that, in our opinion, th alleged pipe-smoking habit of the medical officer is inexpedien and ill-mannered.—Ed. L.

◆

The Secretary of the Treherbert Medical Attendance Society.—Th facts given by the correspondents of The Lancet are not traversed The objections to the scheme appear to us to be perfectly valid.

Communications not noticed in our present issue will receive attentio in our next.

During the week marked copies of the following newspaper have been received:—*Eastern Morning News, Aberdeen Fre Press, Sussex Daily News, Dublin Times, Birmingham Post, Surre Advertiser, Notts Guardian, Westminster Gazette, Dublin Expres Bradford Observer, Hereford Mercury, Sanitary Record, Loca Government Chronicle, Mining Journal, Hertfordshire Mercu The Scotsman, Evening News, Surrey Comet, Revue de Chirurgi (Paris), Irish Times, &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 21st, 1904.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall.	Solar Radia in Vacuo	Maximum Temp Shade.	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
April 15	29 39	E.	0·01	67	58	53	54	56	Overcast
" 16	29 71	S.W.	0 09	99	60	45	47	49	Cloudy
" 17	30·00	S.	...	112	63	46	44	48	Fine
" 18	30 08	W.	...	105	64	43	46	49	Cloudy
" 19	30 16	N.E.	...	108	64	44	47	51	Fine
" 20	29 93	N.E.	...	113	65	43	46	48	Cloudy
" 21	30 05	N.E.	...	81	51	45	45	50	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M., St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.),
2 P.M.),
o-square
4 P.M.),
London

TUE
M.), St.
), West-
College
Mark's
Throat
30 P.M.),
Chelsea
(2 P.M.).

WEDNESDAY (27th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1 30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College

(2 P.M.).

SATURDAY (30th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.). Throat, Golden-square (9 30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (25th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish square, W.).—8.30 P.M. Papers:—Dr. W. J. Tyson: Some
se.—Dr S.
lous Peri-

CIETY (20,
lswell and
ium Treat-

nstitution,
M. Papers
T BRITAIN
ing.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (25th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.)—4 P.M. Dr. J. M H. Macleod: Clinique (Skin). 5 15 P.M. Mr. B. G. A. Moynihan: Gall stones and their Surgical Treatment.

TUESDAY (26th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC
Dr G. A. Sutherland: Clinique.
: Personal Hygiene
ATES' COLLEGE AND POLY-
M. Mr. P. Paton: Clinique.
(Surgical.)

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.)—4 30 P.M. Mr. R. P. Brooks: Demonstration of Cases of Ophthalmic Interest.

THURSDAY (28th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC
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EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

Will Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them! Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, MR. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and do so collect from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

Communications, Letters, &c., have been received from—

A.—Mr. J. Astier, Asnières; Ambidextral Culture Society, Lond., Hon. Secretary of; Messrs. G. Askey, Lond.; Messrs. Andrus and Andrus, Lond.; Dr. R. Allan-Bennett, Saltburn-by-the-Sea; Dr. A. G. Auld, Lond.; Messrs. Allen and Hanburys, Lond.

B.—Mr. J. W. Benson, Lond.; Mr. E. Burney-Young, Lond.; Mr. C. Birchall, Liverpool; Surgeon A. Bobardt, R.N., Sydney; Dr. M. G. Biggs, Lond.; Bristol Medico-Chirurgical Society, Hon. Secretary of; Mr. J. K. C Bright, Lond.; Dr. E. P. Baumann, Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; Messrs. J. S. Barwick and Co., Lond.; Messrs. J. Beal and Son, Brighton; Birmingham University, Secretary of; Professor Byers, Belfast; Mr. A. T. Burgess, Lond.; British South Africa Co., Lond., Secretary of; *Bystander* (*The*), Lond.; Mr. B. Mayston Bond.; Mr. Wm. Berry, Wigan; Mr. C L. Bedford, Lond.; Dr. A Balfour, Cairo.

C.—Mr. F. W. Clarke, Chorlton-cum-Hardy; Dr. P. J. Cremen, Cork; Cancer Research Fund, Lond., Executive Committee of; Cornwall County Council Sanitary Committee, Truro, Chairman of; Colonial Nursing Association, Lond., Secretary of; Mr. G. Lenthal Cheatle, Lond.; Cunard Steamship Co., Lond.; Mr. E F. Coghlan, Lond.; Mr. H. P. Cuthbert, Croydon.

D.—Messrs. Down Bros., Lond.; Messrs. Davis and Ornstien, Lond.; Mr. A. F. Dixon, Lond.; Dr. E. J. Day, Dorchester; Mr. P. L. Daniel, Lond.; Dermatological Society of Great Britain and Ireland, Hon. Secretary of;

E.—Dr. W. Arnold Evans, Bradford; Mr. W. Ellis, Lond.; Mr. A. Ellis, Lond.; Dr. Edward East, Lond.

F.—Dr. Arthur Fuller, Lond.; Dr. E. T. Fison, Salisbury; Rev. Montague Fowler, Lond.

G.—Dr. Dundas Grant, Lond.; Dr. R. A. Glegg, Leith; Gloucester General Infirmary, Secretary of; G. N.; Messrs. E. George and Sons, Lond.; Messrs. John J. Griffin and Sons, Lond.; Messrs. Graham, Morton, and Co., Leeds; Mr. Maurice Gregory, Uxbridge.

H.—Mr. F. Hornor, Norwich; Mr. J. Hutchinson, jun., Lond.; Messrs. Haasenstein and Vogler, Geneva; *Humanitarian* (*The*), Lond.; Rev. E. Hicks, Melton Mowbray; Dr. G. Herschell, Lond.; Dr. C. O. Hawthorne, Lond.

I.—Miss Evelyn Ingleton, Lond.; Messrs. Iliffe and Sons, Lond.; Incorporated Society of Trained Masseuses, Lond., Secretary of.

J.—Mr. Thomas Judge, Bangkok; Dr. G. Johnstone, Middleton; Dr. G. H. Johnson, Jersey; Mr. C. E. Jones, Lond.; J. S. B.

K.—Mr. B. Kuhn, Lond.; Messrs. R. A. Knight and Co., Lond.

L.—Leicester Infirmary, Secretary of; Mr. J. Lozie, Westray; Dr. Arthur Latham, Lond.; Dr. J. G. Levy, New York; Dr. R. W. Leftwich, Lond.; London Anti-Vivisection Society, Secretary of; Liverpool, Medical Officer of Health of; Local Government Board, Lond., Medical Officer of.

M.—Mr. Leslie Miller, Lond.; Medical Graduates' College and Polyclinic, Lond.; Dr. Ronald Campbell Macfie, Auchterhouse; Mr. C. G. F. Morice, Greymouth, New Zealand; Medicus, Sheffield; Mr. R. Mosse, Berlin; Motor Mart, Ltd., Lond.; Moseley's Food, Ltd., Stockport; Dr. H. L. Munro, Lancaster; Mr. P. McGlynn, Dublin.

N.—Messrs. Nicolay and Co., Lond.; Messrs. Neyroud and Son, Lond.; National Provident Institution, Lond., Secretary of; Mr. J. C. Needes, Lond.; Mr. H. Needes, Lond.

O.—Colonel M. D. O'Connell, Lond.

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The Oliver-Sharpey Lectures
ON
RECENT STUDIES ON THE TISSUE-LYMPH CIRCULATION.

Delivered before the Royal College of Physicians of London on April 12th and 14th, 1904,

By GEORGE OLIVER, M.D., F.R.C.P. LOND.

LECTURE I.

Delivered on April 12th.

THE LATE PROFESSOR WILLIAM SHARPEY, F.R.S.

MR. PRESIDENT, FELLOWS OF THE COLLEGE, AND GENTLEMEN,—Before proceeding to the subject of this the first of the Oliver-Sharpey lectures I must say a few words in memory of the late Professor Sharpey in whose honour this endowment has been made. This is to me a most grateful duty, for to his vivid and sound teaching I owe a life-long love of physiology and his sterling qualities of mind and heart are to me one of my most cherished memories. Happy the student who had the good fortune to fall under the spell of such a great teacher as William Sharpey undoubtedly was. His lucidity and picturesqueness of style, his directness and simplicity, his happy faculty of illustration, and, withâl, the geniality and goodness of heart which enveloped and adorned all his well-digested teaching, must have deeply impressed and powerfully influenced many generations of students at University College from 1835 to 1873. In those days physiology was waking to the fuller light we now enjoy. Her teachers needed a cautious, trained judgment—such as William Sharpey pre-eminently possessed—rather than the somewhat venturous ways of the discoverer, for there were many alluring lights in the air and the pupil needed, warning as well as teaching. And so the settled dawn of real progress was fostered by William Sharpey and his life-work is now perpetuated and fully developed in our British school of physiology. Hence it seems fitting that in this endowment we should indicate what we conceive to be his rightful place in the modern history of physiology. The aim of this endowment is to foster the application of physiological knowledge to the prevention, alleviation, and cure of disease and the prolongation of life, believing, as we do, that the medicine of the future will become more and more physiological as we understand more clearly the forces of nature. May the duty imposed on this College contribute, in however small degree, to the fruitful realisation of our ideal.

TISSUE-LYMPH CIRCULATION.

I propose to submit to you the results of a study on the circulation of the tissue fluid in man, or, in other words, on the fluid transfers between the blood and the tissues. Apart from its intrinsic physiological interest this subject has important bearings on the practice of medicine.

When I had the honour of delivering the Croonian lectures before this College in 1896 some observations were adduced which pointed to certain inferences in regard to that *terra incognita* in man, the great extravascular circulation. But these inferences were merely suggestions prompted by the incomplete data at my command. Subsequent work enables me to present the results of observation in a somewhat more definite and extended form. Some of the conclusions suggested to me by this inquiry were so unexpected that I was naturally led to repeat my observations in every department of it over and over again and to scrutinise all the facts with more than ordinary diligence. Over 3000 observations have been made in health and disease; but I propose in these lectures to use mainly the physiological material. As I proceed, however, you will readily recognise the drift and bearing of the physiological data on medical work and I will summarise their practical teaching.

METHODS AND APPARATUS.

[Dr. Oliver here described the methods and apparatus[1] employed with certain improvements in the hæmocytometer,[2] hæmoglobinometer,[3] and hæmodynamometer.[4]]

THE EFFECT OF THE INGESTION OF FOOD ON THE TISSUE-LYMPH CIRCULATION.

Elsewhere[5] I have shown that the ingestion of food initiates an interesting series of variations in the blood and blood pressures which culminates in a prolonged wave-like exudation of tissue lymph and that this excitation in the circulatory system recurs with perfect regularity after each meal. Subsequent inquiry has amply confirmed this position.

The digestive variations in the blood pressure.—The ingestion of food invariably raises the arterial blood pressure (Fig. 1). In an hour after a meal it rises 15 or even 20 *millimetres of mercury, then it begins to fall, and in from* two and a half to three and a half hours it become stationary until the next meal or until exercise is taken. The venous pressure after food has been made the subject of more particular study, because of a dip in that pressure occasionally observed, for a very brief period, when the maximum effect of digestion on the circulation is attained—an hour after a meal. In my earlier observations (made in cold weather) I was disposed to think that this temporary fall was more frequently met with than it is. The superficial veins and venules are very sensitive to the influence of cold after a meal, when the rise of the capillary pressure favours the dissipation of heat from the surface of the body. In this way the occasional short dip of venous pressure may be produced, but as a rule the curve of this pressure rises and falls throughout with that of the arterial pressure. It may, I think, be inferred from these facts that the capillary blood pressure follows the same curve of rise and fall after meals, for we know that this pressure is more closely related to the venous than to the arterial pressure and that if both these pressures rise together we may fairly assume that the capillary pressure will also rise. After food the pulse rate also increases and in an hour it may have gained from eight to 15 beats a minute. When the pulse pressure gauge is applied so as to arrest the pulsation of the radial artery (the finger being used as the indicator) the reading becomes cardiometric and is generally increased in an hour after a meal from 15 to 20 millimetres of mercury. Therefore it would seem that digestion very considerably stimulates the heart, augmenting the output and the contractile energy of the ventricle.

FIG. 1.

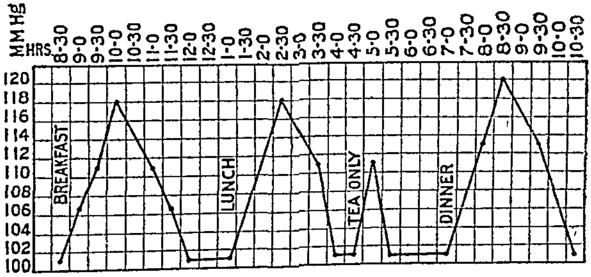

Chart showing rise of arterial pressure after food.

The essential aim of the digestive excitation of the circulatory system is to raise the capillary blood pressure and according to the teaching afforded by my observations this end is attained by the increased activity of the cardiac muscle. But would it still be effected were some substance to be taken with the meal which lowered the arterial pressure by merely dilating the arteries and arterioles and left the raised cardiac action which results from the ingestion of food unimpaired? We should expect to find a great increase in the venous pressure and in the capillary pressure which would still be between two higher pressures. Now this is precisely what happens when 0·065 gramme (one grain) of Witte's peptone is taken with a meal. This remarkable vaso-relaxant, to which I will again refer in the second lecture, does not lower the heart's action, for the blood-pressure gauge gives the same cardiometric rise whether the peptone is added to a meal or not, consequently the reduction of the arterial and arteriolar resistance effected by this substance combined with the digestive cardio stimulation should produce a great rise in the capillary blood pressure. [A chart was here exhibited showing a simultaneous rise of the venous pressure from 20 to 50 millimetres of mercury and fall of the arterial pressure from 100 to 80 millimetres of mercury. Food was taken at 1 P.M. and the maximum venous rise and maximum arterial fall occurred at 3 P.M.] We may therefore infer that we may have a rise in the capillary pressure either with an increase or a decrease of the arterial pressure according as we have cardiac stimulation (as after meals) or vaso-dilation.

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[1] THE LANCET, June 6th (p. 1541), 13th (p. 1621), 20th (p. 1699), and 27th (p. 1778), 1896; and Oct. 3rd, 1903, p. 940

[2] A duplicated hæmocytometer arranged for tissue-lymph determination is supplied by Mr. Lovibond, the Colour Laboratories, Salisbury.

[3] An improved cell with mixing chamber, which secures greater accuracy and easy filling without a bubble, is supplied by Mr. Lovibond.

[4] A slide and simple wrist-rest (made by Mr. Hawksley, 357, Oxford-street, London, W.) greatly facilitate and render more precise the use of the instrument.

[5] Proceedings of the Royal Society, June 11th, 1903; THE LANCET, Oct. 3rd, 1903, p. 940; and the Journal of the British Balneological and Climatological Society, 1903.

DIGESTIVE VARIATIONS IN THE BLOOD.

I have followed three series of alterations in the blood during digestion—namely, in the corpuscles, in the hæmoglobin, and in the specific gravity. As the variations in the chromocytes and in the hæmoglobin are identical they will be taken together.

Digestive variations in the corpuscles and hæmoglobin.—The finger, having been subjected to the compression of the rubber rings, yields blood which shows a progressive rise in the percentages of the corpuscles and of the hæmoglobin until an hour has elapsed, when the increment amounts to from 8 to 10 per cent.; then the percentages gradually fall and they finally settle down to normal in from two and a half to three and a half hours (Fig. 2, A). Should, however, the blood be derived from the finger in the ordinary way (without compression) the successive readings of the blood elements indicate a progressive fall in the percentages which in an hour amounts to from 6 to 8 per cent. when a rise sets in and recovery is eventually established (Fig 2 B).

FIG. 2.

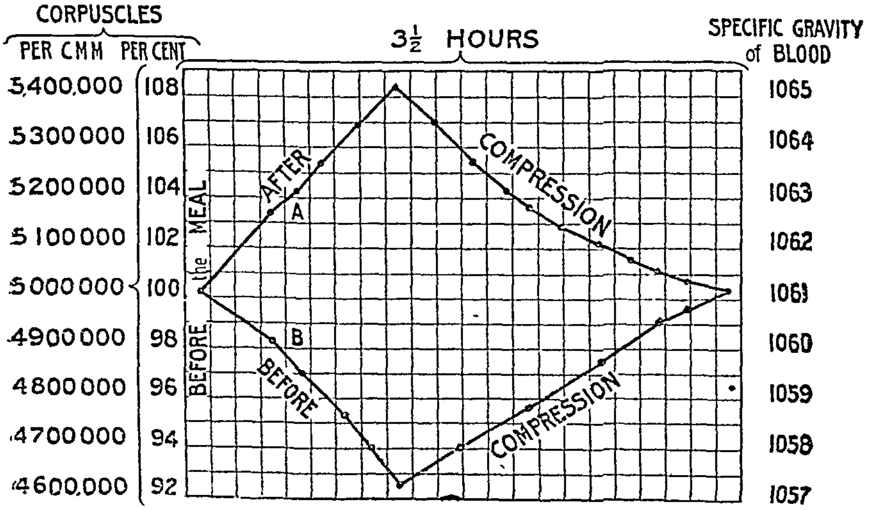

Chart showing the percentages of corpuscles and the specific gravity of the blood before and after compression. Observations made before a meal and at frequent intervals afterwards.

Digestive variations in the specific gravity of the blood.—The blood, as shown by compression of the finger, rises in specific gravity after meals, the rise reaching its maximum point (e.g., from 1061 to 1065) in an hour. The specific gravity then begins to fall, settling down to the initial point at the conclusion of the wave-like disturbance (Fig. 2, A). On the other hand, the blood derived from the finger uncompressed affords a specific gravity which follows the contrary course—that is to say, it falls and then rises (Fig. 2, B). When the digestive disturbance is over the variations in the blood, like those in the circulation, cease and the readings in normal subjects at rest continue to be alike in both samples (before and after compression) until the following meal.

The digestive exudation of tissue lymph.—On reviewing the foregoing data it is obvious that they indicate strictly concurrent events. All the four series of variations follow exactly the same curve. They begin together, they attain their maximum development at the same time, and they simultaneously cease. What is the link which binds them together? If we suppose that the ingestion of food in some way raises the capillary blood pressure which exudes a filtrate of a portion of the liquor sanguinis into the areolar spaces all the changes in the blood which I have described will naturally follow (see Fig. 2). In proportion to the exudation under a rising capillary blood pressure the blood will become more and more concentrated in chromocytes and in hæmoglobin, and inasmuch as its specific gravity mainly depends on the corpuscles the density of the blood will rise *pari passu* with the increased concentration. Then, when the capillary pressure begins to fall, as it does after the acme of the digestive disturbance has been attained, the concentration of the blood diminishes and we may assume that either absorption of the watery elements of the effused lymph overbalances exudation or that the effusion is being returned by the lymphatics to the blood. Now I have shown that none of these alterations in the blood could have been ascertained by the examination of blood derived from the finger in the ordinary way, they only become apparent after the compression of the tissues by the rubber rings which remove the extra-capillary fluid and enable us to obtain the blood undiluted by that fluid. But the progressive readings of the ordinary samples of blood, though valueless, and actually misleading when accepted as independent testimony of blood changes during digestion, become instructive when compared with the readings of samples obtained after compression, for they then afford a measure of the amount of fluid withdrawn from the blood. The differential readings of the hæmocytometer tubes made every 15 minutes after a meal show the greatest divergence and therefore the largest quantity of tissue fluid, just at the time (an hour after a meal) when the digestive blood-pressure wave and the concentration of the blood attain their maximum development. The difference, indicated by the scale on the tubes, will amount to from 15 to 20 per cent.; it will then gradually diminish, and will finally disappear in from two and a half to three and a half hours, and will not reappear until after the next meal or until exercise is taken. The amplitude and duration of the lymph wave are influenced by several conditions, such as the tone of the subject, the bulk and nature of the meal, the use of beverages, rest, or exercise.

Other rhythmical digestive variations.—I will now direct your attention to other physiological variations produced by the ingestion of food, synchronous with the foregoing. For the influence of digestion is not merely confined to alterations in blood pressure, the composition of the blood, and the production of tissue lymph: it is still more far-reaching and a study of these further rhythmical changes will widen our grasp of this interesting subject and enable us to discover the link which binds together all these apparently diverse physiological movements.

The digestive curve of augmented respiratory exchange.—I show you Fredericq's curve of daily variation in the absorption of oxygen. [This chart showed that the absorption of oxygen, which was 4·5 litres when food was taken at 8 30 A M., rose steadily to 5·8 litres at 10 A M. and then fell steadily to 4 6 litres at 1.30 P.M. Food was again taken at 1 30 P M and the absorption of oxygen rose steadily to 6 6 litres at 3 P.M.] You see it follows exactly the line of development and duration of the curves just studied

Other observers (Vierordt, Speck, Berg) besides Fredericq have shown that the intake of oxygen and the output of carbonic acid are greatly stimulated by the ingestion of food.

A rhythmical variation of muscular contractility after food.—Physiology shows that the greater part of the oxidation processes of the body go on in the muscles and that when these are quiescent their metabolic activity merely diminishes and does not cease. But does it vary during intervals of rest? Is it stimulated by digestion? The increased intake of oxygen at that time is somewhat favourable to such a view. But we must remember that the secretory work of the digestive glands will require an augmented supply of oxygen, and, moreover, the process of oxidation appears as a rule to be more closely associated with the katabolic than with the anabolic side of metabolism, with reduction and cleavage of the organic molecule rather than with construction of it and repair, which we know to be the physiological aim of digestion. I have, however, observed some facts which show that very marked alterations do go on in the muscles after meals. These facts came to light while studying the effect of muscular tension on the arterial blood pressure. A short, general tetanic contraction always raises the arterial pressure. This result is mainly due to the compression of the intramuscular vessels produced by the shortening of the fibres of the muscles. This method of testing muscular contractility, however, involves other physiological factors, such as cardiac excitation and a possible variable effect from the vaso-motor condition of the arteries. Cardiac stimulation may, however, be excluded from consideration, as it is common to all the observations, and I have not seen any sufficient evidence to show that the tonus of the arteries materially affects the result. I have invariably found that *the maximum response* in the arterial-pressure rise is produced by quite a moderate degree of muscular contraction, that the results obtained are constant and are trustworthy indications of muscular contractibility,[6] which varies very considerably at different times. The study of these variations is instructive; it has shown that they always follow a certain order, or, when plotted out, a certain curve, as in Fig. 3. You observe that the effect of the muscular tension in raising the arterial pressure diminishes *pari passu* as the effusion of lymph increases and develops again as the lymph disappears. From this fact (which is apparent whenever tissue lymph is thrown out, whether by meals, exercise, or sleep) I conclude that the lymph exuded into the muscular tissue checks the shortening of the muscular fibres and thus the effect of their contraction on the intramuscular vessels is diminished; so the failure to raise the arterial pressure to the same height as before the effusion indicates the amount of the infiltration clogging the contracting fibres.

FIG. 3.

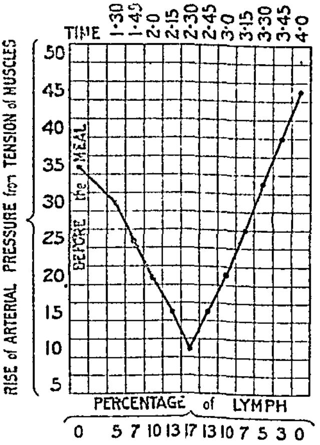

Chart illustrating the effect of muscular contraction on the arterial pressure after a meal. It shows the obstructing effect of tissue lymph and the ultimate gain in contractility.

These observations on the condition of the muscles during digestion, therefore, confirm the teaching as to the outflow and absorption of lymph furnished by the differential examination of the blood. You will note, further, that at the terminatio

a gain in the

tional rise of

pressure produced by muscular tension. This gain (which only becomes evident after the absorption of the lymph) varies from five to 20 millimetres, according to the nature of the food consumed and the need for recuperation. You will find the tension test useful in practice. In those cases in which you observe a rise in the arterial pressure there will be an increased exudation of lymph, for the two facts go together; when the impairment of the muscular contractibility on the arterial pressure will not only confirm your observation of that pressure but will provide you with a ready indication of the amount of tissue lymph. For example:—

TABLE I.

No of case	Arterial pressure.	Muscular contractibility rise of arterial pressure.
1.	148 mm. Hg.	0
	115 " "	10 mm. Hg.
	100 " "	30 " "
2.	135 " "	0
	100 " "	25 mm. Hg.
3.	120 " "	5 " "
	100 " "	40 " "

The observations were made at a time when normally the arterial pressure should be 100 millimetres of mercury. The reduction in pressure was effected by treatment.

The gastric juice curve.—There is also the rhythmical curve expressing the work of the gastric glands, so well worked out by Pawlow, which is synchronous with all the foregoing physiological variations. [A chart was here exhibited showing that the yield of juice rose abruptly in an hour from 0 to 10 cubic centimetres and during the next four hours fell gradually to 0.] All the six concurrent curves of augmented functional activity which I have just described are obviously but the widely diffused effects throughout the organism of a great central movement initiated by the ingestion of food through the agency of the nervous system. How some of these effects are produced and how they may be varied and controlled are questions to which we must now turn.

The effects of typical meals on the digestive lymph flow.—Let us now study the digestive curves of lymph exudation produced by four different kinds of meals: First, the ordinary mixed meal containing the usual proportions of animal food, vegetables, and farinacea; secondly, the meat meal, consisting of animal food in various forms, with cheese and butter and a very little toast; thirdly, the vegetable meal with farinaceous puddings, fruit, and cheese; and fourthly, the milk meal, milk, bread, and farinaceous puddings. In each case the fluid supplied was a tumbler of water and the amount of food was merely limited by a feeling of satisfaction. Sugar and salt (two grammes of each) were taken in the same quantity at all the solid meals. The meal was at one o'clock and the same subject was, throughout, submitted to observation. No exercise was permitted for an hour before and after meals, nor until the digestive disturbance had quite subsided. Observations were made just before the meals and every 15 minutes after them. The results are epitomised in the following table (Table II.).

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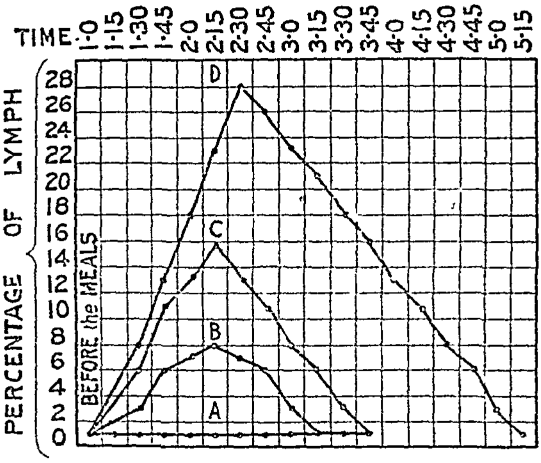
no lymph is present (contractility).

addition of salt and more especially by that of salt associated with the physiological products than when taken alone.

FIG. 5.



A, lymph record from purin-free meal. B, purin-free meal with sodium chloride 2·0 grammes. C, purin-free meal with sodium chloride 4 0 grammes. D, purin-free meal with sodium chloride 2 grammes and uric acid 0 016, creatin 0·033, creatinin 0·033, xanthin 0 016, hypoxanthin 0·016, and glycogen 0 048.

It seems to me that these facts demonstrate that such bodies as uric acid, creatin, creatinin, xanthin, glycogen, and sodium chloride perform an important function in nutrition, for during digestion they act as distributers of lymph to all the tissues, an office which the nutrient constituents themselves (proteids, fats, and carbohydrates) are incapable of discharging. As inquiry goes forward it may discover other substances possessing this physiological property associated with our food elements. Nature has, with a wise intent, widely distributed these active chemical agents through most of our food-stuffs and beverages, thus turning even her waste products to the best account, the nutrition of the organism. Unfortunately, man, in his efforts to improve on nature, so often turns these benefactors into malefactors. Besides these lymph factors introduced from without there are supplies of the same materials generated within us. It will be shown, too, that exercise, sleep, and variations of temperature are important physiological conditions for the autogenous supply of tissue lymph. It is not improbable that in some subjects the endogenous production of lymph factors may exceed the physiological average, when an adjustment can only be effected by a limitation of the exogenous supply. But I am here touching the borderland between physiology and pathology, to which I hope to revert in the second lecture.

ABSTRACT OF AN

Address

ON

MEDICAL ETHICS.

Being the Presidential (Valedictory) Address delivered before the Medico-Ethical Association of Manchester on Jan. 27th, 1904,

BY D. LLOYD ROBERTS, M.D. ST. AND., F.R C.P. LOND.,
PHYSICIAN TO ST. MARY'S HOSPITAL, MANCHESTER; CONSULTING OBSTETRIC PHYSICIAN TO THE MANCHESTER ROYAL INFIRMARY; AND LECTURER ON CLINICAL OBSTETRICS AND GYNÆCOLOGY AT THE OWENS COLLEGE, MANCHESTER.

IN the course of his introductory remarks Dr. Lloyd Roberts said that the Medico-Ethical Association of Manchester was the first organisation of the kind which was established and that the celebrated "Medical Ethics" of Thomas Percival was written in Manchester rather more than a hundred years ago. He referred briefly to various speculations on the philosophical basis of ethics and proceeded as follows:—

The great function of a medico-ethical association appears to me to be to assist in applying the rule of right in medical matters. It will, therefore, naturally endeavour (1) to impose a wholesome restraint upon the liberty of individual members of the profession in the interest of all, and (2) to assist in passing wise laws in those matters which relate specially to public health and the interests of the profession.

Let me first say a few words upon the restraints which the Medico-Ethical Association of Manchester has imposed upon the conduct of its own members. The chief restraint which finds expression in our laws relates to the prosaic and homely, but by no means unimportant, question of fees. It is as essential for the public as for us that our dignity should be maintained and we give to them the greatest guarantee that they will have honest and trustworthy services in the time of need by showing that we are a self-respecting and a disinterested profession. This society has been performing a public duty by insisting that its members shall claim fair remuneration for services rendered. That our tariff which has been drawn up by the society is a fair one is attested by the fact that it forms the basis of every scale of fees now in existence in this country. Our association has also done much to raise the character of the profession by inculcating a high code of honour in the dealings of members with one another. The laws of this code embody implicitly the hitherto unwritten rules which constitute the etiquette of the profession. This etiquette is indeed only a branch of the salutary discipline which society in general exercises over its individual members, and the restraint which our etiquette places upon those who follow their own supposed interests, regardless of the injury which they may inflict on their brethren, is a wholesome restraint and has been enforced by this society with a due measure of leniency and justice.

Many schemes of social advancement and reform which at the time of their inception were advocated in this very room have already found, and others will yet find, their embodiment in the laws of our country. The question of provident dispensaries was advocated in a paper read before the society nearly 50 years ago. Other subjects discussed in the early years of this society were medical education and the necessity of turning hospitals to good account for purposes of teaching. In 1869 this society advocated a reform of the lunacy laws. I need not tell you that from the point of view of the medical profession the lunacy laws are not satisfactory and I believe that the public are no more contented than we are with the present condition of these laws. In 1870 the "one-portal" system was discussed and pressed upon the Lord President of the Council. Shortly afterwards the direct representation of the profession in the Medical Council and the appointment of a Public Prosecutor were the subjects of interesting debate. Amongst other questions of interest which underwent discussion may be mentioned the means of notifying to sanitary authorities the occurrence of infectious disease, the duty of corporate bodies to provide for the isolation of infectious disease, the working of the Factory Acts, and the position of ship surgeons.

I would now direct your attention to the desirability of having a Minister of Public Health. A governmental sanitary department will always have plenty of work in dealing with the problems arising from overcrowding in cities, such as the limitation of infectious diseases, the disposal of sewage, and many other questions which directly relate to the public health.

Many years ago in this society attention was directed to the benefit that the State would derive were the medical profession represented in the House of Peers. This is now an accomplished fact. All honour to the distinguished statesman who was privileged to advise the Crown to elevate Lord Lister, the first medical peer, to a seat in the House of Lords. Surely no one is more capable to give advice to a government on a variety of subjects than a highly educated and experienced medical man. Medicine is based upon many sciences, and our profession is the only one which possesses a wide knowledge of the conditions on which much of the comfort and happiness of life depends.

Much has been said of late years of the political powerlessness of the medical profession and while not altogether sympathising with this cry I see no reason why influential corporations like the Colleges of Physicians and Surgeons, with their numerous members practising all over the country, should not be represented in Parliament. We are not politically powerless. Although we do not care to take an active part in political agitations yet we greatly influence public opinion, and I am not sure whether our political power might not be diminished rather than increased by direct representation of the profession in Parliament. Action begets reaction and it is probable that a corporate representation would tell against us rather than in our favour. I have already advocated the appointment of a Minister of Public Health, but the powers intrusted to him ought to be exercised with great circumspection.

Much has been said regarding admission into the profession by the "one-portal" system and various views have been held by highly respectable authorities on this question. We have at present about 23 licensing bodies. The practical question is, Shall we abolish the existing powers of these institutions?—or should we content ourselves with enacting guarantees that they shall maintain the standard of their examinations at a sufficiently high level of attainments? In any scheme of State examination the standard of examination must be a minimum standard and the lowest prizes in the profession must fix it. The Government requires medical men for the navy and for the army and it would be impossible to make the standard of examinations so high as to exclude men who would be likely to accept such appointments. There are also parts of the country with widely scattered populations and no government will raise the standard of examinations so high that men will not be found to practise in those districts.

Opinions differ as to how far a government is justified in enforcing the practice of vaccination, in insisting upon absolute compulsory isolation in cases of infectious diseases, and in compelling corporations, property owners, and the public generally to observe wise sanitary laws. I do not believe that this country will ever turn its back upon the Vaccination Acts, but it will be well for the profession to be in readiness to advise the Government and the constituencies in this matter. In reference to the general isolation of the acute infective diseases, I believe it will be possible to obtain even more stringent regulations than we now possess as the people become more educated without the Government having to trench too violently upon the liberty of the subject. Sanitary regulations will be more carefully observed under the pressure of an educated public opinion without our being too ready to call out for coercive legislative enactments. Stringent laws, like every species of coercion, have a tendency to defeat themselves. A drastic sanitary law would at once call into being an anti-sanitation society, and it is only on condition that there was a strong educated and even uneducated public opinion in favour of the law that it would maintain its place upon the statute book.

Another subject which has received much public attention of late is over-pressure in schools. It is manifest that the pupils must possess a certain amount of intelligence before any teaching can be effective, and their faculties cannot be maintained and developed unless they are supplied with plenty of nourishing food and kept under healthy sanitary conditions. Underfed children cannot have well-developed faculties; therefore, they are not in the position to benefit fully by teaching, ho[illegible] instruction may be. In order tc [illegible] s been proposed to supply the [illegible] with a free midday meal. This scheme must meet with our approbation so far as the poor children themselves are concerned, but we ought to insist, in my opinion, that the project should be carried out by the payment of the parents aided only by benevolent contributions and without the interference or assistance of the Government. Without this restriction the responsibility of parents in rearing their offspring will be greatly diminished or annulled and a species of communism will be introduced. With regard to the method of teaching now in vogue I believe that there is too much cramming in our present system, that words are divorced from facts, and that names are taught without giving the child any knowledge of the things indicated by them. Kindergarten methods of instruction seem to me to offer immense advantages over the time-honoured system of teaching children from written characters and words.

University of Oxford: Degree Days.—Congregations will be held for the purpose of conferring degrees in Easter and Trinity terms on the following days—viz.: Thursday, May 19th; Thursday, June 16th; Thursday, June 23rd; and Saturday, July 9th.

EYESTRAIN AS A CAUSE OF HEADACHE AND OTHER NEUROSES.

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Of all painful affections probably headache causes the most distress and misery. The individual who never experiences headache is one much to be envied. Fortunately there are many able to say this. On the other hand, there are many afflicted with headache causing constant or recurring suffering and only too frequently so disabling the sufferer that life to him or her becomes a burden. Life is shorn of its beauties and not only are its pleasures curtailed but the actual daily occupation is interfered with. A consideration of some of the causes of this suffering and the measures which may be adopted for its relief is well worthy of our attention.

It has, of course, for some time been understood that certain instances of headache bear some relation to eye defects. But the far-reaching effects of eyestrain and the relief afforded by the proper correction of refraction errors are not by any means as widely recognised as they demand. It is a matter that, in my opinion, admits of no question. The evidence is continually before one. Again and again is the same story told, first of the suffering and then of the relief afforded by optical aid. In my last 800 refraction cases in private practice I find that 162 suffered from headaches. I do not include in this number those making the usual complaint of discomfort for which hypermetropes and early presbyopes so frequently solicit assistance. In the cases to which I refer the patients have at once volunteered that they suffered from severe headaches or have stated on inquiry that they did do so. In the great majority this constituted the cause for seeking advice. In most, also, in varying degrees, were associated some or all of the train of symptoms to be described later.

Perhaps no more important work has been accomplished in the whole range of medicine and surgery than that of placing anomalies of refraction on a firm scientific basis. This we owe in the greatest measure to Donders and it brought to him undying fame. It is well known, too, that astigmatism, which has such a close bearing on our subject, was discovered by Thomas Young, the physician as well as the physicist. Sir George Airy, the astronomer royal, described astigmatism in his own case. It was of the compound myopic variety and was monocular. Here it is of interest to note that Airy was the [illegible] described his own case in a pa[illegible] *Magazine* for 1865.[2] It may be [illegible] a proper correction of his refraction error, with the knowledge which we now possess, would in all probability have relieved him of his migraine, for he had both astigmatism and asymmetry in the refraction of the eyes, two very potent causes of headache as will be shown farther on. Airy's son, Dr. Hubert Airy, also published a very graphic description of migraine and the ocular symptoms in his own person[3] and it appears not unlikely from the account which he gives that he, too, would have been relieved, as has so often been the case in my experience in similar instances, if attention had been given to his eyes.[4] The interest that Young and Airy had in astigmatism was, however, physiological and not pathological. And even Donders lays stress always on the normal and abnormal astigmatism, the latter being astigmatism which interfered with the acuteness of vision. Our interest here is in the pathological significance of astigmatism and the subtle and powerful influences of eyestrain and not necessarily on its interference with visual acuteness. Frequently no complaint of vision is made and the error of refraction is only discovered after a careful and complete examination of the eyes.

[illegible] Medical Society on Feb. 24th, 1904.

[illegible] says, [illegible] I had [illegible] I am [illegible] oint is [illegible] ntary [illegible] 's. It [illegible] employment, close reading and [illegible] generally comes on while the eyes are engaged with toilsome reading."

As far as I am aware the first to recognise clearly the close connexion existing between headaches and other neuroses with eyestrain was the distinguished physician and writer, Weir-Mitchell of Philadelphia. In a series of articles he urged the importance of a proper understanding of this relation. The views which he set forth are so well expressed and have such a practical bearing that they may still be read with profit[5] by those interested in the subject. He recognised that the distant symptoms may be the indication of eyestrain when no complaint is made of any defect of sight and this is a point of the greatest practical moment. He cites several cases from his experience and says of them "that the cases just told seem to me enough to prove that the eyes may long rest unsuspected as the cause." I make here the following quotations:—

> My consultations have plainly enough taught me that hardly any men in the general profession are fully alive to the need of interrogating the eye for answers to some of the hard questions which are put to us by certain head symptoms, since many of the patients treated successfully by the correction of optical defects never so much as suspected that their eyes were imperfect. What I desire therefore to make clear to the profession at large is:—1. That there are many headaches which are due indirectly to disorders of the refractive or accommodative apparatus of the eye. 2. That in these instances the brain symptom is often the most prominent and sometimes the sole prominent symptom of the eye troubles so that, while there may be no pain or sense of fatigue in the eye, the strain with which it is used may be interpreted solely by occipital or frontal headache. 3. That the long continuance of eye troubles may be the unsuspected source of insomnia, vertigo, nausea, and general failure of health. 4. That in many cases the eye trouble becomes suddenly mischievous owing to some failure of the general health or to increased sensitiveness of brain from moral or mental causes.

Lauder Brunton some years ago[6] also very forcibly pointed out that the cause in many cases of headache must be sought in some irritation of the sensory nerves. It was to be found in the teeth, eye, throat, and nose. He makes references to the teeth as starting irrritation of sensory nerves and does so with excellent illustrations. He then says:—

> Perhaps a still more frequent source of headache than even decayed teeth are abnormal conditions of the eyes. The headache which comes on after working with the microscope or after straining the eyes in a picture gallery is only too well known. It is usually frontal, often extending over the whole breadth of the forehead but sometimes limited to the forehead above one orbit. It would be going too far to say that frontal headache is always due to an abnormal condition of the eyes, but I believe it is so much *more frequently than one would* at all suspect. . .. But frontal headache is not the only one which may arise from abnormal conditions of the eyes, for megrim or sick headache is very frequently associated with, and probably dependent on, inequality of the eyes, either in the way of astigmatism, myopia, or hypermetropia.

Since this time others in this country have written on the subject, notably the late Mr. H. B. Hewetson of Leeds. But in America it has received much more careful notice than in this country Recently Dr. George M. Gould of Philadelphia in able articles in THE LANCET[7] and the *British Medical Journal*[8] has called attention to the effects resulting from eyestrain and the treatment which they demand.

Before going on to the consideration of the class of cases with which this paper is chiefly concerned a few words may be said about migraine, for many instances of this disorder in which the classical symptoms are present will be relieved by giving attention to ocular errors. Two medical friends who have been closely associated with me have experienced an almost entire absence of the disorder since their astigmatism was corrected. One of these had several attacks of typical migraine. The last attack, which brought him *to me for* examination, he thus describes:—

> I went to the ward to do a sugar determination. I then found I could see only the right half of the meniscus at the top of the fluid. In ten minutes (I noted the time) a black star appeared in the centre of the field. It lasted about 30 seconds and then enlarged; the vision in the cer[illegible] [illegible] id towards the left side of the field there app[illegible] [illegible] ectrum. It lasted like this for 20 minutes, [illegible] moving away from the centre. For an hour f[illegible] headache on the right side. This was intensified by lowering the head to use the stethoscope, coughing, and contracting the scalp muscles. There was no tenderness of scalp. For several hours afterwards there was a dull pain in the right occipital region on coughing or lowering the head.

In May, 1902, he came to me and I found myopic astigmatism (– 1 D. with 0·25 D. cyl.) in the left and myopia (– 1·5 D.) in the right eye. He wore the correcting glasses constantly and had no further attack of migraine until a year later. Then an attack followed his leaving off the glasses for reading in the evening. He again took to the use of the glasses constantly and no further attack has occurred.

The other case was the following. A youth, aged 14 years, began to have typical attacks of migraine which were always precipitated by reading. At the age of 22 years he was ordered convex spherical lenses which gave practically no relief. At the age of 25 years I carefully estimated his refraction under a mydriatic. In the right with + 1·5 D. sph. and + 0·5 D. cyl. vert. V. = $\frac{6}{6}$; in the left with + 1 25 D. sph. and + 0·5 D. cyl. vert. V. = $\frac{6}{6}$. Cylindrical in combination with spherical lenses were prescribed and gave the greatest relief. He still continues to have migraine but the attacks are transient and at much longer intervals. *He can now read and write for hours at a time* without fear of precipitating an attack. The correction of the astigmatism has been most marked in relieving the nausea and dyspepsia.

The headaches, however, which we have now to consider belong to a different category. It will be well, therefore, to specify in some detail the situation and character of the headache met with, together with other associated symptoms. The pain may be frontal, across the forehead, or just above the eyes, limited to the supra-orbital region or reaching to the hair. This frontal situation is perhaps the most common. It may also be in the temples. It may be between the eyes and at the root of the nose (fronto-nasal). The pain is frequently paroxysmal and called neuralgic or it may be a more dull continuous pain. Usually it is bilateral but it may affect chiefly one side, one eye, one temple, or one side of the forehead. When this is the case it is often described as neuralgia, especially when affecting the eye. Unilateral headache is often associated with astigmatism on that particular side, whilst the other eye may be normal in refraction or have ametropia of less consequence. Pain may be at the vertex and this is a frequent seat. It may be a dull continuous pain or it may be of a dragging character. One lady described it as if an "iron claw was gripping her head." The occiput is another situation where pain is localised. It may extend down the nape of the neck to the spine. A lady referred to the pain as if a large crab had seized her by the nape of the neck, whilst another said the feeling was as if thousands of strings were in the back of the neck and as if someone was pulling them. In some the pain is confined to the neighbourhood of the eyes, forehead, or temple, whilst in others it may be associated also with vertical or occipital pain. It may, moreover, be continuous, lasting for long periods, or it may be intermittent. Some speak of never passing a day without suffering whilst others may have a headache daily or be free for portions of the day; others suffer once or twice a week and others again only at longer intervals. The pain is sometimes relieved by pressure over the most painful part. Giddiness is a frequent complaint in these cases, causing often such a tendency to fall that it necessitates keeping very quiet and is a reason for seeking advice. Associated with headache not infrequently is a feeling of misery or apathy, a dulling of interest in things. One gentleman mentioned his "inability to think," but cylinders of + 0·25 D. aided him greatly in this respect. Irritability of temper, too, is mentioned. Insomnia is a frequent complaint and it is interesting to notice how speedily natural sleep returns after relief has been afforded by correcting glasses. Sleep is spoken of as not restful, as being often disturbed by dreams and nightmare. The general effect on the nervous system is such that a "nervous breakdown" is spoken of. A lady wrote to me respecting her cook who, she feared, was getting her brain affected, and yet this, together with constant headache, yielded to attention to the eyes.

Blinking and winking are, it is well known, not infrequently met with, especially in children with eyestrain, and these symptoms disappear when the ocular defects are corrected. Less frequent are choreiform-like movements affecting not only the eyelids but the muscles of the face and even the occipito-frontalis. A young patient, suffering in this manner, recently under my care, yielded at once when his hypermetropia and astigmatism (R. + 2 D., L. + 1·5 D. with + 1 D. cyl. vert.) were corrected, whereas several months of medical treatment had failed to benefit. Vomiting and nausea are common symptoms. The former may be severe and lasting and attended with much retching. It may render a patient prostrate and necessitate confinement to bed. More frequently nausea is complained of, a sickly feeling after using the eyes. Indigestion is often mentioned or ascertained on inquiry. These patients frequently present an anxious, worn look and the difference, when relief has been afforded to the distressing symytoms, is evidenced often very clearly in the facial expression. The symptoms differ often considerably in each patient.

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[5] The references and titles of the articles are: *a*. Medical and Surgical Reporter, July 25th and August 1st, 1874. "Headaches from Heat-Strokes, from Fevers, after Meningitis, from Over-use of the Brain, from Eyestrain." *b*. Ibid., Feb. 6th, 1875. "Notes on Headaches." *c*. American Journal of the Medical Sciences, April, 1876, pp. 363–73: "Headaches from Eyestrain." For these references I am indebted to Dr. George M. Gould's able and instructive volume entitled "Biographic Clinics." He there gives copious extracts from [illegible]-Mitchell's articles.

cheste[illegible] Bartholomew's Hospital Reports, vol. xiv., 1833, p 336, &c.

establish[illegible]NCET, August 1st, 1903, p. 306: "The Ill-health of Richard

Thomas Pe[illegible] Jour., vol. ii., 1903, pp. 663 and 757: "The Rôle of

than a hund[illegible]ilisation."

It has been mentioned that nausea and vomiting are met with not infrequently in these cases. This is of considerable interest, for it is well known that they are prominent and well-recognised symptoms of some eye diseases. An attack of acute glaucoma is ushered in with severe pain in the eye and the head and attended with violent vomiting. The bilious attack is such a prominent symptom that it masks the eye condition. *It therefore receives attention; the eye is unheeded* and treatment of the glaucoma is frequently deferred until sight is lost. If the reverse plan had been adopted and an iridectomy performed or even eserine instilled a clearing up of the general symptoms would have followed and the eye would have recovered its sight. Vomiting and the so-called "bilious attack" would have ceased on the relief to the increased tension of the globe which the measures mentioned would have brought about. Another example may be given. Increased tension of the eyeball is indicated in injuries to the crystalline lens or when a needling operation for cataract has been performed, not merely by pain in the eye but often by vomiting. Here, again, removal of the swollen lens is followed by immediate relief to the stomach symptoms. The disturbance of the pneumogastric nerve by these conditions is well recognised. It is not difficult to understand that the attempts of the ciliary muscle to overcome defects should similarly influence the pneumogastric nerve. It must be borne in mind that the ciliary muscle is perhaps the only muscle the action of which is continuous. Sleep is the only time for recuperation.

The remedy for the condition met with in these cases is attention to the eyes. Over and over again in my experience, relief has been afforded by the correction of anomalies of refrac [illegible] expresses regret at not having [illegible] wasting time upon other m[illegible]tment is necessary. A faulty state of the eyes is ascertained; it is corrected, the proper glasses are worn, and relief follows, whilst the other conditions of life have been unaltered. This is proof sufficient. It has been well said:—

> If use of the eyes produces any of these results it is almost surely the cause; if disuse of the eyes relieves, it is doubly sure, if without the disuse of the eyes wearing of proper glasses does the same, the demonstration is beyond question (Gould).

In many cases which come before one, however, the symptoms have already existed for a long period and immediate relief from the wearing of the correcting glasses cannot be expected any more than that a chronic disease should at once yield to any treatment which may be adopted for it. If anyone wishes to learn what the astigmatic eye has through the ciliary muscle to overcome he can do so by placing + or − cylinders before his eyes. Let him wear these glasses and they will produce the symptoms of ametropia. To illustrate, though imperfectly, the indistinctness of type which a low degree of astigmatism occasions if uncorrected by the action of the ciliary muscle I have had a series of photographs taken of a portion of a *Times* leader. First, the leader was photographed in the usual way and appeared sharp and clear. Then, under precisely the same conditions, the same was again photographed but close to the lens of the camera a cylindrical glass was placed. In this way a series of photographs was taken with + 0 25 D. cyl.; + 0·5 D. cyl.; and + 0·75 D. cyl. respectively before the lens of the camera. A second series with similar minus cylinders was taken. In each case the cylinder was so placed to occasion the effects of an astigmatism "according to rule." The eye naturally strives after a clear and sharp image and as this can only be accomplished by the action of the ciliary muscle the photographs[9] will be understood as illustrating the strain which the astigmatic eye must undergo to accomplish this result.

The following cases may be given as illustrations of those we have under consideration. The first is that of a lady who had suffered for a considerable time. She is the wife of a medical practitioner at a seaport on the east coast and he has very kindly written the following account for me.

> The patient, aged 32 years, had studied music until she was 21 years of age, spending five years in hard study in Germany. There were no eye symptoms then except headache occasionally. When working for a concert five years ago she began to have attacks of giddiness and occipital headache. These ceased after the concert but returned with increased force 12 months later when she was again working up for a concert. On this occasion she had one or two attacks of sickness. Improvement again took place. A few months afterwards she had some lessons in London and practised hard, ultimately having a complete breakdown from headache, giddiness, and nervous attacks. Then she gave up playing but for a long time her general health was poor. She was thin, did not sleep well and was very nervous. She developed a cough and consulted a well known physician nearly two years ago. He found no organic disease but ordered her to feed up. Her general health improved somewhat and then she began to have the typical attacl [illegible] fortnl [illegible] every [illegible] been [illegible] fall a[illegible] and lasted for several hours with severe straining and retching. After an attack she was prostrate and [illegible] Occipital headache was frequent and [illegible] seized her by the nape of the neck. [illegible] come on with startling rapidity, almos[illegible] one occasion I remember she was sitti[illegible] cheerful. Suddenly she became q[illegible] off the chair. She was pale and f[illegible] to a couch. In a quarter of an hour she was vomiting. The worst attack she ever had came on during the night when in bed. The slightest attempt to lift her head from the pillow brought on frightful nausea and giddiness. After consulting you and wearing the glasses you prescribed she had several attacks during the first four weeks but they did not culminate in vomiting, and she has not had an attack of vomiting since (excepting once she had a bilious attack from eating some indigestible food; on this occasion there was no giddiness and she was "comfortably sick", in an hour or two she was well). The attacks of headache and giddiness [illegible] and she is now free from any trouble of this [illegible] thousands of strings were in the back of the neck and as if someone were pulling at them. The giddiness always commenced in the occipital region."

The refraction ascertained after using a mydriatic was as follows: R. − 0·75 D. = $\frac{6}{6}$, L. −1 D. = $\frac{6}{6}$, axes vert.

The next is a more acute case and is one of considerable interest apart from the question of his headaches, for five years ago, when studying at the Sheffield Technical College the patient was struck in the right eye by a splinter of steel which penetrated the globe and became imbedded in the retina near the optic disc. I was successful in removing this particle of steel with the electro-magnet; he recovered perfect sight which, as the record now shows, has been permanent. The patient, aged 27 years, is an engineer and lecturer on electrical engineering at a technical school in a great midland city. He has always been a hard worker and the following is an account of his work during the last few years.

> From Septem[illegible]tured in the evenings Con[illegible] August to October, 1901, [illegible] and a half hours a day). [illegible]rs' research work involving [illegible]t on m.m. scale; 50 readin[illegible]imes a day for several wee[illegible]red paper, &c. Nearly wh[illegible]re), most of work being do[illegible]tmas, 1903, reading and lecturing. There was no serious difficulty experienced with eyes during the whole of this time except that there was sensitiveness to strong light, which was considerable on waking and when the eyes were tired with rea[illegible] to a colder atmosphere and [illegible] just before Christmas, 190[illegible] careful dieting. He had a [illegible] during which time he did [illegible] had no food but got up for an hour. On the 9th he was able to eat a

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[9] Lantern slides were shown to illustrate this.

small piece of fish. On the 10th he came downstairs at noon and had light diet. His medical adviser prescribed a tonic. He had to be assisted upstairs on account of dizziness. On the 11th, 12th, and 13th he came down about noon daily. On the 14th diet about normal; went out of doors for the first time but was dizzy, otherwise felt well. On the 15th and 16th the dizziness slowly decreased. On the 16th he came to Sheffield and consulted me. On the 17th dizziness was still less. The eyes were absolutely at rest from Jan. 7th to 17th. He has not complained so much of headache. The feeling in his head was more of general muzziness, with occasionally acute pain in the eyes and forehead. The dizziness, he mentions, is that he feels about to fall and everything around seems to be swimming.

The refraction in this case was R $+ 0·75$ D. cyl. $60° = \frac{6}{6}$; L. $+ 0\ 75$ D. sph. $= \frac{6}{5}$. Subsequently he gave this report :—

> I am glad to say that I am now in normal condition having worn the glasses continuously as you advised. The dizziness gradually disappeared and during the last few days I have felt quite free from any indications of weakness, although I am doing a considerable amount of extra work owing to the illness of one of the lecturers here. Am doing a third of his work (lectures, &c) in addition to my own. Once or twice I have tried the effect of not using the glasses for an hour or two but this gave rise to headache and acute pain at times in the right eye, not prolonged. Also the dizziness began to return.

It has already been mentioned that of the last 800 refraction cases in my private practice 162 sought advice in consequence of headache more or less conforming to the types which have been described—that is to say, about 1 in every 5. Dr. A E. Barnes, a late clinical assistant of mine, has very kindly collected from my private case books 318 consecutive cases and has prepared for me the following analysis.

in age was a man, aged 52 years, with simple hypermetropic astigmatism, + 0·75 D. cyl. in each eye according to rule (approximately). In males the ages at which eyestrain headaches are most prevalent correspond to three periods of life—i.e., puberty, from ten to 15 years; age of greatest stress, from 20 to 25 years; age when accommodation is failing, from 45 to 50 years. Myopic astigmatism is again different to the other errors, for five out of 11 cases were over 35 years of age, corresponding to the last period. In females the prevalence belongs to the period of sexual activity, for they begin to be common at 15 years, reach a maximum at from 25 to 30 years, and finally disappear at 50 years.

As to the relative frequency of the different kinds of ametropia it was found that the kind of error most associated with headache was hypermetropic astigmatism. Pure hypermetropia was nearly as common, myopic astigmatism much less common, mixed astigmatism still less common, whilst myopia was only present in four cases, and in three of these there was also anisometropia. The analysis of 300 cases gave the following results: hypermetropic astigmatism, 49·3 per cent.; hypermetropia, 34 3 per cent.; myopic astigmatism, 11·3 per cent.; mixed astigmatism, 3·6 per cent.; and myopia (three of which were unequal in the two eyes), *1·3 per cent.*

Of particular interest in this analysis of cases of headache and errors of refraction associated with them is the large number of cases in which the degree of astigmatism is a low one and the cylinder prescribed correspondingly weak. There is in some quarters a failure to recognise the importance of estimating these low degrees of astigmatism and the value derived from the use of weak cylinders. A careful study of the subject, however, will easily demonstrate that the low degrees of astigmatism play a very important rôle in the causation of the neuroses we have under consideration. They will be found in patients complaining little, if at all, of their sight and can only be detected and the exact axis ascertained after a careful examination when the eye is under the action of a mydriatic. I refer especially to astigmatism of 0·25 D. and 0·5 D. Included in my series were 144 cases of hypermetropic astigmatism, simple and compound. I find that + 0·25 D. cyl. was prescribed in 18 cases of simple and five of compound hypermetropic astigmatism, or 23 cases altogether; + 0·5 D. cyl. was prescribed in 38 and 9 respectively, or 47 cases; and + 0·75 D. cyl. was prescribed in 22 and eight respectively, or 30 cases, thus making a total number of 100 out of the 144 cases in which cylinders of + 0 75 D and under were prescribed. The benefit of these weak + cylinders was undoubted. There were also 34 cases of myopic astigmatism, simple and compound. For these cylinders of − 0·75 D. and lower were ordered in 20 cases—viz., − 0·25 D. cyl. in three simple and one compound, or in four cases; − 0·5 D. cyl. in four simple and two compound, or in six cases; and − 0·75 D. cyl. in nine simple and one compound, or ten cases. The percentage for these weak cylinders works out as 66·8 per cent. for hypermetropic and 58·8 per cent. for *myopic* astigmatism. The following is a case illustrative of the

TABLE SHOWING AGE, SEX, AND AMETROPIA IN A SERIES OF HEADACHE CASES.

Age.	Sex.		Total.	Hypermetropia.			Hypermetropic astigmatism (simple and compound).			Myopia.			Myopic astigmatism (simple and compound).			Mixed astigmatism.		
	M.	F.		M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
5 to 10	4	2	6	1	2	3	1	—	1	—	—	—	1	—	1	1	—	1
10 „ 15	9	15	24	4	11	15	3 (2)	4 (1)	7	—	—	—	1	—	1	—	—	—
15 „ 20	3	36	39	—	12	12	2	19 (10)	21	—	1	1	—	2	2	1	2	3
20 „ 25	8	44	52	3	15	18	3 (1)	23 (9)	26	—	—	—	1	5	6	1	1	2
25 „ 30	4	52	56	1	14	15	1 (1)	34 (20)	35	—	1	1	2	2	4	—	1	1
30 „ 35	7	39	46	2	14	16	3	20 (13)	23	1	1	2	1	7	8	—	1	1
35 „ 40	2	26	28	—	10	10	1	13 (7)	14	—	—	—	1	1	2	—	2	2
40 „ 45	2	13	15	—	5	5	—	7 (5)	7	—	—	—	2	1	3	—	—	—
45 „ 50	6	11	17	—	4	4	3 (2)	5 (2)	8	—	—	—	3	1	4	—	1	1
50 „ 55	—	4	4	—	1	1	—	2 (2)	2	—	—	—	—	1	1	—	—	—
Over 55	—	1	1	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—

The age was not mentioned in 28 cases—4 of hypermetropia, 23 of hypermetropic astigmatism, and one of myopic astigmatism. The figures in brackets denote the number in which there was anisometropia.

Sex.—Females predominated largely. This was especially the case in hypermetropia and hypermetropic astigmatism. In myopic astigmatism this preponderance was much less. The following figures illustrate this point. Of the total cases 84 per cent. were females; of cases of hypermetropia 89 4 per cent. were females; of cases of hypermetropic astigmatism, 89·4 per cent. were females; of cases of myopic astigmatism, 64 per cent. were females. The preponderance of females is hardly to be wondered at. Women are more subject to neurotic conditions than men. The mental or nervous stress more rapidly affects them. Their nervous system is less stable. Women have more constant close eye work than men and their lives are passed more indoors than men. They have more leisure for reading and spend much of their time in sewing and fancy work—the latter and "bazaar work" often being responsible for a breakdown and a visit to the ophthalmologist. *It is the eyeworkers*, whether male or female, that are prone to headaches and the train of other neuroses which have been mentioned. These have been illustrated in the cases which have been related.

Age.—The youngest case was that of a boy, aged six and a half years. His refraction was R. + 1·5 D.; L. − 0·75 D., axis vert. Some time previously he had undergone tenotomy for convergent squint. There were two girls, aged seven years, one had H. + 1·5 D. and the other H. + 1 D. in each eye. The oldest was a woman, aged 60 years, with one available eye. L. − 1 D. with cyl. − 0·75 D., vert. approx.[10] The next value of weak cylindrical lenses. It has been related before and is epitomised here.

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[10] "Approximately" vertical or horizontal is used as indicating that the axis approaches one or other of these meridians. This suffices for our purposes here, but in testing, the axis must be determined exactly if relief is to be afforded.

In consequence of long continued and severe headaches a gentleman, a missionary in the East, consulted me in October, 1901. The headaches had commenced about February, 1899, after considerable stress of work. They began on the left side, to which they were chiefly confined, sometimes beginning about the eye and at other times about the teeth. At first there was a sort of hot feeling which, after a time, gave place to a more acute pain, apparently like neuralgia. When pain was absent there was a numb feeling reaching from the left side and top of the head to the occipital region. The feeling was as if one side of the head was boiling hot or in flames and he lost all energy. His sight was tested by a medical man and declared to be *above normal*, and the complaint was designated "hemicrania," "cause undiscovered" being put in the certificate. It was suggested at this time that his teeth might be responsible and he consequently had two extracted from the upper jaw. As a result of this examination he was invalided to another part of the country for six months but he was able to do some work. The change and comparative rest were beneficial and he was able to resume regular work in the autumn of 1899, continuing it until the beginning of 1901, when the headaches recurred. He was treated without avail by another medical man who regarded the headaches as rheumatic. In February, 1901, he left for England, arriving in this country in the middle of April. He was then brought before the medical board who ordered six months' rest, at the expiration of which time he was re-examined. The headaches still remained at that time but were somewhat modified in severity. The principal medical officer could not diagnose the cause and advised him to see an ophthalmic surgeon. He therefore came to me. At his visit I found that, though suffering from headache, it was not so bad as previously. The numb feeling was constant and there were exacerbations of more acute pain. He was of opinion that the headaches were made worse by exertion, but as he was unable to use his eyes with comfort he believed they had a good deal to do with his suffering. Vision in each eye was *normal* ($\frac{6}{6}$) *and glasses rendered it worse.* After being under the action of homatropine and cocaine in each eye V. = $\frac{6}{6}$, or with + 0·5 D. cyl., axis horizontal, $\frac{6}{5}$ The muscle balance appeared to be normal. These cylinders were ordered and a week later he reported himself as improved and better than he had been for a very long time. He also added that the numb feeling in the head disappeared when wearing the glasses but returned on leaving them off. He mentioned an interesting fact that two days previously after a bicycle ride the pain in the head returned and he wished to know if cycling would be injurious. He had cycled a good deal when in the East and thought the pain had been aggravated thereby. I explained the way in which it might be so and was informed that he had been in the habit of leaning forward, and consequently, on looking straight in front of him, he would have to use and strain the elevator muscles and discomfort would be caused in the same way that "academy" or "sightseers'" headache is occasioned by looking at pictures hung above the line. At a later call he stated that he had received considerable relief and was anxious to return to work and desired my permission for him to accept a curacy in the south of England. He was able to read with much greater comfort than formerly. He also said that he was satisfied as to the cause of the strain to the eyes when cycling as he had put himself in the position I had explained and he found the eyes to tire very soon. On Nov. 22nd I again saw the patient who expressed himself as better and more fit for work than he had been since he first commenced his labours in the East. He was able to read with comfort for long periods and felt confident of being able to fulfil his clerical duties which he was to enter upon the next day. Later he obtained permission to marry and to return to his work in the East.

Anisometropia, or an inequality in the refraction of the two eyes, is another feature to be noticed and it is important. One eye may be myopic and the other hypermetropic, or both may be myopic or hypermetropic, but the degree may be higher in one of the eyes or the degree of astigmatism may be unequal in each eye. Moreover, one eye may be normal and the other may have some form of ametropia A consideration of my cases shows that inequality of the two eyes was present in nearly half (45·6 per cent.) It was most frequent in mixed astigmatism (81 per cent.). Myopia came next with 75 per cent. and myopic astigmatism with 74 per cent. In hypermetropic astigmatism it was present in 55 per cent.; in hypermetropia only in 21 per cent. In compound astigmatism, both hypermetropic and myopic, it was more common than in the simple varieties. In hypermetropic astigmatism the axis according to "rule" should be horizontal and in myopic astigmatism it should be vertical. There is but little evidence from my cases to show that astigmatism against the rule is especially potent in causing headaches. In hypermetropic astigmatism there were only nine cases against, or approximately against, the rule (i.e., about 6 per cent.). There were also 14 cases in which there was astigmatism against the rule combined with inequality of degree, but as anisometropia is such a powerful factor in the production of headache these cases can hardly be used to show that departure from the rule is also a factor. In myopic astigmatism there were no symmetrical cases against the rule where there was not also inequality of degree, but there were nine cases in which there was also this inequality of degree. If we do not take account of those cases in which one eye only was astigmatic we find that there were 13 cases of hypermetropic astigmatism in which the axes were not symmetrical. This is not quite 10 per cent. In myopi astigmatism there were nine cases, or nearly 25 per cent.

The correction of these conditions without glasses could only be brought about by an effort of accommodation differing in the two eyes and this, it is thought, the eyes are hardly capable of doing to any great extent. Where the difference is considerable the inconvenience is not always great and persons often only become aware of the fact that they do not see equally well with each eye when the tests for vision are applied. In a case like that of Mrs. ——[11] in which there were myopia and amblyopia (V. = − 10 D. with − 1·5 D. cyl. $\frac{6}{24}$) *in the right and hypermetropic astigmatism* (+ 0·75 D. cyl. = $\frac{6}{6}$) in the left, the chief factor in giving relief to her headaches probably was the correction of the astigmatism in the left, though a minus spherical glass with a cylinder was at the time prescribed for the right. In other cases the effort to accommodate with each eye will be made, especially in low degrees of asymmetry, and this endeavour is often attended with considerable discomfort and headache, &c., and is an important factor in occasioning the distressing conditions which we are discussing.

If relief is to be afforded in these cases it is of the utmost importance that the refraction should be carefully and thoroughly worked out. To accomplish this the use of a mydriatic is essential. It has been pointed out that many of the greatest sufferers make no complaint of their eyesight and unless therefore the accommodation is paralysed and the exact refraction ascertained relief will not be afforded. For this purpose homatropine, especially in combination with cocaine, is usually sufficient[12] I generally employ it made up in gelatin discs. If these are used two or three times at intervals of ten or 15 minutes a patient is ready for examination at the lapse of from one and a quarter to one and a half hours. The next day the effect has passed off sufficiently for the patient to be able to read with his correcting glasses. A mydriatic will reveal a latent hypermetropia of one, two, or even three dioptres not infrequently in those aged 38 years, 40 years, or even more, and the low degrees of astigmatism will not be discovered without it. Homatropine used in the way already mentioned usually suffices, but its employment has in some cases to be repeated daily.

Retinoscopy is the one objective method that is of real value. Its discovery has rendered immense service to refraction work. For young children it must often be relied on for ascertaining the degree of the error and it may often be necessary to prescribe spectacles from its findings. For all others, however, the final examination must be made with the trial glasses and test type cards. No objective method can be permitted to dispense with these. Ascertain carefully the best correcting glasses and be very exact as to the axes of the cylinders. Attention to these matters is essential if our treatment is to be successful.

It must not be forgotten that whilst an error in the refraction is responsible in the main for the headaches and other conditions in these cases there nevertheless is in some added thereto a faulty condition of the muscle balance of the eyes. This, though secondary, is still an important factor and the latent deviation must be carefully ascertained by the use of Maddox's rod and tangent scale. The close relation between the external ocular muscles and the accommodation is such that it suffices not infrequently, after careful testing, to relieve the ciliary strain by the appropriate glasses. The muscle balance becomes rectified or of less account. This is not, however, true of all cases and the adaptation of prisms must then be combined with such correction as the refraction error requires. Exophoria, or latent divergence, is the condition most frequently met with. It occurs much more frequently than the opposite condition or esophoria. It is often present in myopia and in the comparatively few instances that headache is associated with myopia, apart from astigmatism and anisometropia, it may be regarded as the cause. Tenotomy of the external recti is sometimes indicated and is of service. The following case illustrates well the benefit of taking into account the muscle balance as well as correcting the ametropia.

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[11] "Before wearing glasses I used to suffer constantly from headaches [illegible] pains in [illegible]

Twelve months ago a medical student came to me from Scotland. His headaches were so intense and so constant that study was almost impossible; his examination had been postponed in consequence and he was considering relinquishing his medical career, at all events for a time. He had previously consulted two ophthalmic surgeons; each had prescribed glasses but neither had ascertained the refraction as revealed by a mydriatic. He had accordingly received no benefit. Homatropine and cocaine were used by me for two days. The refraction then was R. + 0·75 D. sph. with + 0·25 D. cyl., axis vert.; L. sph. + 0·75 D. These were ordered for general use and later for the exophoria which was present prisms 1°, base in, for each eye were prescribed. These gave complete relief; he soon wrote that he was able to do a normal amount of work and that he was preparing with confidence for his final examination. This he was successful in passing. The following is an extract from one of his letters:—

> The prisms seem to have worked almost a miracle. I do not, of course, wish to depreciate the other factors, yet the most marked difference occurred after the prisms were worn. I am now able to read the whole day and about two or three hours in the night, a pleasure which has been denied me for more than three and a half years. The terrible photophobia, conjunctivitis, constant headaches, and utter mental depression have all disappeared. I feel quite a different person. While not expecting to have the eyes I had five years ago it is quite an unspeakable felicity to be able to read as much as I do now and cover the work of the examination which lies before me. It is impossible to realise that for periods of three months at a time I was hardly ever free from severe headaches, that I was unable to look at a book for six weeks at a time, and that this state of sublimated mental and physical torture lasted for some years.

At the close of last year he wrote saying he had ceased for a time to use the prisms, wearing the correcting glasses alone, but as he felt the old symptoms returning he was taking to the prisms and again finding the same relief.

Vertical deviations are less frequent than lateral, but in my experience they have been associated with severe headache. One case was that of a nurse who was frequently laid up and who had been obliged for a time to give up her occupation. I found in the right eye mixed astigmatism (+ 0·75 D. vert., − 0 25 D. horizontal) and in the left simple hypermetropic astigmatism (0 75 D. vert.). Glasses were ordered combined with prisms correcting the vertical deviation. Very considerable relief was experienced.

A word now as to "academy" or "sightseers'" headache or, as it is called in America, "theatre headache." There is no doubt that astigmatism or some other form of ametropia is a factor in its production. But a proper correction of such defects will not always prevent this kind of headache and I feel certain that there are other important influencing conditions.[13] A lady mentioned that she suffered so much from headache after attending a play that she ceased to think a visit to the theatre was worth the after-suffering. It was also ascertained that she visited the pit and it was the effect of looking up at the stage that she found distressing in its after-effects. When sitting in the dress circle and looking on to, or down to, the stage she experienced less ill results. My investigations into the conditions causing the nystagmus, or rolling of the eyes, met with in miners showed that it was due to the weariness induced in the elevator muscles of the eyeball by the constrained position in which the miner had for long periods together to cast his eyes when engaged in working the coal. My observations in compositors, plate-layers, and many other occupations, indicated, moreover, that prolonged use of the elevators tended in them also to produce nystagmus but that in many instances only discomfort and aching of eyes were complained of. I believe, also, the cause of academy headache is in many cases to be found in this throwing the gaze above the horizontal line, especially without a corresponding uplifting of the head. Watch the visitors to a picture gallery and it will be observed how often this turning upwards of the eyes is required, especially when the paintings are hung above the line, and careful observation will show that many of the same visitors will compensate for this movement above the horizontal by a backward motion of the head. Anyone may try this for himself and observe the tiring effects occasioned by looking at pictures more or less skied and then notice the difference of looking at the same objects but relieving the elevators by at the same time throwing the head backwards. The collier with nystagmus learns to steady his eyes by turning them downwards. And it will have been noticed that the lady before referred to had herself observed the difference in looking up at the stage from the pit and looking down from the dress circle. Cyclists suffer from this kind of headache, particularly those who lean on the handle-bars with the head lowered, when if they look forward the gaze is necessarily directed above the horizontal line. I have already related a case in which a return of the headache resulted from a rather long cycle ride. As already stated, on questioning the patient it was found that he was in the habit of looking in the direction I have suggested as occasioning the weariness of the elevators and consequent headache. The accuracy of this observation he was able to endorse from tests which he made himself. I mention this particularly because I think that it is an explanation of the headache or eyeache sometimes complained of by cyclists and the cause once recognised admits of easy remedy.

We may summarise what has been written under the following conclusions: 1. That eyestrain is the cause of a large proportion of headaches, often of a very aggravated character. 2. That various other neuroses are met with in association with headache and among these may be mentioned the following: mental depression, nausea, indigestion, vomiting, insomnia, giddiness, choreiform movements of the eyelids and face, &c. 3. That relief is afforded to these conditions by correcting the error of refraction which can be ascertained only after careful examination. 4. That for such examination a mydriatic is absolutely essential. 5. That frequently no complaint is made of defect of vision. 6. That the ametropia is frequently of low degree, 61·2 per cent. of my cases needing 0 75 D. cyl. and weaker. 7. That a cylinder of 0·25 D. is of great value. 8. That anisometropia is frequently present and requires proper adjustment. 9. That in a certain number of cases the muscle balance is faulty and necessitates the prescribing of prisms.

Sheffield.

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[13] Acquired Nystagmus in Occupations other than Coal Mining, Transactions of the Ophthalmological Society, vol. xvi.

THE

TREATMENT OF MUCO-MEMBRANOUS COLITIS.

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THE study of muco-membranous colitis has been largely extended of late years owing to the publication of numerous works, principally in France (Potain, Dieulafoy, Gaston Lyon, A. Mathieu, de Langenhagen, Froussard, and others) To-day the description of this disease to be really clear and complete needs a development that far exceeds the space available in a medical journal. Hence I am obliged to limit myself in this paper to presenting to the English medical profession the aspect of the question exclusively in its relation to the *treatment* of the disease, leaving to the authors mentioned above the history, symptomatology, complications, etiology, and pathogeny of the disease. It is, however, necessary that before I begin I should present a succinct clinical picture and give in a few short paragraphs my personal ideas which may be found in a more complete form in the little book that I published in London last year.[1] Muco-membranous colitis is a chronic catarrhal inflammation of the mucous membrane of the large bowel. It is a constitutional and diathetic disease, neither parasitic nor contagious. The soil in which the disease takes root and spreads is a constitution both gouty and neurotic—i.e., the neuro-arthritic constitution that is so common to-day and so largely increased and developed by the conditions of modern life, the repetition of hygienic errors, heredity, overstrain, and the heated atmospheres of large cities. To say to what extent respectively these two arthritic and neurotic elements are associated with the genesis of the disease would be difficult, as it varies according to each individual case. With certain persons it is the arthritic element which predominates and the physician may generally observe that in this case the colitis is less severe and more easily curable. In other cases there is, on the contrary, a predominance of the neurotic element and the physician has to deal with veritable neurotics who have lost their nervous equilibrium and whose case has been probably one of a primitive nervous trouble of the whole sympathetic system of which the catarrh and intestinal atony form merely a portion of the factors. From a symptomatic point of view muco-membranous colitis is essentially characterised by very pronounced intestinal atony and by a more or less abundant secretion of a mucoid or membranous matter. If the mucus is expelled as it forms it appears in the form of glairy threads analogous to the white or yellow of an egg and occasionally tinged with blood; if, on the contrary, it remains in the folds of the intestine it dries up and shows itself as a membraniform production of varying aspects (ribbons resembling segments of tænia, vermicelli, macaroni, and the like). The intestinal atony manifests itself by obstinate constipation, generally anterior to the signs of catarrh, and it is precisely the prolonged constipation which in the end brings about the mechanical irritation of the mucous membrane, its superficial inflammation, and the hyper-secretion of its glands. Nevertheless, alternations of constipation with diarrhœa are often found and exceptionally permanent diarrhœa.

To these two fundamental elements of the disease may be added a third which is but seldom absent—and that is pain. I have classified this as follows: either habitual pain with the sensation of a weight and a dull discomfort, generally seated in the iliac fossa and making itself most generally felt four or five hours after meals, or pain in paroxysms, very violent attacks which last some days and oblige the patient to take to bed and which are often taken for an attack of hepatic colic or of intestinal stoppage. The pains correspond to a state of spasm of the large bowel, more or less violent and more or less generalised. Objectively we regularly see in patients suffering from colitis a flabbiness and depressibility of the abdominal wall and a remarkable state of atony and laxity of certain segments of the large bowel, particularly of the cæcum, which feels like a more or less swollen sausage. On the other hand, the sigmoid flexure is generally contracted and forms a sort of string. Very often there is a general bearing down of the bowel or enteroptosis. Functional troubles of the stomach and the liver (flatulence, dilatation, hypochlorhydria or hyperchlorhydria, oligocholia or polycholia) accompany the intestinal symptoms and sometimes obscure them to such a degree that medical men not familiar with colitis see in their patients simple dyspeptics. Intestinal lithiasis is a frequent complication and shows itself by the presence of sand in the fæces.

The question of the relation of appendicitis to muco-membranous colitis is too important and too much a subject of controversy for me to treat of it briefly; the reader will find it dealt with in my book. The general condition is ordinarily much altered; there is a marked loss of flesh. With women troubles of the uterus or of the uterine appendages often complicate the situation. The nervous condition is always accentuated; there are various reflex phenomena (cardiac intermittences, palpitations, dizziness, attacks of dyspnœa or of suffocation, fainting fits, and the like). There is a general weakening of the nervous system, even to the point of most pronounced neurasthenia, for it must be remembered that if these patients are generally of neurotic origin the colitis, once it has a hold on them, reinforces and exalts the previous neuropathic phenomena.

Such is, in outline, the sketch of this tedious disease, the treatment of which I now proceed to consider in detail. There are some fundamental precepts which dominate the therapeutics of the disease. The practitioner must make sure that the patients have a diet suited to the state of their intestine. He should be most careful to keep the bowel open and to procure by appropriate artificial means the evacuation of the residuum that the bowel, owing to its atony, is incapable of expelling by itself. He should also attempt to modify the intestinal catarrh and, to a certain degree, the fundamental neuro-arthritic diathesis. There are three principal therapeutical means corresponding to these three indications; they are rather of a hygienic than of a medical character, and I now proceed to examine them successively. They are (1) the alimentary regimen; (2) the washing out of the intestine, and (3) the hydro-mineral treatment.

1. *The question of diet* is here of supreme importance. The problem consists in nourishing the patient in such a way that the excrement shall neither be abundant nor irritating. The food should be chosen from amongst the following aliments: milk, meat soups (chicken and other) with every particle of fat taken off, beef-tea, porridge made of barley, oatmeal, maize, ground rice, arrowroot, raccahout, &c.; eggs, boiled, scrambled, or in custards, but neither fried nor as omelets (as fat is to be avoided); white light fish—i.e., sea fish boiled, or if fried the skin and all the parts imbued with fat should be taken away; finely minced, very lean roast and boiled mutton or beef or veal or chicken; sweetbreads and brains. Vegetables mashed very fine and passed through a sieve may be given. As a rule it will be found best to give only dry pulse vegetables, such as dry haricot beans, peas, and lentils; mashed potatoes may also be given, *but on no account should any green vegetables be allowed;* for it has been remarked that as a rule the greater number of persons affected with colitis do not digest green vegetables. Even when finely chopped they pass through the intestinal tube and thence into the fæces without having been through any digestive action; they are expelled in the same state as they were eaten. Besides which, the consumption of green vegetables does not, as is sometimes supposed, diminish the constipation in the least degree. Nor can the daily enema or laxative be dispensed with because green vegetables form part of the diet. The part which they are said to play as "balai de l'intestin" is quite an illusion in the cases we are dealing with. Not only are they useless—they are harmful, inasmuch as they encumber and fatigue the already jaded atonic intestine by stagnation, producing fermentation and thus increasing the catarrh, the irritation, and the glairy secretion. Therefore it is necessary to forbid rigorously all spinach, cabbages, salads, and all raw fruits (exception to be made in those rare cases where experience shows that they are tolerated and normally digested and assimilated). Stewed or baked fruits without skins may be allowed, also boiled and baked batter puddings and custards. Very little bread should be taken and that little should be eaten stale or toasted dry. Wine and all alcoholic drinks should be absolutely banished. Alcohol acts like a poison on the intestinal canal and is always harmful. The best drink is pure, fresh, spring water or a very light table beer mixed in equal parts with a slightly mineralised table water. Milk does not suit all stomachs; it frequently disagrees when it is given in too large quantities at a time, but given moderately, associated with the above regimen, it is generally digested and it has rarely to be excluded from the patient's bill of fare. All fatty matter should be strictly forbidden and all pork except very lean ham. No game, crabs, lobster, crayfish, or other crustaceans should be allowed. All hashes, stews, rich gravies, sauces, and pastry of every kind should be forbidden. In serious or inveterate cases greater severity still is needful. Patients should in these cases take nothing but milk (if tolerated), light cereal porridges, eggs, beef-tea, and sometimes a very little finely minced raw meat. In cases where milk is not digested warm infusions such as those of camomile and lime tree bark may be given. They are very comforting in cases of dilatation of the stomach or of dyspepsia. Bread should be strictly forbidden in these cases or should only be given in very small quantities in the form of rusks or dry breakfast biscuits.

2. *The washing out of the intestine.*—The means which I consider the least harmful to the patient for resisting the intestinal atony—independently of the special modification

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[1] *Muco-membranous Entero-colitis.* By Maurice de Langenhagen, M.D., Consulting Physician at Plombières. London: J. and A. Churchill. 1903.

which it exercises on the mucous membrane—is the methodical and carefully calculated irrigation of the large bowel, an irrigation that is to be as complete as it possibly can be. I am not unaware that in recommending this means I am tilting at a prejudice against the use of enemas that is widely spread in England. But I must repeat, the bathing of the intestine, as I understand it, is not a simple "enema" destined only to assure the evacuation of the rectum. If this were the only object in view one could let each person follow his personal preference and adopt one of the numerous well known laxatives, even though they might have the disadvantage of fatiguing the stomach, of sometimes causing colics, and of losing their effect in the end. Of these laxatives the one that I prefer is castor oil in small doses (from one to two teaspoonfuls); then there are cascara sagrada, calomel, euonymin, belladonna, podophyllin, rhubarb, and magnesia. Abdominal massage can also be employed and electrical applications, but we must remember that these last have often only a momentary effect and that if the patient is obliged to use them repeatedly they become too expensive to be within the reach of everybody. As regards the enemas of olive oil (from 50 to 200 grammes taken at night when going to bed and retained the entire night), they are generally insufficient in themselves to empty the bowel and in addition a water enema is obliged to be given the next morning. But it cannot be too often repeated, the expulsion of the fæcal matters is not the sole object of the intestinal irrigation, which has for its aim and effective result the cleaning out, the scouring so to speak, of the intestine by ridding it of the mucus and the false membranes which stay in its folds and adhere to its walls. This irrigation has even the effect (by bringing in contact with the intestinal walls a warm liquid endowed, when the irrigation is done at certain thermal resorts, with special properties that either reduce the congestion or, on the other hand, stimulate the muscular tissue) of re-awakening the contractibility of these walls, of modifying the mucous membrane, and of influencing the secretion of the glands—in one word, of doing not merely a mechanical work but a modifying work that is really curative and therapeutic. *The intestinal bathing should therefore be considered as a real internal dressing of the mucous membrane* and this explains why it is suitable not only in the cases of colitis with constipation but also in those cases where there are alternations of constipation and of diarrhœa or in cases of chronic diarrhœa. It goes without saying that I only allude to intestinal bathing correctly performed and that I have no wish to take up the cudgels for these bathings badly done—e.g., with too strong a pressure or an exaggerated quantity of liquid. As far as that goes the technique of these irrigations is simple enough and after the first few times the patient can easily acquire habitude to them. In the most ordinary case—that of muco-membranous enteritis in a chronic form, without any great contraction and with obstinate constipation and an abundant glairy secretion—this is how I proceed.

The irrigation is given by means of a fountain-injector containing two quarts and fitted with a long indiarubber pipe, from one metre 50 centimetres in length to two metres, and terminating in a supple cannula of red indiarubber, from 30 to 40 centimetres in length and from ten to 12 millimetres in diameter, pierced near the extremity by two holes, lateral and opposite to one another, so that if one of the orifices becomes stopped up by a plug of fæcal matter or mucus the other remains free. The injector should be placed at a very slight height above the bed on which the patient lies—at the most at from 25 to 60 centimetres—so that the pressure is extremely low, and the tap should be only slightly opened, so that a very slow discharge of the liquid (about ten minutes for a quart) may be assured. The water used for the irrigation should be water previously boiled, to which can be added or not some softening substance, such as linseed, marsh-mallow root, or some medicated substance, such as boric acid, naphthol, ichthyol, &c. The water should be of a temperature varying from 35° to 48° C. A temperature of about 35° C. is best suited to cases in which there is a tendency to spasm and to "resistance" on the part of the bowel; the temperatures of 45° C. and above are most useful when there is complete atony without spasm and where the physician is desirous of stimulating the muscular tissue and re-awakening the contractibility. The quantity of water to be injected varies from one quart or even less to one and a half quarts, according to the patient's power of tolerating it and the extent to which he can accustom himself to it. The patient should be lying on his back at the beginning of the operation, should then turn slightly on his right side, and should finish by lying entirely on his right hip so that the liquid penetrates to the furthest parts of the colon. For it is these furthest parts—the end of the transverse colon, the corner between the ascending and the transverse colon, and the cæcum—that the fæcal matters choose for accumulating in; and there, most often, is to be found the principal seat of the catarrhal inflammation and the most active centre for the production of the mucoid matter or membranes. Hence it is there that the cleaning process should act. It is for this reason that I always recommend if possible the arriving by degrees at large quantities of liquid, but I only increase the quantity when the patient is well accustomed to the previous dose. On principle I begin with three-quarters of a quart and augment progressively up to one and a half quarts or at the maximum one and three-quarter quarts at a time. As a general rule I prefer that the patients should have two consecutive irrigations, the first destined to rid the bowel of its fæcal contents and the second to carry away the mucus and act on the mucous membrane previously cleaned. The first irrigation should be expelled after one or two minutes and the second after nine or ten minutes if possible. But in many cases when the patient can obtain a stool before the operation (and this is an attempt always to be recommended) or when there is only a small quantity of mucus to be evacuated, or when the fatigue that ensues after the irrigation is too much accentuated, I content myself with one irrigation. For the same reasons, instead of one *séance* every day, the operation may be performed only two or three times a week. All this is an affair of tact, of degree, and of individual indications. It cannot be too much insisted on that here I only cite the average, that the prescription for the irrigation is not universally applicable, and that the different conditions of pressure, of temperature, of quantity, and even of the nature of the liquid injected should vary notably, according to the particular form and degree of intestinal atony, according to the tolerance of the patient, according to his neurotic condition, and according to the action which the physician wishes to obtain: simple evacuation of the fæcal matter, antiseptic cleaning of the intestinal canal, awakening of the contractibility and of the energy of the muscular fibre, calming of the spasms and of the contraction, reducing of the pain, and modification of the catarrhal condition of the mucous membrane.

Objections have, however, been made to the method of intestinal irrigation but I consider the greater part of these criticisms much exaggerated. Still, as they have a specious appearance which has appealed to a certain number of medical men it is necessary to examine them in detail. I do not pretend that the method I recommend is perfect; I simply state that its disadvantages are in a minority compared to its advantages. I willingly recognise the fact that a certain number of persons are incapable of supporting the large intestinal irrigations which provoke, in their case, various troubles—very violent pains, nausea and vomiting, cold sweatings, sometimes even cardiac accidents and a state of syncope. But I must add, at once, that the number of these exceptional patients is extremely limited (hardly 3 per cent. in a total of several thousands). When the physician does meet with such cases it is evident that he must do without the irrigation. But this is no reason for depriving the large majority of other patients who are capable of supporting them. Is there one medical man who would give up the systematic use of drugs like iodide of potassium, antipyrin, belladonna, and the like, because some few persons cannot tolerate them? He would first make the attempt, ready to abandon it on perceiving some special idiosyncrasy; and it should be the same thing with the intestinal irrigations.

Treating these exceptional cases apart it has been said that the washings out, even when they are tolerated, have the disadvantage of dilating the bowel, of provoking spasm and contraction, of increasing the irritation of the mucous membrane and the production of glairy matters and of keeping up, and even adding to, the state of intestinal atony by not allowing the patients to do without them. There are almost as many errors and exaggerations in these propositions as there are words, for it is *very rare to* find spasms and contractions of the bowel provoked by the irrigation. The contracting and shrinking of certain segments of the intestine, like the atonic dilatation of certain others, are normal phenomena in muco membranous colitis, and they are seen just as much among the patients who do not use the irrigations as among those who do, which proves that it is an effect of the disease itself and not of the treatment applied. If, nevertheless, the irrigations do seem with some persons to augment the spasm and provoke painful phenomena, that is because more often than not they are given *with exaggerated pressure or with a too great quantity of* liquid. Given correctly, as I indicated above, they hardly ever provoke any noticeable pain. Still, one does sometimes observe a contraction, limited to the sigmoid flexure, and entirely due to the introduction of the cannula and to the local reaction it causes. A good means of avoiding this partial spasm consists in smearing the cannula with a pomade with belladonna or cocaine in it instead of simple vaseline. Just consider, how could the intestine be "dilated," that is to say, how could its walls be forced by the introduction at *low pressure of a liquid which never completely fills* the cavity which receives it? Take a pig's bladder and fill it by degrees with water. So long as this bladder is not swollen, until the liquid presses on its sides they will not be distended, nor suffer elongation, nor forced dilatation. Well, to fill the large bowel so as to distend it from the rectum to the ileo-cæcal valve we should need at least, according to the experiments made on dead bodies and living ones, from three to four quarts of liquid, and, as we have seen, we never inject more than one and three-quarter quarts at a time. Can it be admitted that this very moderate quantity of liquid which as it increases spreads itself without obstacle into the furthest portions of the intestinal tube can distend its walls, even allowing for the distension produced by the gases, which themselves, perhaps, partly dissolve in the liquid introduced, partly get through it, and are expelled with the residue of the irrigation?

Again, it is an absolute error to pretend that the washings out irritate the intestinal mucous membrane and increase the catarrh. This might be so if astringent or caustic solutions were used, but performed with water charged with softening substances or with mineral water of sedative properties they produce no irritation at all. The best proof is that the irrigations never cause an expulsion of glairy and mucous matters from persons who do not habitually expel them. This is an experiment that I have tried several times on healthy persons or patients suffering from simple constipation without accompanying colitis and always with the same negative result. We may conclude, then, if we find among patients suffering from colitis a larger quantity of mucous matter after the irrigations than at other times, that the mucus accumulated in the intestine, remaining there for some time and causing by its presence an intensification of inflammation, is expelled in larger quantity by the effect of the irrigation, for the well-being of the patient; they are already old productions and not new ones, which on reflection it will be seen could not form up instantaneously and suddenly.

The last reproach made against the irrigation, that of keeping up and sometimes augmenting the intestinal atony, contains more truth than the preceding ones. But I think this disadvantage makes itself but [illegible] greater number of patients [illegible] lost when the treatment by [illegible] these patients never went spontaneously to stool and only obtained evacuation of the bowel by a daily dose of cascara or castor oil. Consequently, with such patients the intestinal atony has not been increased by irrigation, seeing that it was at its worst before. Even supposing that some patients who had not yet lost all intestinal *strength and who still had some spontaneous stools* before the treatment by irrigation had while curing the catarrh (and all the inconveniences it causes, pains, nervous reflex phenomena, &c.) abolished what still remained of the function [illegible] very small compared [illegible] I therefore conclude [illegible] employment of intestinal irrigation is the chosen method for the treatment of colitis and that the greater number of the objections formulated against it are imaginary and without value, the only real one applying to a very limited number of patients. The total of cases in which the irrigations are useless or cause slight inconvenience certainly does not exceed 20 per cent., according to my statistics; and it seems to me the study of medicine should in strict duty concern itself with a therapeutical process which can count success in the proportion of four-fifths.

3. The third method of treatment of colitis is a hydromineral cure judiciously chosen. As far as my knowledge goes there does not exist in England a suitable resort for treating this disease. In France two resorts are now in vogue—Plombières and Châtelguyon. But their composition is widely different. Châtelguyon possesses *temperate springs* (27° C.) *with bicarbonate and salt*, slightly laxative and tonic. Plombières, on the other hand, possesses hypo-thermal springs (up to 72° C., average 50°) with bicarbonate and silicate of sodium, slightly arsenical. The waters were known to antiquity in the treatment of rheumatic affections and of diarrhœa of an arthritic or tropical origin; their employment for colitis is more recent in the same way as the knowledge of the disease itself. The consumption of the Plombières water by drinking produces neither constipation nor diarrhœa, *still after the cure a diminution of constipation is generally* noticed. In addition these waters are essentially sedative to the nervous system and reduce the congestion of the intestinal mucous membrane. It is to this triple property (general anti-rheumatic action, nervous sedative, and reduction of local congestion) that they owe their growing success in colitis—a disease, it should not be forgotten, of an essentially nervous and arthritic origin. Plombières, therefore, attacks the origin of the harm by modifying the constitution of the subject. Châtelguyon, on the contrary, is more efficacious against the symptom constipation. That is why I advise sending above all to Châtelguyon patients who are suffering from simple constipation without intestinal catarrh or with very little of it. Whenever the catarrh is intense and when the painful, neurotic, or neurasthenic phenomena are pronounced Plombières is preferable. When it is a question of the diarrhœic forms hesitation is not permissible—it is Plombières that should be chosen. One of the great advantages of Plombières on which I must again insist is the perfection of the apparatus for intestinal irrigation. This apparatus was established six years ago under my instructions. It consists of a bed with a mattress pierced by a basin with a hole for the escape of the fæcal matter and an irrigator of elongated form and of sufficiently large capacity in direct communication with the reservoirs of the thermal water. This irrigator is fitted at its inferior extremity with an indiarubber pipe to which can be adapted the patient's cannulas and is moveable the length of a graduated scale which serves to regulate the pressure. On its exterior it has a thermometer and a water-gauge graduated *in quarts, half quarts, and quarter quarts.* All the conditions of temperature, of pressure, and of quantity can be minutely regulated by the medical man and executed by the *employé* in charge of the apparatus and by the patient. This apparatus has been copied in other French thermal resorts, but they are less numerous and less generally employed than at Plombières. Thus Châtelguyon is, above all, a place where the patient drinks the water; Plombières, above all, a place where he takes baths and [illegible] at this resort has the great [illegible] *to perform the irrigation;* [illegible] Plombières by the constant [illegible], by the imitation of his neighbours, just as in a sanatorium the tuberculous patient learns the rest cure and the cure by aeration and over-nourishment and is able when he returns home to continue it because he has understood its importance and realised its practice.

But intestinal irrigation is not the only means in use at Plombières. By the baths the general nervous system is *affected*, is calmed, and the secretive activity and the painful phenomena are modified; by a wisely arranged hydropathic treatment the impoverished general nutrition is stimulated and the whole organism tonified. Lastly, massage, abdominal and general, is very often prescribed either to stimulate intestinal atony or to exercise a general tonic action. Kissingen has also a certain reputation in the treatment of intestinal diseases. But I consider this resort above all suitable in cases of diarrhœa, or, like Châtelguyon, in cases of simple constipation without a concomitant catarrh. For they are, in fact, cold salt waters exercising rather a tonifying, general, and local action. They are employed exclusively for drinking and bathing, the intestinal irrigations being unknown there. Vichy and Carlsbad can also be recommended, but with a great deal of prudence. I consider it an error, too often perpetrated, to send to these stations habitual cases of colitis and I have more often than not seen patients suffer bad effects from them. They are only suited to cases where the dyspeptic or hepatic symptoms which exist at the same time as the intestinal phenomena are very pronounced; in that case a cure at Carlsbad or Vichy can alternate with a cure at Plombières or Châtelguyon.

Such are the three principal elements—a veritable therapeutic tripod—of the treatment of muco-membranous colitis. As may be seen, the means are exclusively hygienic, and what may properly be called drugs have not much to do with this treatment; they are almost always inefficacious, and sometimes even harmful, owing to the alcohol or other irritating substances that are often mixed with them. The physician is, however, obliged to fight against the painful phenomena that accompany colitis, for the patient asks for some relief. To this end belladonna in the form of suppositories should be used, or taken internally in the form of tincture or pills (one grain of the extract in five or six pills for every 24 hours), or frictions with an ointment containing mercury and belladonna can be given if a calming effect is desired, or with turpentine if a somewhat stimulating action is preferred. Very hot, large poultices, sprinkled with laudanum, placed on the abdomen also succeed very well; or in the same way applications of large compresses dipped in a very hot decoction of poppy-heads, covered over with impermeable taffeta and with strips of flannel, and kept on the entire night. Indian hemp calms the intestinal spasms very well. A good elastic belt is necessary to hold and to lift up the abdomen in patients who have noticeable enteroptosis. The physician should be chary of using drugs against the dyspeptic phenomena that accompany colitis, since generally these troubles are lessened as the state of the intestine improves; but, according to the case, a little hydrochloric acid may be used, or alkalies, absorbent inert powders (charcoal, chalk, magnesia), and nux vomica.

ON THE REMOVAL OF THE GALL-BLADDER IN OPERATIONS FOR GALL-STONES.

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IN 1902 I read a paper entitled "A Series of Cases of Cholecystectomy" before the Yorkshire branch of the British Medical Association. I gave then the following indications for the performance of this operation: (1) in injuries of the gall bladder, rupture, stab, or bullet wounds; (2) in gangrene of the gall-bladder; (3) in phlegmonous cholecystitis; (4) in membranous cholecystitis; (5) in chronic cholecystitis with dense thickening of the walls of the gall-bladder and cystic duct, with or without stenosis of the cystic duct, and in chronic cholecystitis when the gall-bladder is shrivelled and puckered and universally adherent (in such cases it is no longer a receptacle for the bile); (6) in distension of the gall-bladder, hydrops or empyema, due to blockage of the cystic duct by calculus, stricture, growth, or external inflammatory deposits, or in cases of mucous fistula following operations for these conditions; (7) in cases of fistula between the gall-bladder or the cystic duct on the one hand and the stomach, duodenum, or colon on the other; (8) in multiple ulcerations of the gall-bladder or the cystic duct when gall stones have eroded their way through the walls into the liver, the duodenum, or other protective adherent masses; and (9) in primary carcinoma of the gall-bladder. The result of my early cases was so satisfactory that I was led to put the operation to a more extended proof and as my experience increases I am tempted to ask whether it would not be the better treatment in all, or in nearly all, gall-stone operations to remove the gall-bladder entirely. The experience of every surgeon who has worked extensively in this field of surgery is that the chief purpose and the main indication in any operation for gall-stones is the drainage of the gall-bladder and bile-ducts. Of the validity of this experience there can be no question. We know that gall stones are rendered troublesome by the cholecystitis or the cholangitis which they are the means of arousing. In many cases it is because of the inflammatory consequences that an operation is demanded. The essential part of any operation would therefore seem to be the drainage of the gall-bladder, prolonged for such a time as to allow a complete subsidence of the inflammatory process. But in the very great majority of cases the secondary inflammation has its origin and runs its course entirely within the gall-bladder; an infection of the hepatic or common ducts does not occur. In many cases, therefore, in removing the gall-bladder we are doing away with the necessity for drainage by removing that structure the drainage of which seemed imperative. It is within the gall-bladder that the great majority of stones are formed; it is within the gall-bladder that the secondary inflammatory troubles break out and are, in the majority of cases, altogether limited. The removal of the gall-bladder, therefore, does away with the need for drainage. It renders less likely the formation of gall-stones and it renders less likely the inflammatory consequences of their presence. If, however, the need for drainage is absolute it is possible, in fact quite easy, to drain the ducts after the gall-bladder has been removed. After the division of the cystic duct the stump of the duct may be slit up until the hepatic duct is reached or the cystic duct may be cut off flush with the common duct. It is then quite a simple matter to explore upwards and downwards with a spoon or with the finger to make certain that the ducts are clear of calculi and then to stitch in, by a single catgut suture, a rubber drainage-tube. The presence of stones in the common duct does not debar one from removing the gall-bladder. In two cases I have removed stones from the ampulla of Vater by duodeno-choledochotomy and have then at once removed a chronically inflamed gall-bladder full of stones and, after dividing the cystic duct close to the common duct, have drained the latter with a rubber tube. Both patients recovered without the slightest interruption. The plea therefore that the need for drainage is opposed to the routine removal of the gall-bladder is answered by the fact that when the gall-bladder is removed the need for drainage does not often exist, as that need was due to the presence of the gall-bladder, and by the fact that if drainage of the ducts is desirable or necessary it can be carried out without the smallest difficulty.

An examination into the recorded cases of carcinoma of the gall-bladder and of the adjacent portions of the liver shows that in approximately 95 per cent. (Siegert) the malignant change is due to the chronic irritation of gall-stones. If the gall-bladder is removed there will, of course, be no chance of this malignant growth occurring. This is not, however, a point of much importance, for the cases of carcinoma are those in which no operation has been done; by the time the surgeon sees the case the growth is already there. To make the argument for cholecystectomy a strong one from this point of view it would be necessary to show that malignant disease occurred after cholecystotomy, and so far as I know this has not been done.[1] In the very great majority of operations for gall-stones there is ample evidence of long-standing inflammation in and about the gall-bladder. The normal smoothness of the gall-bladder is gone, its deep blue colour is lost, and its supple walls have become thickened and tough. A glance at a gall-bladder during other abdominal operations will tell one in a moment whether stones are lying there. If the gall-bladder is blue it is healthy; if opaque and grey or yellow there are, or there certainly have been, stones and a chronic inflammation aroused by them. In many cases, therefore, it will be concluded that cholecystectomy is the more desirable operation, but before its routine adoption is advocated it is necessary to show that the gall-bladder is useless and that its removal does not add any risk as compared with cholecystotomy. In the abstract one might be inclined to think that the loss of a bile reservoir capable of emptying on demand would be a serious matter to the individual or at the least a disability. The perfection of the mechanism of digestion so graphically told by Pawlow would seem to require that bile should be ejected in spurts, as it were, into the duodenum during digestion. But there is clinical experience in abundance to show that when all the bile is discharged from the body through an external biliary fistula, without a drop entering the intestine, the individual suffers no sign of disability of any kind. There is abundant evidence also, furnished by my own cases and by many others, to show that the removal of the gall-bladder does not interfere with digestion, that the individual eats well, gains in weight, and to all appearance has the same duodenal digestion as an ordinary healthy individual. The gall-bladder, therefore, if not useless, can quite well be spared.

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[1] A case of [illegible] after cholecystotomy has been rece[illegible] R. Lawford Knaggs in THE LANCE[illegible] p [illegible]

The removal of the gall-bladder does certainly not involve a greater risk than the operation of cholecystotomy. I have, in fact, in several cases been convinced that the removal of the gall-bladder made the operation simpler and shorter than it would have been if a multitude of small stones had been removed. By carrying out the operation in the manner described below it will be found a safe, speedy, and simple procedure. During the last two years I have inclined more and more to the *performance of cholecystectomy, and after* some hesitation and some trepidation, which experience has removed, I am strongly disposed to advocate the frequent, though not the invariable, adoption of this operation in preference to cholecystotomy. Its advantages are that the operation removes the chief source of the disease, that it thereby prevents in great measure a recurrence either of stones or of the inflammation which betokens their presence, that growths in the gall-bladder or adhesions around it are *subsequently impossible, and finally, that the wound, if* drainage is not required, may be caused to heal throughout by first intention. The gall-bladder is devoid of any strikingly useful purpose and its removal does not add to the danger of the operation. If drainage of the ducts is necessary it can be carried out quite satisfactorily. The presence of a stone in the common duct does not prohibit the operation, but drainage of the duct, after removal of the stone in the duct or in the ampulla, is necessary. The one *disadvantage that* may justly be urged against cholecystectomy is this: that if a late operation should become necessary—for stones can, and do, form in the hepatic and common duct—such an operation would be more difficult and almost certainly more dangerous. The possibility of a further operation being necessary cannot be denied but the likelihood of it is negligible. The list of conditions demanding cholecystectomy given at the beginning of this paper may therefore be considerably increased and made to include all cases, or almost all cases, of gall-stone disease requiring surgical treatment.

The operation of complete cholecystectomy is performed in the following manner. A vertical incision near the outer margin of the right rectus muscle is made and the muscle fibres are split. The usual length of this incision is five inches. If additional room be required it is best obtained by continuing the upper end of the incision along the costal margin upwards and inwards. All adhesions of the gall-bladder and ducts and liver having been cleared, the liver is rotated by gentle traction upon the gall-bladder until the cystic and common ducts are straightened and brought upon a level with the wound. By this manœuvre the operation is rendered simpler and quicker. The gall-bladder may now be removed from before backwards or from behind forwards. Latterly I have preferred to divide the cystic duct and to secure the cystic artery before freeing the gall-bladder. By dragging upon the gall-bladder the cystic duct is made clearly discernible. Its peritoneal investment is divided and stripped up along the duct towards the hepatic and common ducts, so that a cuff of peritoneum is raised up from the cystic duct. The latter is divided after securing it with a catgut ligature and the cystic artery is also defined and secured. The peritoneal cuff is then turned over the divided end of the duct and sutured. If it is intended to drain the common duct no ligature on the cystic duct is necessary. The cystic duct is cut off at its junction with the hepatic and common ducts and into the opening that is left a rubber drainage-tube *is stitched.* The gall-*bladder is* then stripped up from behind forwards. The separation from the liver is readily effected by stripping up with the finger around which a thin strip of gauze is rolled. The peritoneum which passes from the liver to the gall bladder is cut with scissors about three quarters of an inch away from the liver, so that after removal of the gall-bladder the bared surface of the liver may be covered in by peritoneum. There is occasionally some bleeding from the denuded liver. This is readily checked by a suture or by the firm pressure of a hot swab or sponge. If the common duct is drained it is well to put in two other drains, one to the inner side of the duct towards the duodenum and one to the outer side towards the kidney pouch. These drains, whether of gauze or of rubber tubing, should be stitched in position by one or more sutures of catgut and they are left in for from eight to ten days. At the end of this time their removal is quite easy. It is necessary to stitch them in position in order to prevent them being moved away within a few hours on account of the constant movements of the liver during respiration.

Leeds.

NOTE ON THE CAUSES OF COUGH IN CHILDREN.

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THERE are many cases of ill-health occurring amongst children in which, although cough is a persistent symptom, the physician is unable to detect any abnormal physical signs in the chest and the usual expectorants are exhibited in vain. There is frequently vomiting in these cases and wasting and weakness may become so marked that life may be despaired of. The severer forms have been often called "consumption" or "decline," while the milder have received the names "bronchitis" or "bronchial catarrh," whereas, as I have indicated, neither the lungs nor the bronchi are at fault. Those cases where the cough is accompanied by spasm and a consequent "whoop" are put down at once as whooping-cough, may be treated as such for months, and *frequently serious chest trouble ensues. Their* non-infectious nature should be sufficient to guard against this error. In the large majority of these cases it is to the back of the throat, the tonsils, the fauces, and the pharynx that we must go for the *fons et origo* of the condition. A very slight degree of pharyngitis, of tonsillitis, or of adenoid growths in the naso pharynx may produce cough in a child the reflex activity of whose nervous system is high. I desire to point out the frequency of the occurrence of one or other of these conditions in children suffering from cough and to recommend that the throat at least should be examined in every case.

Adenoid cough has been recognised for some time although in the existing text-books on diseases of children it scarcely receives the place it deserves and in some it is not even mentioned. Of 621 consecutive cases of cough which I have treated during the past two years, most of which were supposed by the mothers to be whooping cough and were brought to the Royal Waterloo Hospital as such, no less than 371 of the patients were suffering from tonsillitis, pharyngitis, or chronic enlargement of the tonsils, or from post-nasal adenoid growths in a greater or less degree, and most of them lost their cough entirely when the throat was put in a satisfactory condition. This proportion is high and probably is not applicable to many places outside London, or even to the healthier parts of London, but amongst the children living in the poorer districts of this city inflammatory conditions of the pharynx, *tonsillitis,* and adenoids prevail to an enormous extent, and it is a serious question for the Commission appointed to inquire into the causes of the alleged physical degeneration of our race what part enlarged tonsils and the presence of adenoids contribute to that result. At the Infirmary for Children in Liverpool the proportion of these cases was not nearly so high, due, in my opinion, to the different atmospheric conditions prevailing. The heavy, foggy atmosphere of London, holding, as it does, much organic *matter and micro-organisms in* suspension, especially in low-lying and overcrowded districts, would appear not only to initiate but to keep up a chronic irritation of the mucous membrane of the throat and pharynx, aided by an insufficient amount of vigorous exercises and the consequent enfeeblement of the circulation and defective development of the breathing apparatus. The great desiderata from this point of view are more and larger open spaces where children may be allowed to play and realise *that they are really children* (and not, as it were, pocket editions of men and women), where they can flush out their air passages with an approach, at any rate, to pure air and thus counteract to some extent the pernicious effects of the atmosphere in which they must perforce live and work.

The medical treatment should be on the following lines. In cases where there are signs of any acute inflammation and where there are no obviously enlarged tonsils or adenoids present the back of the throat should be treated antiseptically, in the older children by gargling, in the younger by spraying; sometimes chlorate of potassium given internally has a good effect and also various antiseptic lozenges may be given. If anæmia be present iron should be prescribed. Sedatives are often necessary to counteract the extreme reflex irritability and the *habit of cough* that is sure to have been formed. The bronchi may be affected secondarily and then it may be necessary to administer one or other of the ordinary expectorants. If not much debilitated, instead of being kept quiet indoors, the child should be encouraged to take vigorous exercise in the form of games in the open air. For girls the use of the skipping rope is a valuable exercise. Where practicable change of air is to be recommended and, indeed, may be the only treatment required in mild cases. Where there are adenoid growths present or markedly enlarged tonsils they should be removed as soon as possible, followed by the treatment detailed above. Carious teeth should also be attended to, for the throat is frequently infected from them In some of these cases the cough departs immediately after the operation. A case is before me of a child who had a distressing cough for four months; the adenoids were excised on June 27th and by July 10th the mother merely came up to the hospital to report that the cough had entirely ceased and that her child was perfectly well.

Waterloo-road, S.E.

A CASE OF ATTEMPTED DIVISION OF THE EIGHTH NERVE WITHIN THE SKULL FOR THE RELIEF OF TINNITUS.[1]

BY CUTHBERT S WALLACE, M.B., B.S. LOND., F R C.S ENG.,
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AND
H. J. MARRIAGE, M B., B S. LOND., F.R C.S. ENG.,
LATE SURGICAL REGISTRAR, ST. THOMAS'S HOSPITAL.
(*With a Report on the Resulting Degeneration by* DR E. FARQUHAR BUZZARD, *Pathologist to the National Hospital, Queen square; Assistant Physician, Royal Free Hospital.*)

THE patient was a female, aged 23 years. In February, 1898, she developed left otitis media which was quickly followed by a mastoid abscess. The abscess after being opened soon healed but the discharge from the ear continued. In October of the same year the mastoid was opened and a more or less complete operation was performed. The result being unsatisfactory, in July, 1899, and again in March, 1900, the patient was admitted to St. Thomas's Hospital and more bone was removed; on the latter occasion the cavity was grafted. In spite of this the discharge continued, necessitating a further removal of bone and granulations in December, 1901 On this occasion also the unhealed surface was covered with Thiersch grafts. After this operation the discharge ceased and the whole cavity completely healed. For a year all went well but at the end of this period pain was experienced in the posterior part of the mastoid process. In addition to this the patient began to suffer from tinnitus and vertigo. On admission on August 18th, 1903, she was anæmic and complained of giddiness, noises in the ear, and a pain over the left mastoid and in the course of the small occipital and auriculo temporal nerves The external auditory meatus and the middle ear were represented by a large smooth cavity lined with healthy white skin. The bony labyrinthine wall was intact. One of us made the following note of the condition of the left ear. "When speaking in a loud tone directly into the left ear, after closure of the right, sounds are heard but no words can be distinguished. A loud-ticking watch is heard only when placed in contact with the remains of the left mastoid. On the right side the same watch is heard at a distance of 24 inches. A tuning fork placed on the forehead is heard on the right side only; when placed on the point of the chin the fork is heard slightly on the left side but quite distinctly on the right; the tuning fork is not heard at all when held immediately opposite the left meatus and only just heard when placed on the left mastoid. In the right ear the air conduction is considerably better than that of the bone, though slightly shorter than normal. The noises in the ear ceased on compression of the left common carotid artery." There were two tender spots behind the ear: one at the junction of the posterior border of the mastoid process with the skull and the other at the lowest part of the same border. The amount of tenderness varied considerably but could always be elicited on pressure. There was no œdema or sign of acute inflammation. The pain radiated in the distribution of the small occipital and auriculo temporal nerves but its severity varied greatly. The tinnitus was entirely confined to the left ear, sometimes being compared to the rushing of water, at others to the sound of bells; it was always present but was most noticeable at night, especially if the patient lay on the left side. Its severity had increased to such an extent that sleep was seldom obtained without the use of hypnotics and even with these it was broken and disturbed. The vertigo was of the type usually met with in Ménière's disease; when an attack occurred the ground seemed to rise towards the face of the patient. There was no inclination to fall to one side or the other, nor did objects appear to pass from left to right or *vice versâ*. The patient never dared to venture outside the house without a friend by her side.

The general condition of the girl was pitiable and it was evident that unless something was done she would soon be worn out by want of rest. She was quite convinced that the causes of her trouble were the noises in the ear and that compared with these all other symptoms sank into insignificance. Drugs were tried with absolutely no result and it seemed that the only recourse left was division of the auditory nerve, for we decided that, although the noises ceased on compression of the common carotid artery, it was not advisable to ligature that vessel since the results obtained by this operation were not satisfactory in the cases reported by Meyerson[2] and Grunert[3] (in the former case the noises returned after four hours and in the latter after four months), while in the case reported by Linsmayer,[4] who ligatured the external carotid artery, the noises ceased only for a short time, but hemianopsia and deafness of the same side with hemiplegia of the opposite side developed, and at the necropsy on the patient, who died on the fifth day from pneumonia, extensive recent softening of the hemisphere was found. With this end in view we undertook numerous experimental operations on the cadaver.

There are two routes through which the auditory nerve can be reached within the skull: (1) by exposing the cerebellum in the usual way, opening the dura mater, and slowly compressing the cerebellum inwards until the facial and auditory nerves come into view; and (2) by the operation for exploration of the posterior surface of the petrous portion of the temporal bone. This is an elaboration of the ordinary operation for the cure of mastoid caries. After consideration it was decided to adopt the second of these routes. We were influenced in our decision by the fact that a large amount of bone had already been removed and also by the fact that there were still pain and tenderness at the posterior border of the mastoid process pointing to some abnormal condition in these parts.

Description of the operation on the cadaver.—The complete operation for mastoid caries was first performed, the lateral sinus being exposed and the posterior meatal wall being removed down to the level of the facial canal. The dura mater over the temporo-sphenoidal lobe was next exposed and by working backwards and downwards from this point the dura mater over the cerebellum for a distance of three quarters of an inch behind the lateral sinus was laid bare This was found to be necessary in order to gain space for retraction of the cerebellum in the later stage of the operation The portion of the temporal bone forming the inner wall of the mastoid was next removed, starting from the groove for the lateral sinus and extending forwards and inwards as far as the horizontal semicircular canal and the remains of the posterior wall of the meatus.

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[1] A paper read at a meeting of the Clinical Society of London on March 25th, 1904.

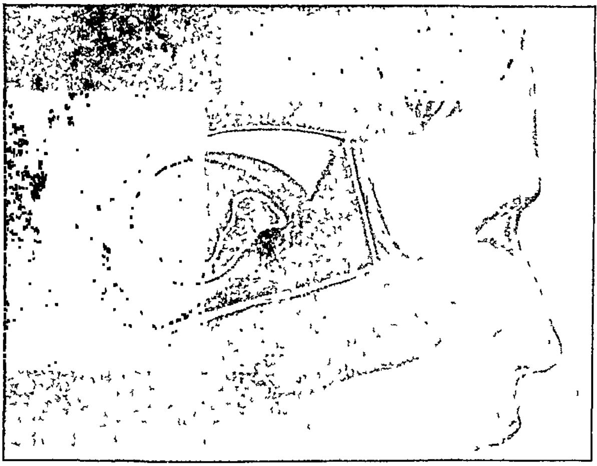
[2] Versuchungen der Deutschen Naturforscher und Aerzte, 1895.

[3] Archiv fur Ohrenheilkunde, Band xxxv.

[4] Politzer's Diseases of the Ear, fourth edition, p. 778.

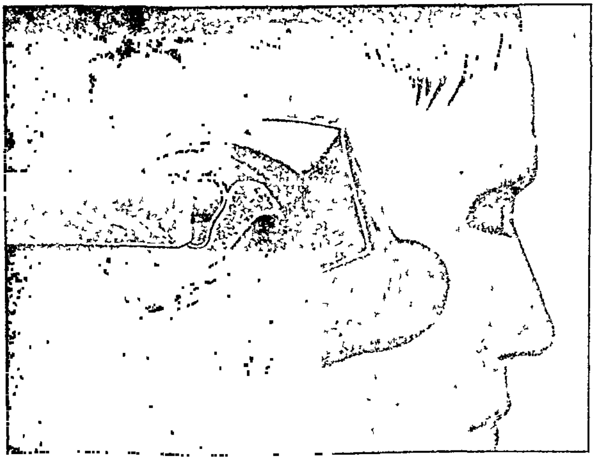
The extent of dura mater in front of the lateral sinus exposed by this means was found on an average to be three-eighths of an inch (Fig. 1). The anterior edge of the exposed part of the dura mater was then incised to the extent of about one inch. A flat retractor half an inch broad and bent on the flat to a convenient angle was introduced an [illegible] aid of a [illegible] obliquely [illegible] depth of this nerve from the cut edge of the petrous bone varied in different bodies from a half to three-quarters of an inch. Approached in this way, the facial nerve cannot usually be seen, as it lies deep—that is, internal to the auditory—but occasionally as the two nerves appear from behind the cerebellum the edge of the facial nerve can be seen just behind (above, speaking anatomically) the auditory. Pressure on the auditory nerve applied as near the brain as possible enables the facial to be brought into view; a blunt hook can then be easily passed round the eighth nerve without damage to the facial. The auditory nerve can then be divided either by traction or by the scissors. On the cadaver the operation is not difficult and

FIG. 1.



First stage of operation. The bony walls of the antrum and attic have been entirely removed. Anteriorly is seen the tympanum, T, and posteriorly the lateral sinus crossing the exposed dura mater.

FIG. 2.



Second stage of operation. The dura mater has been incised, a spatula introduced, the cerebellum pressed backwards and the auditory nerve exposed.

it only requires patience successfully to divide the auditory nerve and to leave the facial intact. We performed the operation many times and verified the result after the removal of the brain.

On Sept. 3rd the first operation was performed, it being then intended to complete the procedure at one sitting. The usual incision was made through the old scar and from the middle of this another incision was made backwards for about an inch, in order to provide for the exposure of the cerebellum. The steps above narrated were followed out except in so far as the process was shortened by the previous removal of bone. The lateral sinus gave considerable trouble; it was large, tensely distended, and protruded in such a way as to suggest that the normal flow through it was obstructed. In removing bone at the lower part of the wound and over the lateral sinus as it turned in towards the foramen lacerum posterius considerable bleeding occurred which necessitated plugging and the postponement of the operation until the bleeding ceased. The wound was therefore closed and the patient was put back to bed. The operation caused at first a considerable amount of shock but it passed off by the next morning; vomiting was also troublesome and the patient complained of pain in the region of the left ear and eye. The pulse was 100 and the temperature was 99·2° F. During the next few days her condition improved but she still suffered from headache. The noises in the ear caused her great distress.

On Sept. 10th, the pulse being 92 and the temperature 98°, the wound was reopened and the operation was proceeded with. The lateral sinus, although now filled with clot, was still very prominent. The anterior border of the exposed part of the dura mater was divided, the incision being somewhat curved with the convexity forwards. Its length was about one inch. A large amount of cerebro-spinal fluid at once flowed out. A flat bent retractor was then introduced and an attempt was made to expose the nerve; it was found, however, that sufficient room could not be gained owing to the resistance offered by the lateral sinus; this was therefore divided between ligatures. The cerebellum was next slowly pressed backwards, but a good view of the parts could not be obtained owing to the continual flow of cerebro-spinal fluid. In addition to this considerable trouble was given by bleeding which proceeded from the surface of the cerebellum. After much difficulty a view of the nerve was obtained. By means of a blunt hook the auditory nerve was pushed aside and the facial nerve was exposed. The hook was then turned through a right angle and passed behind the auditory nerve which by traction was torn across. At this moment bleeding again obscured the view but when this had ceased the divided end of the auditory nerve could be seen lying in the internal auditory meatus, while the facial, distinguishable by its small size, was seen to enter the meatus intact. As far as could be judged the operation had been successful. The wound was closed, a small gauze drain being inserted at the lower angle.

On Sept. 11th there was no facial paralysis, the tinnitus had greatly subsided but was still obvious to the patient, the temperature was normal, and the pulse was 80. The patient complained of considerable giddiness when she attempted to raise her head and also of headache. The dressings were continually soaked with cerebro-spinal fluid. On the 12th the flaps were found bulged by blood clot, some of which was let out. On the 14th the cerebro-spinal fluid was still being discharged in considerable quantities. The stitches were found to have given way and a considerable amount of blood clot to have been extruded. There was some hernia cerebelli. There was no attempt at healing in the wound. The temperature was 98·8° and the pulse was 84. Diplopia was present to a very slight degree. The headache still continued but was less severe. The patient had not rallied properly from the operation and although she complained of giddiness her state did not admit of any attempt being made to learn the exact nature of this beyond the fact that it did not trouble her if she kept quiet. There was occasional vomiting. On the 24th the general condition remained the same. The diplopia had cleared up. The flaps no longer bulged and the wound was quite clean but showed no signs of healing; the discharge of cerebro-spinal fluid continued. The headache was at times severe and required morphine. The patient no longer complained of tinnitus. The ocular fundi were normal. From this time until the day of her death her condition varied very little. She gradually lost strength and became more and more apathetic, so that no observations of value could be made. The wound never showed any reaction or made any progress in healing. The cerebro-spinal fluid continued to be discharged in large quantities. The pulse varied between 100 and 120 and the temperature between 99·4° and 97°, except on Sept. 28th when it rose to 101°. Death occurred on Oct. 1st, 21 days after the division of the nerve.

Necropsy.—At the post-mortem examination it was found that there was no meningitis at any point. The cerebrum was healthy throughout. The right cerebellar hemisphere was also normal in appearance and consistence. The left cerebellar hemisphere was somewhat soft but showed no loss of substance. The cortex was blood-stained and the vessels were full of blood. The cochlea and semicircular canals on the left side presented a perfectly normal appearance. The facial nerve was intact. The auditory nerve had been divided, with the exception of a strand as thick as a fine piece of cotton which lay next the facial nerve. The other organs were healthy except for old caseous foci at the apex of the left lung.

Report by Dr. FARQUHAR BUZZARD.—"The material submitted to me for examination included the lower half of the pons Varolii and the entire medulla oblongata; unfortunately the cerebellum had been removed from the former so that the ultimate destination of certain fibres of the vestibular nerve could not be ascertained. The whole piece was divided transversely into a number of thin blocks which were stained by the Busch modification of the Marchi method, imbedded in celloidin, and cut. The sections obtained were mounted serially and examined under the microscope with the following results briefly summarised.

About two-thirds of the fibres of the cochlear nerve constituting its entering root were degenerated, the non-degenerate fibres being distributed in its lateral and posterior part. The majority of the degenerate fibres terminated in the ventral cochlear nucleus; a very few could be traced as far as the dorsal cochlear nucleus and a considerable number turned sharply inwards and cerebrum-wards to the region of the superior olive and, *viâ* the corpus trapezoides, to the opposite side of the pons.

The whole of the entering root of the vestibular nerve was degenerated. The large majority of the fibres could be traced into the principal nucleus (nucleus nervi vestibuli medialis) or into the descending root where they could be followed in diminishing numbers as far down as a level corresponding to the middle of the hypoglossal nucleus. A smaller number of fibres broke up in the neighbourhood of Deiters's nucleus (nucleus nervi vestibuli lateralis) and a few turned directly into the corpus restiforme soon after their entry into the substance of the pons. In the absence of the lateral wall of the fourth ventricle it was impossible to say whether any fibres passed direct to Bechterew's nucleus (nucleus nervi vestibuli superioris) or into other parts of the cerebellum. In addition to the degeneration resulting from the section of the eighth nerve much recent degeneration was seen in the descending spinal root of the fifth nerve of the same side throughout its length in the pons and medulla, suggesting that the afferent portion of that nerve had been damaged in its extra-medullary course.

Finally, there was noticed a hæmorrhagic softening of the tissue immediately surrounding a small vessel which entered the pons on the medial side of the vestibular nerve and which pursued a course inwards, dorsum-wards and cerebrum-wards, without, however, penetrating as far as the corpus trapezoides. The degeneration resulting from this vascular lesion was confined principally to certain transverse fibres of the pons going to the middle cerebellar peduncle. I have seen similar vascular lesions as the result of the operation for the division of posterior roots and attribute them to accidental traction upon accompanying or neighbouring vessels."

This case shows the possibility of division of the auditory nerve within the skull without injury to the facial nerve. The chief difficulty to be feared is bleeding from the surface of the cerebellum which was encountered in this case and to which must be attributed the failure to divide completely the nerve. At the operation no remaining strand could be seen, owing, we think, to the strand adhering to the facial nerve and thus escaping recognition. The blunt hook must have penetrated the nerve in such a way as to leave this small portion behind and in attempting to sponge away the blood after the hook had been pulled out the small strand was in all probability pushed up against the facial nerve and remained in contact with it. The cause of death was not ascertained with any certainty. Probably the wretched condition of the patient before the operation was a contributing factor, as it left no reserve force properly to combat the shock of the operation and to produce a healing reaction in the wound and so to prevent the continual loss of the cerebro spinal fluid.

The case was a failure both clinically and scientifically. There was no doubt that the tinnitus was present, though diminished, for several days after the operation and it is doubtful if it really ever subsided. Taking into consideration the degeneration described by Dr. Buzzard the continuance of the tinnitus must be attributed to one of two causes: (1) that the noises are central in origin; or (2) that the causes of the tinnitus originate in the cochlea and the impulses by which they become apparent are conveyed to the brain by the cochlear nerve (the vestibular nerve was completely degenerated).

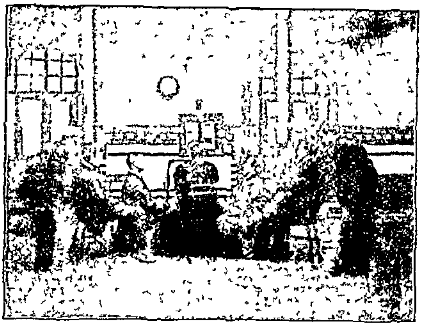
A NEW METHOD OF DEMONSTRATING THE LARYNGEAL IMAGE AND INTRALARYNGEAL OPERATIONS.

BY EUGENE S. YONGE, M.D. EDIN.,
HONORARY ASSISTANT PHYSICIAN TO THE MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT.

THE practical study of laryngology appears to have been entered upon—at any rate in this country—by a comparatively small number of the profession outside those actually engaged with the subject as a specialty. The acquisition of the art of laryngoscopy has not been looked upon by the student as necessary for his academic salvation and it has therefore had a tendency to be regarded in the light of a supererogatory work. This circumstance, together with the appreciable amount of time and practical experience required to gain dexterity in laryngeal and intralaryngeal work, and the relatively infrequent occurrence of such cases in general practice, may have been responsible to some extent for the limitation of interest. But there is also the fact that the clinical demonstration of laryngeal cases, whether in the class room or at general medical meetings, has very commonly proved unsatisfactory and cases have failed to arouse the interest they deserved on account of the defective nature of the means which were available for showing diseased conditions of the region in question. It has been, and is, of course, possible for a laryngoscopist to demonstrate the laryngeal image, as it were, "over his shoulder." There is practically room for the head of one observer to occupy the place of vantage and to obtain a *fairly satisfactory view. But apart* from such disadvantages as the Laocoon-like contortions often necessary on the part of the laryngoscopist and the more or less confused crowding, due to want of space, on the part of the observers, the method is slow, limited of [illegible] and the proper demonstration of [illegible] within the larynx is quite out of [illegible] fessor Meyer of Berlin has been instrumental in changing all this and he has introduced a method which will, I believe, put the subject of laryngoscopy on a new footing and will render some service to the teaching of laryngology. I have had the opportunity of making a number of experiments with an apparatus constructed (with some modifications) from the model kindly shown me at Berlin by Professor Meyer and the results of these observations have been as follows It was found possible to show an image of the larynx, practically identical in every respect with that seen by the person examining the larynx, to as many as six observers at one time, the latter being situated at convenient distances from the patient, from the examiner, and from each other (Fig. 1). Also, intralaryngeal operations could be as clearly seen by the observers as by the examiner. The images were conveyed to the observers' vision by means of reflections on two circular plane mirrors, placed one on either side of the illuminating apparatus (Figs. 2 and 3). An observer situated at a distance of six or eight feet from the mirrors obtained as good an impression of the laryngeal image as a person situated close to the reflecting surfaces.

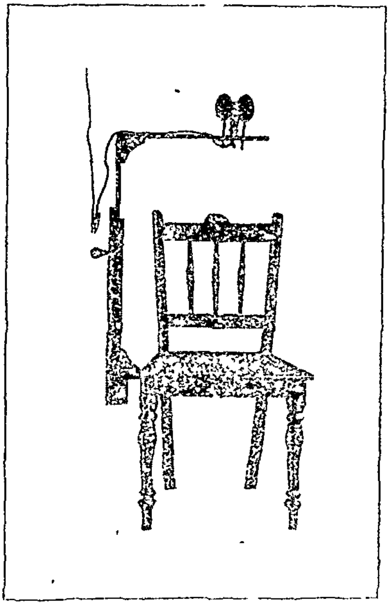
In the case of clinical meetings it has been found practicable to demonstrate laryngeal cases to about 130 observers in 20 minutes—two, three, *or more observers* examining at one time. In the experiments noted above most of the anatomical regions of the larynx could be demonstrated to the six (placed) observers by means of a laryngeal probe which was introduced, thus proving a method of teaching the topography of the larynx which had previously been possible only on specimens removed from the body. From a mechanical point of view the original apparatus

FIG. 1.



Six persons watching an intralaryngeal manipulation The mirrors into which they are looking, and also the patient, are *hidden, owing to the position of the examiner in the plate.*

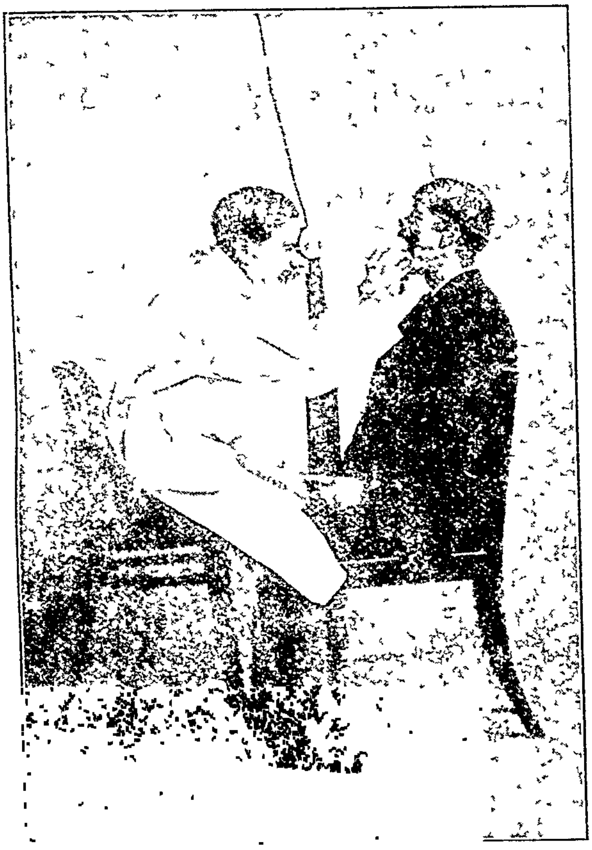
FIG 2.



Professor Meyer's original apparatus The chair is for the patient On the horizontal bar are the lamp with its electrical connexion and the two demonstrating mirrors placed at the best angle to catch the laryngeal image. The backs of the mirrors only are seen; the observers stand at the sides (*Vide Fig. 1.*)

(Fig. 2) can be briefly described as follows. There is, in the first place, a strong straight-backed wooden chair and on the right side of the seat is affixed a vertical arm. This arm is hollowed out to receive a smaller vertical arm and to this, in its turn, is attached at right angles a flat horizontal piece of wood. On that part of the horizontal piece which is nearly opposite the middle of the back of the chair (more correctly, facing the patient's mouth when he is seated in position) the laryngoscopic portion of the apparatus is placed (Fig. 2). The last-named part of the machine consists of a small electric lamp and two circular mirrors, each of the latter being three inches in diameter. Clear, unimpeded images of the larynx, or reproductions of any intralaryngeal operations which may be in progress, are reflected upon these mirrors. The examiner or operator looks through an opening in the sleeve of the electric lamp and thus gets a view of the larynx, as in the ordinary manner, except that he is only able to use one eye at a time. The inconvenience caused by this is almost negligible. The small modifications which I have thought useful are the construction of a detachable apparatus in which the essential laryngoscopic portion can be affixed to any laryngeal lamp-holder or upright, thus rendering the machine more portable and convenient and also considerably reducing its cost. Also, I am producing an apparatus by which four laryngeal cases can be shown (if necessary in rapid succession) to a number of observers simultaneously. The apparatus has been shown to the Laryngological Society of London and at other meetings and it is, I understand, being adopted at a number of teaching hospitals. Finally, the method is not proposed to supplant, for the student, the personal examination of the larynx but rather to stimulate his interest in the subject and to supplement his practical studies. The apparatus is made (in England) by Messrs. Armstrong and Brother, opticians, Deansgate, Manchester.

FIG 3.



Showing the method of examination. The light is thrown into the patient's mouth and the laryngeal image is projected from the laryngoscopic mirror on to two mirrors, one of which is seen close to the examiner's right eye. The faint impression of the larynx, which can be seen in the plate, is clear and well illuminated in the actual apparatus.

anchester.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A NOTE ON FIBRO-MYOMA OF THE BULBAR CONJUNCTIVA.

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FORMERLY PROFESSOR OF OPHTHALMOLOGY AND OPHTHALMIC
SURGEON, KASR EL-AÏNI HOSPITAL, CAIRO, EGYPT.

THE occurrence of a fibro-myoma in this position is unusual and receives only slight passing mention in ophthalmic writings. This instance is perhaps worthy of note as the situation of the tumour involved the possibility of dangerous extension which would not only have interfered with vision but might have completely destroyed the utility of the eye, besides the ulterior risk of serious consequences connected with the fact of its very rapid and active recurrence. The growth unfortunately occurred in a medical colleague and he, probably quite correctly, associates the incidence of the tumour with an accident which happened to him while engaged in his professional duties. When he was breaking a tube of vaccine at a patient's house on August 12th of last year, a small piece of the glass flew up, struck against his right eye, and remained lodged there; it gave rise to much pain at the time and was only removed with difficulty and after considerable effort on the part of those in the house. He gave the incident no further thought until a month later, in September, when he noticed a small point of redness at the site of the recent injury in his right eye, on the sclera close to the inner edge of the cornea. This slowly increased in size and at the same time became thickened, but was not associated with pain, discomfort, or any other inflammatory symptom. There was never any question about the possibility of this being a modified form of vaccine pustule, as the lapse of time did not correspond, nor did it bear the least resemblance to such an inflammation.

The patient at once sought medical advice and used the various applications prescribed, but without producing any alleviation. The local condition soon became much aggravated, the growth increasing both in area and thickness very rapidly, so that on Oct. 12th, two months after receiving the injury, he obtained the able services of one of his friends, a surgeon, to remove the growth; this was skilfully performed with scissors and the small tumour was removed from the surface of the eyeball as completely as possible. When I had occasion to see the eye some days after this operation the wound had healed and there was only a slight redness present, limited to a portion of the sclera on the inner aspect of the globe opposite the palpebral fissure; there was no trace apparent of any extraneous morbid tissue remaining on the eye. The patient felt no local sense of irritation, there was no lacrymation, and only some tenderness of the eye on exposure to wind or to a draught of cold air.

On Nov. 28th, 47 days after the previous operation, I was consulted on account of the sudden reappearance of the growth and found that on the same site—viz., over the inner aspect of the sclera, close to the margin of the cornea and opposite the palpebral fissure, there was a very considerable accumulation of new solid tissue, upon, and closely connected with, the subjacent scleral layer; this surrounded, but avoided covering, the area occupied by the former tumour, thus giving the appearance of there being a wide depression in its centre. The growth measured four millimetres horizontally, three millimetres in vertical diameter, and was approximately one millimetre in thickness; it was of a brownish red colour and was semi-transparent; its surface was polished and its margin was distinct and clearly defined; there was entire absence of any sign of inflammation accompanying it. Each day it showed markedly rapid increase both in size and thickness, so that on Nov. 30th I was compelled to remove it entirely.

My first incision was made in the normal conjunctiva surrounding the tumour and then by very careful and complete dissection I excised from this marked-out area all the tissue lying superficially to the sclera. The surface thus exposed on the globe of the eye was a comparatively large one, but it healed gradually and satisfactorily and became completely covered with new epithelium without the formation of any cicatricial contraction. On Dec. 16th, 16 days later, the eye was quiet and the bandage and dressings were left off. Three days afterwards, when I was examining the eyes minutely by oblique illumination, I for the first time saw on the margin of the upper eyelid of the right eye (the eye which had been affected) a delicate fine eyelash which was inverted and rubbed against the surface of the globe, almost exactly at the point formerly occupied by the tumour. The eyelash was epilated and has not made any further appearance. Whether this had existed previously and taken part in the causation of the tumour or in its recurrence are questions which must remain undecided. The offending eyelash was an exceedingly fine one and could only be seen when examined through a lens of high magnifying power.

A careful histological examination of the recurrent growth was made after its removal and the following report was obtained: "After fixation in alcohol sections were made, placed in carbolic thionin, and stained. Result of examination.—Fibro-myoma. The cells are elongated, with rod-shaped rectangular nuclei, filling all the stroma which is fine, ribbon-like, and very crowded. At the periphery there are some vessels containing blood and some groups of microbes (probably ulceration)."

I understand that a similar result was yielded by microscopical examination of the tumour which was originally removed. Since the removal of the bandage and dressings over the eye no application or local medication has been employed, and the eye presents no indication, except on most minute and careful observation, of its recent condition and there is every reason to believe that permanent relief has now been obtained.

Manchester-square, W.

NOTE ON A CASE OF SO-CALLED "SPONTANEOUS FRACTURE" OF THE FEMUR FROM SECONDARY MALIGNANT DISEASE WITH SUBSEQUENT FIRM BONY UNION.

BY T. MORRELL THOMAS, M.D., M.S. LOND., F.R.C.S. ENG.,
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AND
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WE record the following case on account of its extreme rarity. According to Mr. S. Boyd, in his article on fractures in Treves's "System of Surgery," there are only some four or five on record. The patient, a married woman, aged 47 years, had her left breast removed for scirrhus 14 months prior to the date of fracture. The scirrhus was one of rapid growth, was fairly advanced, fixed to the pectoralis major, and there was palpable gland implication. She had had increasing weakness of both legs (? due to advancing cachexia) for six months prior to fracture and for the same length of time had "rheumatic" pains in both thighs. As these pains were more definitely localised over the future site of fracture it seems possible that they were due to implication of nerve fibrils in the growth. On Dec. 6th, 1902, while the patient was in the act of stooping to pick something up off the floor the left thigh suddenly snapped. She was admitted to the Newport and Monmouthshire Hospital two days after the accident and remained there till she died. On admission she was found to have sustained a fracture of the left femur at the junction of the upper and middle thirds. The limb was put up on a McIntyre splint. Thinking an ununited fracture was inevitable no extension was applied to the limb; we thought it would give her needless pain, so the limb was merely allowed to rest on the splint, being frequently taken down to guard against splint sores. Not much attention was paid to the condition at the site of fracture for the reason mentioned above. On Jan. 26th, 1903, however, seven weeks after the accident, an examination of the part showed that union had taken place. There was at this time a recurrence at the site of the removal of the breast as well as a mass in the liver. The patient got steadily weaker and died from secondary malignant disease on Feb. 15th.

Necropsy.—The site of fracture was cut down on and the upper half or so of the femur was removed *en bloc*. Such firm union of the fragments was found that they could not be torn apart even on the exertion of considerable manual force. A mass of cancerous growth was found wrapping the upper third of the femur loosely round and eroding it at the site of fracture—i.e., the upper end of the lower fragment and lower end of the upper—but the rest of the femur was uneroded. The conjoined mass of callus and malignant tissue cut like a scirrhus but with a gritty sensation at parts. It apparently extended from a chain of malignant glands which passed down from behind Poupart's ligament and seemed to have acquired an attachment to the periosteum. There was distinct overlapping of the fragments and to this union seems to have been due, for by this means unimplicated portions of periosteum were brought into apposition, not the diseased extremities of the fragments. A paring was taken from the mass in the neighbourhood of the end of one of the fragments and sent to the Clinical Research Association for microscopical examination. The report was as follows: "The tissues consist of periosteum and young bone with some adjacent fat and cellular tissue. They are all thickly infiltrated with narrow lines of scirrhus carcinoma."—Occurring as this case did subsequently to removal of a rapidly growing scirrhus, the result being firm union of the fragments and the condition of overlapping suggesting a possible explanation of departure from the sequence of events which is usual in such cases, we have thought it right that the case should be published.

NOTE ON A CASE OF TRANSPOSITION OF THE VISCERA.

BY EDWARD LIDDON, M.D. EDIN.,
CONSULTING PHYSICIAN TO THE TAUNTON AND SOMERSET HOSPITAL.

THE interesting case reported by Dr. William Hartland in THE LANCET of April 9th, p. 1017, reminds me of a very similar instance that came under my notice some years since when holding the appointment of honorary physician to the Taunton and Somerset Hospital.

A young man, aged 19 years, was admitted with pneumonia of the left base, and on examination it was discovered that all the viscera were transposed, the heart and spleen to the right, whilst the liver lay beneath the left ribs. He was a source of much interest to myself and to all my colleagues whilst he remained in the hospital. He made a good recovery from his illness and went into service near Brighton and for some years continued in good health. He had never been robust and always carried a "high colour," but until his attack of pneumonia he had suffered from no serious illness. His father died from some form of heart trouble; his brother, who had been a groom in my stable, was healthy and possessed no malformation. It was from him that I heard of my hospital patient's well-doing for some years after he left this neighbourhood.

Taunton.

CENTENARY OF THE RUSSIAN MEDICAL COUNCIL.—On April 22nd the Russian Medical Council completed its 100th year dating from its first session. It was founded on Dec. 31st, 1803, by order of the Minister of the Interior, Count Kotchubye, and was formally opened on April 9th, 1804. At the first gathering of the Council the Sovereign order for its constitution was read and a committee of five members was chosen to draw up the rules, duties, and prerogatives of the Council. It is proposed to celebrate its first centenary in a special manner on April 9th, 1905.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM.—The committee of management announces that the annual meeting will be held at the New Hospital, 4, Maida vale (near the end of St. John's Wood-road), at 4.30 P.M., on Thursday, May 5th, at which hour Mr. Charles Drummond, the treasurer, will take the chair. The annual report and financial statement for the year 1903 will be presented. After the meeting the New Hospital, now in full work, will be open for the inspection of those who attend this meeting.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Procemium.

CENTRAL LONDON OPHTHALMIC HOSPITAL.

OPTIC NEURITIS, OCULAR PARALYSIS, AND ABSENCE OF THE KNEE JERKS IN A CASE OF CHLOROSIS.

(Under the care of Mr. ERNEST CLARKE and Dr. C. O. HAWTHORNE.)

THE essential facts of the case here recorded can be stated in a few words. The patient, an unmarried woman, aged 22 years, was first seen by Mr. Clarke and Dr. Hawthorne at the Central London Ophthalmic Hospital on Oct. 27th, 1903. Her appearance and recent history were such as are common in cases of chlorosis and she was undoubtedly the subject of that disease in a moderately severe degree. In addition, however, to breathlessness and other familiar symptoms she complained of double vision and some failure of sight. These were of recent development (seven days) and their appearance had been preceded by severe headaches extending over a period of from three to four weeks. For the diplopia there was a very manifest cause in the shape of a paralysis of the left external rectus muscle. Similarly the defective vision (right $\frac{6}{18}$ left $\frac{6}{12}$) was associated with appreciable changes in each fundus oculi. These included considerable swelling (right + 4 D., left + 5 D.) of the optic discs with a few attendant hæmorrhages, a distended and tortuous condition of the veins and some evidences of retinitis, the last mentioned being specially marked in the right fundus. For the rest physical examination was entirely negative save in one respect—namely, complete absence of the knee-jerks. The personal history included an attack of scarlet fever four years ago but no other serious illness; the menses did not appear until the patient was 19 years old and had only been repeated in the form of a scanty discharge on three or four occasions. There was no reason whatever to suspect the presence of syphilis. The completion of the clinical record may be summarised in the statement that under rest in bed and full doses of iron the patient made a satisfactory recovery, though even as late as Feb. 17th, 1904, when she left the hospital, the right macular region showed some evidences of retinal disturbance and the vision with this eye was only $\frac{6}{12}$; the left fundus was normal to the ophthalmoscope and the vision $\frac{6}{5}$, there being in each eye less than 0·5 dioptre of hypermetropia. The first evidence of the success of the treatment was the relief of the headache. This ceased to be a source of complaint about seven days after admission. Some three weeks later the left external rectus muscle appeared entirely to have regained its power. The subsidence of the swelling of the optic discs was a very gradual process and was not complete until the end of January. Even then the knee-jerks remained absent and it was only in the first week of February, when the general condition of the patient had reached a high level, that their restoration was noted.

Remarks by MR. CLARKE *and* DR. HAWTHORNE.—The problem the foregoing clinical facts offer for solution is this: What is the probable relationship between the state of chlorosis on the one hand and a neuro-retinitis, an ocular paralysis, and a loss of the knee-jerks on the other? Regarding the absence of the knee-jerks it may be well to state that every care was taken to make the observation an exact and accurate one. The tests were applied with all the recognised precautions, they were repeated on many occasions during a period of three months, and the result was several times confirmed by independent observers. Whatever be the explanation the fact must be accepted as entirely beyond question.

Now of the three conditions named above, one of them, optic neuritis or neuro-retinitis, has for some time been admitted as a complication in a certain small proportion of the patients who come under observation as the subjects of chlorosis. The fact has attracted the attention of several observers but no one has succeeded in advancing an explanation generally accepted as adequate. In 1902 one of the present writers[1] recorded a case in which chlorosis was associated not only with double optic neuritis but also with an ocular paralysis (right external rectus), and some few other examples of a similar combination have been reported. These facts, with other considerations duly set forth at the time, suggested, it was urged, that a probable explanation of the optic neuritis occasionally occurring in chlorosis may be found in a thrombosis of the intracranial veins or sinuses.

The argument, so far as the individual case was concerned, was presented on the following lines: the simultaneous occurrence of the optic neuritis and the sixth nerve paralysis suggests a common causation; the nature of the two events makes it difficult to imagine any single cause capable of producing them other than an intracranial lesion; an intracranial thrombosis may certainly produce them; intracranial thrombosis is a recognised possibility in chlorosis; the patient is the subject of chlorosis; therefore it may be concluded with a considerable measure of confidence that an intracranial thrombosis is the cause both of the optic neuritis and the sixth nerve paralysis. And this position, it was suggested, supported the view that when optic neuritis occurs as the sole unusual event in a case of chlorosis intracranial thrombosis may be accepted as the probable cause. The case now recorded may be held to strengthen this theory so far at least as it is a further illustration of the possibility that some event or events included among the occasional developments of chlorosis may produce both a double optic neuritis and an ocular paralysis. But the facts of the case go beyond this. They include a prolonged absence followed by a complete restoration of the knee-jerks. Hence it becomes necessary to consider whether the further fact suggests or compels any modification of the view that intracranial thrombosis is the cause of the optic neuritis seen at times in chlorotic women. Of course, there is no actual proof that the three events—optic neuritis, sixth nerve paralysis, and absence of the knee-jerks—are results of one and the same cause. But they offer themselves as phenomena occurring at or about the same date, each is a quite unusual event in the course of chlorosis, and all of them signify some disturbance in the nervous apparatus. Hence, unless good reason to the contrary can be shown it seems necessary to regard them, at least in all probability, as events of an identical order and dependent upon a common cause. Now it may at once be allowed that it is very difficult to believe that an intracranial thrombosis producing no more serious objective disturbance than optic neuritis and a sixth nerve paralysis can be held responsible for absence of the knee-jerks. Tumours of certain parts of the brain and also basal meningitis may, it is true, be quoted as intracranial lesions which have been known to cause such a result, but it would need some courage to advance a limited intracranial thrombosis as equal to this effect. It must, therefore, be admitted that absence of the knee-jerks in a case of chlorosis attended with double optic neuritis and an ocular paralysis does not add force to the suggestion that the neuritis and the paralysis are due to an intracranial thrombosis. If all the three conditions are to be referred to a common cause little can be said in support of the hypothesis that intracranial thrombosis is that cause.

Another reading of the development of optic neuritis in chlorosis is that it is a consequence of the abnormal state of the blood and the question may therefore be asked whether the facts of the present case can be better brought into harmony with this theory rather than with the doctrine of intracranial thrombosis. It is certain that an ocular paralysis and absence of the knee-jerks observed in conditions known to produce degenerative nerve changes as the result of an altered quality of the blood—say, for example, diabetes or diphtheria—would be regarded without hesitation as consequences of a common cause—namely, peripheral neuritis. Equally there can be no difficulty in admitting that neuro-retinitis may be produced by a changed character of the blood supply. Examples of this are familiar in chronic interstitial nephritis, secondary syphilis, and other diseases. Again, such experiences as the association of optic neuritis with herpes and with lead paralysis show that one and the same poison may attack both the optic nerve and other peripheral nerves of less specialised function.

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[1] Hawthorne: Brit. Med. Jour., Feb. 8th, 1902.

The occasional development of an ocular paralysis with herpes of the face and the occurrence of retinitis, ocular paralysis, and loss of the knee-jerks in diabetes may be used as further illustrations of the possible manifestation of changes in the peripheral nervous apparatus capable of being produced by an altered quality of the blood. Such facts may all be utilised to strengthen the argument that in the present case the neuro-retinitis, the ocular paralysis, and the loss of the knee-jerks are all expressions of effects produced on peripheral nerve structures by the abnormal blood quality which exists in chlorosis. And the joint association of these three events in one and the same case may reasonably be urged in support of the view that it is in an abnormal state of the blood and not in intracranial thrombosis than an explanation of the optic neuritis of chlorosis is to be found.

In brief, it may be recognised that the facts of the case now under discussion, at least at first sight, adapt themselves to the theory just stated more readily than to the hypothesis of intracranial thrombosis. Is it therefore necessary to abandon the latter event as the probable cause of optic neuritis in chlorosis? Before doing so it may be well to consider what may be said in arrest of judgment. And at the outset it is proper to remark that the facts now presented are illustrated only by a single case. Neither loss of the knee-jerks nor any other symptom that may be regarded as a manifestation of peripheral neuritis is included among the phenomena of chlorosis, unless it be that various neuralgic pains may be so interpreted. Now, considering how sensitive is the nervous arc upon the integrity of which the knee-jerk depends to the action of various poisons which have a prejudicial influence on the peripheral nervous apparatus, it is indeed remarkable, if chlorosis is capable of exercising such an influence, that evidences of peripheral nerve changes are not, at least occasionally, noted among the facts of that disease and this more especially when it is remembered that examples of the disease are constant and universal. Upon such a view it would have been expected that peripheral nerve disturbances would have been common and that loss of the knee-jerks would have been a frequent index of their existence. On the other hand, absence of the knee-jerks, though probably always pathological, is occasionally noted in circumstances which fail to supply any explanation of the condition. Caution is therefore necessary before adopting the assumption that such absence in the present instance is necessarily the expression of peripheral nerve changes due to an abnormal quality of the blood. The suggestion of a satisfactory alternative is not easy, but the long array of negative observations is in the circumstances a warning against a too ready acceptance of a somewhat inviting conclusion.

Again, it must be remembered that there exists a considerable body of direct evidence that optic neuritis with [illegible] curring in chlorotic [illegible] intracranial throm- [illegible] st-mortem examinations and in part by cases in which together with optic neuritis there was thrombus formation in the veins of the lower limbs or elsewhere. Detailed reference to these will be found in the paper already quoted and with these other arguments directed towards the same end. It would appear doubtful policy to abandon the significance of all this under the temptation offered by one fact in the history of a single case, and that fact perhaps not quite capable of an unambiguous interpretation.

Further it may be fairly remarked that the ophthalmoscopic aspects of the case offer a strong suggestion of the existence of some gross intracranial lesion. Such a considerable swelling of the optic disc as will justify the application of the term "choked disc" is not a condition commonly seen among the fundus changes produced by an altered quality of the blood. On the other hand this fact is a familiar note of the presence of an intracranial tumour and with it there may exist, from the same cause, evidences of widespread retinal disturbance. The point, it is true, is one of degree and not of kind, for blood changes and intracranial lesions alike must each be admitted as events competent to produce both swelling of the optic discs and generalised retinitis. Yet it is not without significance to observe that the ophthalmoscopic picture displayed in this case of chlorosis—and the statement is equally true of other similar cases—was one that conveyed to the mind a conviction of the presence of an intracranial lesion rather than an impression of inflammatory changes produced by an abnormal condition of the blood-supply. At the same time it is necessary to admit that the case has amongst its phenomena at least one which inclines the balance rather against than for the theory of intracranial thrombosis.

It may, of course, be said that on any view one case carries but little weight. But it is essential to deal with all the facts in an endeavour to frame a comprehensive theory. And facts of the order here presented would appear to be of such rare occurrence that no one observer has the opportunity to accumulate from his own experience a collection adequate to sustain an authoritative pronouncement. It is only by contributions from numerous sources that a body of material sufficient for this purpose can be secured. Hence the necessity for all observers to record their individual experiences. It is in recognition of this claim that we report the present case. Of all the problems associated with optic neuritis its occurrence in chlorosis is surely one of the most interesting, and as post-mortem evidences in such cases can rarely be available it is the more desirable to multiply so far as possible the number of exact clinical observations.

ROYAL DEVON AND EXETER HOSPITAL.

A CASE OF INTRACRANIAL HÆMATOMA.

(*Under the care of Mr. J. DELPRATT HARRIS.*)

FOR the notes of the case we are indebted to Dr. W. Gordon and Mr. Harris.

On August 17th, 1903, a labouring man, aged 62 years, was taken to the Royal Devon and Exeter Hospital with the following history. On June 21st he was knocked down and rendered insensible in a stone quarry by a stone falling on the top of his head. He was stunned for a short time and was able to walk home. For the first fortnight he only complained of bruises in different parts of his back and loss of sleep. This latter was the only nerve symptom which so far had manifested itself. He then began to complain of sciatic pains on the right side with partial loss of power in the right leg with exaggeration of the knee-jerk. At the end of two weeks this pain passed away and the power of the limb so far recovered that he was able to walk out. Loss of power on the left side now gradually set in until he arrived at his condition on admission. There had never been any signs of paralysis of the left side prior to this. There were no scalp wounds or other wounds, only bruises. There were no mental symptoms until a month after the accident, about the same time that the paralysis began to appear on the left side. The stone was said to be about seven pounds in weight, probably flat, falling from no great height. He himself fell but only his own height on loose quarry rubble. During the fortnight he was in complete possession of his faculties he repeatedly complained of pain and bruises all over his body, principally on the back of his neck but also in the lumbar region, the left arm, and the wrist. Shortly after the accident his eyelids showed much ecchymosis but neither his nose nor ears bled at all. On admission his condition was as follows. He was more or less imbecile, nervous and suspicious, and could give no proper account of himself; he was talkative and restless. No signs of injury were seen in the scalp or the face. There were no tender points. The pupils were unequal, dilated, and moved slowly to light reflex. The tongue was evenly protruded. The thorax, the lungs, and the heart were all normal. The abdomen was somewhat distended and all the abdominal reflexes were present. The left arm was wasted, with contracture to an angle of about 70°, it could be nearly straightened but with much pain. The bicipital reflex was marked. The elbow and the wrist reflex were present. The fingers were strongly contracted into the palm of the hand. Both legs were somewhat wasted, the right especially, the skin on this side being atrophied and the heel somewhat red. Both limbs were very rigid, the left the more so. The left was in a condition of spastic rigidity with adduction and the knee jerk on this side was excessive. Ankle clonus was not present. There was incontinence of urine. The pulse was slow and regular; the temperature fluctuated between 97° and 98° F. Great pains were taken to collect reliable information as to the accident and its immediate result. The case was carefully watched also, the immediate point of interest being whether any gross lesion existed in the spinal canal or whether intracranial mischief alone could account for all the symptoms. Efforts were made to observe the optic discs, but owing to the ceaseless restlessness and talkativeness fleeting glimpses were all that could be obtained. The apparent outer margin of the left disc seemed blurred but the disc otherwise was normal, whilst the right disc did not betray any marked abnormality.

On Sept. 5th the patient was trephined over the right motor area. The scalp bled more freely than usual; the bone was unusually soft. The dura mater was found to be yellow and opaque. Its pulsation was diminished. On incising it the arachnoid bulged up, appearing dark and somewhat greenish. On incising this deep claret-coloured clot protruded, evidently under pressure, and on prolonging the arachnoid incision a quantity of altered blood clot and serum poured out per saltum. Certainly not less than four ounces must have thus come away, probably more. A drainage tube was inserted and the wound was closed, the tube passing through the flap. The cavity of the hæmatoma as gauged with a probe was not smaller than an average hen's egg; it was of irregular shape, with its long axis antero-posterior. This, which was more or less centrally over the Rolandic fissure, therefore involved all the upper motor centres and considerably trenched on the anterior frontal lobes. Prolongation of the cyst extended immediately downwards towards the base.

The immediate result of the operation was most definite, for the left arm and left leg became quite flaccid on the following day, the 6th. The pupils were dilated but contractile to a lighted match. There was no improvement in intellect. On the 7th the patient could move the fingers of the left hand slightly and raise the left leg from the bed. He asked for the urinal on this day. On the 11th it was noted that rigidity of the arm and leg had returned. The pupils reacted still but he passed urine in bed again. On the 12th, finding his improvement stationary and some of the symptoms less satisfactory, it was decided to reopen the wound and to see whether any fresh hæmorrhage had occurred, and failing that to scoop out the layers of fibrin which might be the cause of the continued compression, if such could be done without setting up fresh hæmorrhage. The wound being reopened and the clots around the opening in the dura mater removed, the bone was extensively "nibbled" away, exposing a surface of dura mater not less than two inches by two inches. The dura mater was then quite freely opened and the arachnoid also, the clots were turned out, mostly by the finger, aided by a tepid douche of sterilised water. The clots turned out were about from one and a half to two ounces in bulk. The brain was collapsed, opaque, whitish grey in colour, and it was noticed that it did not expand or pulsate; an exploring trocar was therefore introduced about half an inch to search the brain for abscess or hæmatoma, but none was found. The dura mater was carefully stitched. Iodoform gauze was lightly introduced to arrest any capillary hæmorrhage in the walls of the cyst and the wound was closed.

On Sept. 17th, the fifth day after the second operation, the notes state that up to that day the spastic condition of the left arm and leg had been lessening and the over-sensitive reflexes were almost abolished. The patient was very talkative (nonsense) and passed urine and fæces in bed. The iodoform drain was shortened on alternate days and was draining well. He had taken his food well—fluids and milk pudding. Choroiditis was clearly seen in the right fundus; the left disc was reddish and blurred on the apparent outer side, but was pale and grey on the inner. On the evening of the 16th he had an epileptiform attack lasting three minutes affecting the right side of the face markedly, clonic spasm in both arms and both legs, the body being turned towards the left. Coma came on and recovery soon followed. Up to this date his mental condition was very unsatisfactory, violent delirium requiring restraint, with great talkativeness, often of a quaint sort with delusions, being the rule. About five hours after this "fit" his mental condition improved and he asked for the bedpan and also the urinal. After this he moved his left leg and arm voluntarily and by the 19th it was noted that whereas he could be restrained by having the right side only tied down it now became necessary to tie down both arms as he was so very restless On the 24th the paralysis was completely gone. His mental condition had improved on the whole but he was still subject to fits of excitement requiring restraint. They were getting less, however, and a short conversation was now maintained correctly, but if prolonged his attention wandered and he talked nonsense. The pupils now reacted to light and his knee-jerks were normal. The wound was looked at and found to be healed with the exception of two small surface wounds. On Oct. 13th he was wonderfully better; the mind was much clearer; once or twice a day he talked nonsense for a few minutes. There was no defect of speech and he could see and hear well. He walked well with no limp or staggering. The effect of each operation on the temperature was marked. Prior to the operation it seldom touched normal as related before; after the first operation it touched normal daily although it might be 97° a portion of the day. On the day following the second operation it touched 101°, coming down to normal on the fourth day, going below normal on the fifth, and gradually ascending to normal during the third and fourth week where it remained, but having a tendency to subnormal temperature of a morning. On the 25th his mental condition was quite sound and he left the hospital on Nov. 19th absolutely well, though a little pulled down by all he had gone through.

In THE LANCET of August 29th, 1903, p. 597, there was reported an interesting and unusual case of intracranial hæmatoma. The above case occurred in my hospital practice at the time of the publication of the case alluded to. It would, I think, be instructive to compare the two cases. There are several points of interest in the case, both medical and surgical, and first the amount of credence to be placed on the history. In the end it became evident that the patient's history of the accident was, in the main, correct. The extreme slowness with which the symptoms came on is another feature and clearly marks the difference between compression of the brain from middle meningeal hæmorrhage and subarachnoid. Doubtless the excessive slowness with which the blood was poured out from the smaller vessel was the cause; yet that a fortnight should elapse before any serious symptoms occurred is certainly surprising. That the earliest symptoms should have been pain in the right leg was misleading and led some of us to suspect a second lesion in the cord and that possibly the bladder trouble was referable to it also. If this were the case it must have been hæmorrhagic in character for the patient repeatedly denied that he felt any difference in the two legs on his recovery. The extreme pain which he had in the back of his neck received careful consideration, but it was probably due to osteitis set up by the violent blow. That the arm was in a condition of contracture as well as the leg was an important guide and helped to place the lesion high up in the cerebrospinal system. There was no history of facial paralysis and so the higher portion of the pons was excluded from any share of compression. It was felt that too much importance must not be laid on the mental symptoms as aids to localisation as communicated pressure may cause such symptoms. Nevertheless, taken in conjunction with his motor symptoms, it was felt that should the motor area be the seat of a clot or hæmatoma any extension forwards would be likely to embarrass the functions of the frontal lobe. These considerations and the fact that his then condition was pitiable in the extreme led one to trephine first with a view to examine the cord later by laminectomy if sufficient was not found by trephining the skull. That the first operation was not followed by permanent improvement was clearly due to the collapsed brain not having the power to expand and to press the cyst wall flat, for the latter was thick and hard from partially laminated clot. Nevertheless, the operation being done in two sittings much diminished the risk of fresh hæmorrhage refilling the cyst. A point of some further interest occurs in the rapidity with which the muscles of the arm and leg regained their normal tone and contracture ceased—less than 24 hours—as compared with the couple of months required for the mental symptoms finally to disappear. The beneficial effect of the epileptic attack must, I think, be referred to the expanding brain on regaining its normal blood supply becoming "charged" for a nerve explosion and its regaining its normal blood-supply was the cause of the improvement rather than the fit. The notes stating that during the fit his body was rotated somewhat towards the left and the right side of the face was convulsed are important as showing that the muscles on the right side were stronger than those on the left, the brain being irritated by a central lesion which had injured the motor centres on the right side. It is interesting to observe that the epilepsy was not so complete on the right side of the brain. No torn portion of brain could be found and from which artery the hæmorrhage came it is not possible to say. As an instance of the quaint humour of the patient's rambling talk I may relate that when he kept trying to get out of bed, being asked why, he said, "I got a job on Thursday. I must go to a funeral at 12 o'clock." Being told he had better remain, he said, "Well, but I must be there, they can't do it without me Tell'ee the truth, 'tis my own funeral and that's a job they tell me I can't get out of."

Remarks by Dr. GORDON.—The diagnosis in this case was one of some interest. The occurrence of a monoplegia on one side after the accident succeeded by a more alarming hemiplegia on the other side was curious, but in the chief difficulty lay the clue. The lesions were obviously not spinal in origin. They seemed certainly due to the same cause—viz., the blow from the stone. This had been inflicted fairly on the centre of the crown of the head, therefore over both leg centres and consequently over the parts most concerned in the subsequent palsies. If the first leg affected had been solely and temporarily affected one would have [illegible] amaged vessel. It therefore [illegible] attack of paralysis was due [illegible] ide. Again, as the result of the accident, it seemed scarcely conceivable that a tumour could so soon have developed, and that it had not developed was clear in the absence of the severe headache, sickness, and optic neuritis which a growth so rapid would almost certainly have produced. If an abscess had been set up these three signs might still be wanting, but here the absence of leucocytosis indicated that there was probably no abscess. Hæmorrhage remained as the probable diagnosis. The correctness of this diagnosis was verified at Mr. Harris's very successful operation. We were much indebted to Mr. R. Walker of Clovelly for most careful and important notes of the patient's early condition.

ABERYSTWYTH INFIRMARY AND CARDIGANSHIRE GENERAL HOSPITAL.

A CASE OF UNUSUAL FRACTURE OF THE CLAVICLE.

(Under the care of Mr. R. T. EDWARDS, house surgeon.)

THE patient, who was a young man, aged 18 years, met with an accident whilst at work on the railway. He was coupling two trucks and whilst doing so the engine was set in motion unknown to the patient, with the result that he was more or less crushed between the two buffers. After recovering from the shock produced he walked to the Aberystwyth Infirmary not because he suffered from the usual symptoms of fracture but merely to ascertain whether he had suffered any serious injury. Mr. Edwards watched the patient walking up to the hospital and could not detect the characteristic attitude generally assumed by patients suffering from the results which follow a fracture of the clavicle. Then on examination he failed to find any deformity in the neighbourhood of this bone except that its length was slightly shortened compared with that of its fellow on the opposite side. The usual clinical features present were conspicuous by their absence; that is, the elbow was not flexed, neither was it supported by the opposite hand—in fact, the patient could raise his arm above the level of his head without experiencing the slightest degree of pain. At this stage Dr. Abraham Thomas, the honorary surgeon to the hospital, arrived and he also failed to detect any signs which might go to prove, or even to suggest, a fracture of the clavicle. The youth was detained as an indoor patient and was put to bed in order that fomentations could be applied to some contusion that was present over the shoulder-joint. On the next morning Mr. Edwards discovered that there was a complete fracture through the middle third of the clavicle with the usual displacement, the sternal fragment being slightly drawn upwards by the sterno-cleido-mastoid muscle and the acromial part being depressed by the weight of the arm. The sternal fragment over-rode the acromial to the extent of about a quarter of an inch.

Remarks by Mr. EDWARDS.—Impacted fracture of the clavicle being one that is not commonly mentioned in ordinary text books on surgery I thought this case to be one well worth recording. In my opinion it appeared to be a case where the force had not been indirectly transmitted, as is usual, through the glenoid cavity to the scapula and thence by the coraco-clavicular ligaments to the clavicle, which force, being of a twisted character, would naturally have produced some displacement. Instead, I presume the impact in this case must have been direct on the acromio-clavicular joint and thereby the force being straight in its direction produced the impaction instead of the usual displacement. The unconsciousness naturally produced by sleep, and possibly the position adopted by the patient in bed, produced a relaxed state of the muscles and thus afforded an opportunity for the broken fragments to become manifestly displaced.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Economic Value of the Sanatorium Treatment for the Working Classes based upon After-histories.

A MEETING of this society was held on April 26th, Sir R. DOUGLAS POWELL, Bart., the President, being in the chair.

Dr. NOEL DEAN BARDSWELL and Mr. JOHN E. CHAPMAN communicated a paper on the Economic Value of the Sanatorium Treatment for the Working Classes based upon After-histories. They said that their paper dealt with the consideration of the life-histories of 28 consumptive patients who were treated in the Sheffield Royal Infirmary between June, 1899, and March, 1900. These patients were accommodated in two of the general wards of the infirmary specially reserved for the purpose and facilities were made for carrying out the main essentials of the sanatorium treatment—viz., a maximum amount of open air, an adequate diet, and regulated rest and exercise. The diet, which was a modification of a hospital convalescent diet, consisted of breakfast at 6.30 A.M. of porridge, bacon and eggs or fish, bread and butter, and half a pint of milk; half a pint of milk at 10 30 A M.; dinner at 12.30 P M. of meat and two vegetables, milk pudding and fruit, with half a pint of milk or beer; tea at 4 30 P M. of bread and butter or jam, and an egg, with half a pint of milk; supper at 7 P.M. was the same as at breakfast, with half a pint of milk; half a pint of milk was also allowed for each patient during the night. The cases admitted were quite unselected and the proportion of patients with a really good prognosis was very small. Of the 28 admissions 11, or 39 per cent., were clinically hopeless cases, and only 16, or 57 per cent., appeared to have a chance of being restored to a fair working capacity. In eight cases in which the disease had lasted six months two or three lobes of the lungs were involved; in eight cases in which the disease had lasted from six to 12 months three or four lobes of the lungs were affected; and in 12 cases in which the disease had lasted 12 months or more four or five lobes of the lungs were affected. In a table the cases were classified according to their clinical types, the classification being based upon Fowler's description of types of pulmonary tuberculosis. The patients with miliary, acute, caseating, and very advanced fibro-caseous disease, 39 per cent. in all, were not appreciably benefited by treatment, and satisfactory results were only obtained in the 57 per cent. who had either fairly recent active disease or chronic slowly progressive mischief of considerable duration. Of the 16 patients who belonged to one of these two classes nine were discharged restored to their full working capacity and seven were sufficiently improved to allow of their return to light work. The ultimate or economic results were then dealt with. A table was given showing the after histories of the 16 patients who returned to work, the statistics covering a period of four years subsequent to their leaving the infirmary, the basis of the classification being that of their various wage earning capacities during this period. In the course of four years, of the nine patients who were restored to their full working capacity three died, two were lost sight of during the third and fourth year respectively (their conditions when last heard of being in every way satisfactory), and the remaining four maintained their health and were *at full work throughout*. Four patients then, certainly, and possibly six, of the nine now under consideration had successfully withstood the strain of four years' work and judging from the condition of the two who were lost sight of it was probable that both of them might also still be in good health. The record of the seven patients who were only partially restored to health was less satisfactory, since the expiration of four years found only one of them alive, though up to the end of the third year three of them had remained well enough to do a certain amount of work. The proportion of permanent successes would doubtless have been greater had the social conditions returned to in several instances been satisfactory. The factors which had been chiefly instrumental in determining the ultimate results obtained were the conditions of the patients from the point of view of social economy—viz., the amount of income, financial obligations, and family and conditions at home and at work. The influence of occupation was next dealt with. Dr. Bardswell and Mr. Chapman said that the nature of the employment on which the arrested consumptive depended for his livelihood had such an important bearing upon his future that a decision as to the kind of work he should return to became one of paramount importance. But it was usually difficult for men to exchange injurious occupations for work of a satisfactory nature without incurring considerable financial loss. It was found that no less than 22 out of the 24 men admitted were dependent for their livelihood on occupations to which it would be undesirable for a case of arrested tuberculosis to return and this fact illustrated the great odds that the consumptive working man had to contend against in large cities. Of these 24 men, however, only 15 on their discharge actually resumed work, and of these no less than 12, or 80 per cent., managed to change their employment—a remarkably high proportion. Of the three men who returned to their original employments, two—viz., a cycle mechanic and a stone mason—quickly relapsed, although the former was on clinical grounds a very promising case. The satisfactory occupations were those of Telephone Company's labourer, steward of working man's club, tram conductor, rate collector, workhouse infirmary attendant, van driver, hall porter, and doing odd jobs in Australia. Commercial travelling and working on farms both proved failures, the work in each case entailing too much labour. In conclusion it was said (1) that general hospitals, even when situated in large cities, could do a great deal for their consumptive patients; (2) that the sanatorium treatment could be carried out with a considerable degree of success in institutions other than those especially constructed for the purpose; (3) that to obtain satisfactory economic results patients admitted should be rigorously selected, unmarried men with early disease who are both willing and likely to have the opportunity of returning to suitable employment having the best prognosis; and (4) however satisfactory the immediate results of treatment might be in the case of the working man the risk of subsequent relapse was very great unless his social status allowed of his living and working under at least fairly favourable conditions after discharge.

Dr. C. THEODORE WILLIAMS said that he thought that the results which Dr Bardswell and Mr. Chapman had obtained could not be considered as satisfactory. They had dealt with such a small number of patients that it was impossible to draw conclusions which could be considered of statistical value. He referred to the work of Dr. J. E. Pollock at the Brompton Hospital who had kept under observation some 3000 cases as out-patients and the percentage of those who did well and were able to continue at work was greater than in those observed by Dr. Bardswell and Mr. Chapman. He did not consider that gain in weight was necessarily any indication of the improvement of the patient. He was of opinion that it was of the greatest importance to find suitable occupation for patients after the disease had become arrested and advocated the formation of colonies for tuberculous patients

Dr. J. KINGSTON FOWLER, after criticising the classification of the cases, said that although the extent of the disease was a most marked factor in prognosis, yet he was more and more inclined to base his prognosis of a case on the temperament of the individual and not so much on the physical signs Both from the economic and philanthropic points of view it was essential to treat the cases early. The cases which did best were those with limited lesions and unmarried men with no one dependent on them. He did not agree with the last speaker that the results obtained were so very unsatisfactory when it was taken into consideration the unselected cases from which they were derived. As occupation he advocated nursery gardening and said that for two years after the arrest of the disease no more violent exertion than walking should be indulged in. He also advocated colonies for those cases with arrested disease.

Dr. F. RUFENACHT WALTERS said that the cases treated of in the paper were such that they required much longer treatment than they had received. He had seen many cases put on a considerable weight but with no real benefit to the patient. The proportion of early cases, even in the better classes which came for sanatorium treatment, was extremely small and, he should think, did not amount to more than 10 per cent.

Dr. T. GLOVER LYON referred to some 20 cases which he had treated as out-patients at a London hospital. He said that not one of these had recovered sufficiently to return to work. He considered that treatment of these patients in sanatoriums was unsatisfactory, since it frequently produced a moral deterioration which unfitted them for a return to work.

Dr. A. NEWSHOLME said that as medical officer of health he regarded the question from a somewhat different point of view. The young unmarried man without liabilities might, from the economic standpoint, be the case most suitable for treatment, but from the public point of view it was much more important that the wage-earner of the family should be carefully looked after since his life was of greater value to the community. He emphasised the importance of educating these patients in personal hygiene and said that he had often seen the wife and children infected with tubercle by a tuberculous father. The early diagnosis was of great importance and in every case of doubt the sputum should be submitted to an early examination.

Dr. P. HORTON-SMITH said that if good results were to be obtained the cases must be treated early. He suggested that the friendly societies should give full pay to the individual during the early stages of the disease, so as to relieve the patient from all anxiety and to enable him to be treated during the earliest stage of the disease, and in this way the best economic results would be obtained.

The PRESIDENT said that for prolonged treatment of phthisis the wards of a general hospital were quite unsuitable but they were of great value in the treatment of the acute phases of the disease. He thought that the early stages of the disease were more often seen at the general hospitals than at the special hospitals. Some patients applied there on the first manifestation of the disease and he advocated that a few beds should be reserved in each general hospital for the treatment and the careful examination of such cases, and that after a few weeks they should be sent to convalescent homes or sanatoriums. Physicians could only lay down general lines of treatment both in life and work and patients should be taught to live under similar conditions to those they had experienced in sanatoriums. He advocated the formation of colonies for the after-care of patients who had recovered, but only such patients should be sent there who had learnt how to live without being a danger to their fellow men. Although the cases in the later stage of the disease were of no economic value to the community yet they demanded our sympathy and consideration, and for the advanced cases special arrangements should be made where careful feeding and attention were possible without the routine of a sanatorium. The economic output should not be the only outlook of a hospital, and a hospital should not only treat early cases of phthisis but also advanced cases.

Dr. W. EWART was strongly of opinion that it was essential that cases of phthisis should be treated in the wards of a general hospital and not be sent at once to sanatoiums, since the patient was benefited, he was taught to look after himself and to avoid infecting others, and much was to be learnt from the daily observation and treatment of such cases.

Dr. G. NEWTON PITT said that although sanatoriums were beneficial it was necessary to have colonies where these patients could work. There was a great difficulty in obtaining suitable employment for partially cured patients. Patients having got used to open air could not work in confined space and the open-air life demanded more food. He suggested that the organisation of work might be arranged in part by the infirmaries and in part by the friendly societies and the parish councils. He said that he had seen great mental deterioration result from sanatorium treatment.

Dr. BARDSWELL replied.

MEDICAL SOCIETY OF LONDON.

Prevention and Early Treatment of Disease.—A Case of Perityphlitis simulating Malignant Disease.

A MEETING of this society was held on April 25th, Dr. F. DE HAVILLAND HALL, the President, being in the chair.

Dr. W. J. TYSON (Folkestone) read a paper entitled "The Prevention and Early Treatment of Disease." He first referred to what had already taken place in the prevention or amelioration of diseases and mentioned ague, septic diseases, diphtheria, myxœdema, and typhus fever, but thought that this work was only an earnest of what was to follow. He then spoke of the future treatment of tuberculosis, cancer, and diseases of the intestinal tract, and referred to the question of milk-supply, saying he trusted that before many years had elapsed pure milk (which he defined as unboiled, unsterilised, and unadulterated milk) would be obtainable by every man, woman, and child, but this would never be effected until an official pronouncement had been made by the heads of the profession on the subject of milk reform. It was pointed out that the Education Act was sadly deficient. Although it provided for the religious and intellectual side of education the purely physical side had been almost completely neglected and no one competent to deal with, or to advise on, this subject had been elected as representing this aspect on the school boards. He suggested that every board throughout the country should [illegible] should be taken up in that order. Large sums of money were wasted in hospitals, infirmaries, dispensaries, and inebriate and other homes for the treatment of patients far advanced in various diseases. The treatment was begun, so to speak, at the wrong end. The physician of the future would be a far more important person than he was to-day, because when general principles of physiology and the laws of health became common knowledge the superstitious belief in futile remedies would cease and quackery would die a natural death. Then medicine would no longer be regarded as the art [illegible] or [illegible] abc[illegible] rightly belonged to him—namely, that of the most important functionary in an enlightened and progressive State.—Dr. G. C. STEELE PERKINS, referring to the subject of the prevention of appendicitis, adverted to the large quantity of frozen food consumed in London which he regarded as a potent cause of the condition. The boiling and sterilising of milk was a most important matter. Many of the processes deprived the milk of its nutriment.—Dr. W. EWART hoped that increased education would lead to the protection of the public. The work of the medical profession in the future must be preventive rather than curative. How to preserve the teeth was a most essential and important question.—The PRESIDENT referred to the difference which 300 years had made in the death-rate from ague in this country. In regard to septic diseases he could remember when he was a dresser two cases of strangulated hernia in which the patients died from septicæmia. The treatment of anæmia (one of the chief causes of gastric ulcer) should be very prolonged and oral sepsis also needed preventive treatment.

Dr. SEPTIMUS P. SUNDERLAND, in the absence of Mr. H J. CURTIS (now surgeon to the Memorial Hospital, Buluwayo), communicated a paper by them on a case of Perityphlitis simulating Malignant Disease which was completely relieved for 19 months by a lateral intestinal anastomosis, followed by acute abscess of the appendix, appendicectomy, and cure. The patient was a female, aged 36 years, who had had occasional pains and discomfort for several months in the right iliac fossa. She began to have constipation and vomiting and developed a tender swelling in the right iliac fossa and a high temperature. When she was admitted to the Royal Waterloo Hospital for Children and Women she had recently lost a stone in weight. The swelling was regarded as a perityphlitic abscess and the abdomen was opened by Mr. Curtis, a lump as large as a cricket ball being found in close connexion with the cæcum apparently involving the posterior wall of that structure. The appendix could not at that time be found. The lump was regarded as malignant. A lateral anastomosis of the ileum and ascending colon was made. 21 days later the abdomen was again opened with the hope of removing the mass but this was found impossible. 24 days afterwards the swelling, which had been gradually diminishing after the second operation, had almost entirely disappeared. Convalescence was slow but the patient resumed her work five months after leaving the hospital and continued in fair health for a period of 12 months. Pain and tenderness then came on again in the right iliac fossa and a lump as large as a bantam's egg appeared under the scar of the operation wound, with a rise of temperature. A third operation was performed by Mr. Curtis and the appendix was then found free and inflamed, surrounded by a tablespoonful of grey odourless pus, and was removed. The resulting sinus was subsequently excised at a fourth operation and the patient made a complete recovery. The case showed the difficulty which sometimes existed in determining whether a tumour, although exposed by abdominal incision, was malignant or not. Mr. Curtis, on considering the facts of the case, the delayed convalescence, and the subsequent history, now regarded the mass found at the first operation as being probably of tuberculous origin. Dr. Sunderland inclined to the belief that the original swelling was an inflammatory mass due to appendicitis, which disappeared without the formation of pus partly owing to the intestinal anastomosis and regarded the condition found at the second operation as the result of a recurrent attack of appendicitis. Dr. Sunderland regretted the absence of his colleague, Mr. Curtis, to whose careful surgical skill the case owed its favourable termination.—Dr. H. A. CALEY referred to a similar case of a man, aged 72 years, in whom the symptoms resembling [illegible] inflammatory. Great cauti[illegible] of such conditions.—M[illegible] cases, one of ovarian disease and one of cæcal disease, bearing on the question of diagnosis.—The PRESIDENT mentioned two cases presenting the symptoms of appendicitis which were found to depend on malignant disease.

CLINICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on April 22nd, Dr. FREDERICK TAYLOR, the President, being in the chair.

Mr. F. J. STEWARD exhibited a case of Moveable Knee-joint three and a half years after operation for extensive tuberculous disease. The limb had remained in a plaster-of-Paris splint for two years. No attempts had been made to produce movement.—Mr. T. CRISP ENGLISH referred to a case of tuberculous disease of the ankle in which spontaneous movement had supervened after operation and also to a case of acute septic arthritis of the knee-joint following gonorrhœa in which similar results had been obtained after freely opening the joint.

Dr. F. PARKES WEBER exhibited a case of Polycythæmia with Enlarged Spleen and Chronic Erythromelalgia The patient was a married woman, aged 36 years, who had previously had good health but after her last confinement, seven years ago, she suffered from "inflammation of the womb" with swelling of the whole of the left lower extremity, which lasted a month. Burning sensations in both feet appeared about three years ago and when first seen in 1903 the feet were turgid with blood, hot and painful. All these signs were much more prominent in the left foot. At the present time the erythromelalgia was practically limited to the left foot, the skin over which presented several discrete purplish patches. The spleen was enlarged but there was no cyanosis. An examination of the blood showed that the hæmoglobin was about 125 per cent of the normal; the red cells were 9,000,000 per cubic millimetre and the white cells were 8100. Polymorphonuclear leucocytes were 73·75 per cent. The heart and lungs were normal The pulse was 88, regular, and of rather increased tension —Dr JAMES GALLOWAY said that Dr Weber's case appeared to resemble the original conception of erythromelalgia as described by Weir Mitchell, for arterio sclerotic changes were certainly not prominently marked in this case. Many of the cases recently described showed that the condition could be well simulated as a result of vascular degeneration and he referred to a case under his own care in the Charing Cross Hospital from an examination of which he had come to the conclusion that cases of redness, pain in one extremity, leading to necrosis, in an adult over middle age were more likely to be due to ischæmia of arteriosclerotic origin than to true erythromelalgia. He thought, moreover, that a revised classification of these cases was called for, based upon the blood changes rather than upon the actual condition of the vascular walls.—Dr. WEBER replied.

Mr. T. H. OPENSHAW showed (1) a case of Firm Ankylosis and Contracture of the Left Knee treated by elastic steel bar traction in a patient, aged 15 years, who had been able to walk about during the application of the apparatus; and (2) a case of Osteo arthritis of the Knee-joint following a Fracture of the Femur, improved after removal of pressure by means of a splint which had transferred the weight of the body from the pelvis to the ground, thus giving the affected joint rest.—Mr. LAWRIE H. MCGAVIN took exception to the term "osteo-arthritis" being applied to the case. The pupillary changes suggested Charcot's joint disease.—Dr. W. P. HERRINGHAM concurred in this view.—Mr. OPENSHAW admitted that the case might be one of tabetic arthropathy but said he had shown the case mainly to demonstrate the value of removing pressure from the joint by the appliances exhibited.

Dr. W. J. HARRIS exhibited a girl, aged 20 years, the subject of Acromegaly. The disease was in an early stage, the symptoms having only appeared about two years ago. She had suffered from slight epileptiform attacks and headache. Prognathism was well marked and the hands were enlarged. There were no urinary or ocular changes. She was 5 feet 5 inches in height and appeared to be still growing.

Dr. W. LEE DICKINSON showed a woman, aged 27 years, with Congenital Heart Disease. She was not cyanosed and there was a long rumbling murmur audible in the second left interspace close to the sternum, occupying the whole cardiac cycle, accompanied by a thrill. The pulmonary second sound was indistinguishable. A provisional diagnosis of patent ductus arteriosus was made.—Dr. WILLIAM PASTEUR asked whether the murmur was heard at the back.—Dr. HERRINGHAM referred to the great difficulty which was almost always experienced in arriving at such a diagnosis and suggested that the lesion was chiefly confined to the pulmonary artery.—Dr. HARRIS agreed in the diagnosis of patent ductus arteriosus and said that the murmur bore a strong resemblance to that which he had heard in a case where an aneurysm of the aorta had ruptured into the pulmonary artery.—The PRESIDENT also concurred in Dr. Dickinson's diagnosis and remarked that several cases had been recorded in which the diagnosis of patent ductus arteriosus made during life had been subsequently confirmed at the necropsy and he referred to one published by the late Dr. Hilton Fagge in the Guy's Hospital Reports in which a long wavy murmur was heard in that situation.—Dr. DICKINSON replied.

Mr. R. P. ROWLANDS showed a case of Congenital Malformation and Deformity in a woman, aged 30 years. The principal defects were absence of the ear and seventh and eighth cranial nerves. There were complete facial paralysis and nerve deafness on the left side. Portions only of the external ear were present. There was also an absence of the radius and part of the humerus on the same side, with abnormal smallness of the shoulder, scapula, and clavicle. Two metacarpal bones were absent while there were only four carpal bones.—Mr. MCGAVIN inquired as to the condition of the Eustachian tube upon the affected side and Mr. ROWLANDS replied that this canal was present but that the catheter passed a shorter distance than normal, the tympanum being absent. The non-development of the two cranial nerves, including the pars intermedia, explained the loss of taste which also existed over the left half of the tongue.

Mr. ROWLANDS also showed a case of Premature Puberty in a child, aged two years, in whom the external genitals were similar to those of a boy aged 15 years. In the few recorded cases of this condition it had been generally found that senile changes commenced at a much earlier age than usual. Such cases appeared to represent a reversion to the lower animals.

Mr. CHARTERS J. SYMONDS exhibited a man, aged 45 years, with Gangrene of the Tips of the Fingers of Both Hands. The condition had begun two years ago. He was a horse-keeper but had not been exposed to cold more than this occupation would suggest. There was no arterial or nervous disease or any diabetes. The patient was under the care of Mr. C. H. Golding-Bird at Guy's Hospital.—Dr. PASTEUR thought that the possibility of Raynaud's disease could not be excluded, especially as some cases of that disease went on to the more profound changes without the earlier ones being specially manifest.

Mr. SYMONDS also showed a man, aged 42 years, in whom a Spontaneous Fracture of the Neck of the Femur had occurred while he was kneeling to open a cupboard.—Mr. A. A. BOWLBY said that the fact that one of the earliest signs of tabes dorsalis might be spontaneous fracture was hardly sufficiently appreciated. He referred to two cases in which this accident preceded all other signs of the disease.—Mr. SYMONDS replied that there were as yet no definite signs of locomotor ataxy in his case with the exception of a suspicion of some insufficiency of the ocular muscles.

EDINBURGH OBSTETRICAL SOCIETY.

Obstructed Labour.—Thyroid Relations in Obstetrics and Gynæcology.—Effects of Thyroidectomy.—Exhibition of Specimens.

A MEETING of this society was held on April 13th, Dr. N. T. BREWIS, the President, being in the chair.

Professor JARDINE read Clinical Notes on a series of 22 cases of Obstructed Labour, including eight cases of induction of premature labour, four cases of symphysiotomy, and ten cases of Cæsarean section. During 1903 Professor Jardine and his colleagues treated 703 cases in the Glasgow Maternity Hospital. Among these were 98 cases of contracted pelvis—an extraordinary proportion of 1 in 7; this, however, did not by any means include all but only those in which there was difficulty in delivery. Details of eight cases of induction of labour and four cases of symphysiotomy were given. In the eight cases of induction of labour the conjugatæ veræ varied from three and a quarter inches to three and five-eighths inches; seven of the mothers recovered and one died. In the first of the four cases of symphysiotomy the patient was a tripara, having a conjugata vera of three inches; her previous deliveries had been by craniotomy. The symphysis was opened by cutting directly down on it; forceps was applied and the head was extracted without difficulty in the Walcher position; the child was alive and weighed seven and a half pounds. Strong catgut sutures were inserted through the fibrous structures and the wound was closed with silkworm gut. The patient recovered and was able to walk without inconvenience. In the second case the woman was a quintipara, having a conjugata vera of three and three-quarter inches. Former children had been born with difficulty with the aid of forceps, one child being dead. In this labour forceps failed to effect delivery so symphysiotomy was performed. Even then considerable traction was required before the child was born; the infant was alive and weighed 11½ pounds. The patient recovered. In the third case the woman was a primipara, having a conjugata vera of three inches; the pelvis was flattened and generally contracted. In performing the operation difficulty was experienced in dividing the symphysis half-way down. As this might have been due to a bend the knife was turned a little to the left when the bone suddenly yielded and the joint gaped. Professor Jardine found that the bone had given way into the obturator foramen and at the same time the left ramus had fractured about the junction of the ischium and os pubis. The child was delivered alive by forceps, the weight being seven and a half pounds. During delivery the fractured end of the ramus caused laceration of the vagina. The symphysis and fractured ramus were sutured with catgut and the patient was afterwards douched and packed carefully. She made a good recovery and there was good union of the bones. In the fourth case the woman was a tripara, having a conjugata vera of three and a half inches. Previous children were born dead. After division of the symphysis the child was born alive with forceps, the weight being eight and a half pounds. There was free hæmorrhage from the wound which was found to be due to the rupture of the distal end of the urethra from the vaginal wall, but after the insertion of a catheter this was united by sutures. The patient's progress was satisfactory. It was doubtful whether symphysiotomy would become a favourite operation. There was great risk of laceration if much separation was required to effect delivery. Another objection was the prolonged nursing required after the operation. To obtain union the patient must lie very still which was very trying, especially when the calls of nature required attention. Convalescence in these cases varied from 31 to 42 days. Professor Jardine then gave details of ten cases of Cæsarean Section. All the mothers recovered. The method of operating consisted in making an incision about five inches in length high up, so that two-thirds of it lay above the umbilicus, and then incising the uterus longitudinally in the middle of the anterior wall so that the top of the incision would be at the fundus. Cameron's pessary was generally used to prevent bleeding from the uterus while incising it. The child was delivered by grasping a leg. In nearly every case the child required to be resuscitated, probably due to the effect of the cold on opening the abdomen causing the child to make inspiratory efforts and to draw liquor amnii into the lungs. The placenta was found on the anterior wall in nine-tenths of the cases. Catgut sutures were employed for the uterus and silk to tie the tubes. Silk and celluloid thread for uterine sutures often gave great trouble, even for months afterwards. If a patient had been in labour for some time and repeatedly examined without aseptic precautions the risks from Cæsarean section were greater than if she had been under observation before labour and had been properly prepared for the operation. Sterilising the patient at the operation was best done by tying the tubes with silk and dividing them. This should only be done if the husband and wife desired it. Professor Jardine left the uterus and ovaries even if the patient had had her tubes tied.—The paper was discussed by Dr. HAULTAIN, Dr. JAMES RITCHIE, Dr. W. FORDYCE, and others.

The SECRETARY read a paper by Dr. R. C. BUIST (Dundee) on three cases illustrating Thyroid Relations in Obstetrics and Gynæcology. The first case was one of myxœdema with cystocele and prolapse in which ventrofixation was performed. The second case was one of myxœdema and pregnancy. Dr. Buist could only obtain record of one other case, that of Herrgott,[1] the patient being an undeveloped woman, aged 18 years, who had 12 eclamptic fits during labour and eight after delivery. There was only a trace of albuminuria. Dr. Buist's patient was 48 years of age and she had had 11 children. Labour occurred spontaneously, there were no fits, and the thyroid treatment was continued. The third case was that of a woman, aged 37 years, who had shown enlargement of the thyroid in successive pregnancies. Eventually she died from a malignant tumour in the neck.

Dr. H. OLIPHANT NICHOLSON read a communication referring to experiments in feeding made on thyroidectomised animals.

Dr. D. CHALMERS WATSON gave a Demonstration of Specimens illustrating the experimental influence of a pure raw-meat diet on the thyroid and parathyroid glands. The thyroid was increased to many times its normal size and was of the nature of a hypertrophy; the parathyroid also was greatly enlarged.

Dr. F. W. N. HAULTAIN showed a Calcified Full-time Fœtus which had been retained in the Abdomen for 41 years and which was removed post mortem.

Professor R. JARDINE (Glasgow) showed a Modification of Braun's Decapitating Hook in which a knife edge was inserted on the concavity of the hook, facilitating greatly the division of the structures of the neck.

HARVEIAN SOCIETY.—A clinical evening of this society was held on April 14th, Dr. C. Theodore Williams, the President, being in the chair.—Dr. Leonard G. Guthrie showed a man, aged 38 years, who during three years had gone through the following phases of Insular Sclerosis. In 1881 he had a temporary attack of hemianæsthesia and in 1894 paræsthesia of the hands and feet and loss of power in all the extremities with recovery in a fortnight. In 1895 he was admitted to the National Hospital for the Paralysed and Epileptic, Queen-square, with weakness of the lower limbs and difficulty in micturition (sphincter). Right-sided hemiparesis, with loss of sensation, tactile and painful, in front of the thighs, was found. There was no nystagmus or affection of the cranial nerves. Speech was normal, the knee-jerks were brisk, and there was no ankle clonus. The optic discs were normal. Recovery was apparently complete in about three months. In 1898 weakness of the legs reappeared and in 1900 he could not walk without help but again he improved and was able to return to work. In January, 1901, he was readmitted to hospital with loss of power and slight incoördination in the hands, ataxic spastic gait, exaggerated deep reflexes, and extensor plantar reflexes; there was no ankle clonus or other symptom. Sensation to pain and touch was blunted below the umbilicus. The patient improved steadily at first and anæsthesia practically disappeared. Then he had a relapse and became unable to walk without assistance, whilst there was marked increase in spasticity. Once more he improved steadily and could walk without help. At the end of 1901 he was slowly getting worse and his gait was very ataxic and spastic. At present there was very slight nystagmus on lateral deviation. The optic discs were normal. Speech was stuttering but not scanning or syllabic. There was no wasting of the muscles and sensation was normal. The muscular powers of the upper extremities were fair. There were very slight "intention" tremors. The abdominal and back muscles were paretic at times. The lower extremities were not wasted, ataxic, or spastic, but the muscles showed varying degrees of weakness of different groups. The gait was neither spastic nor ataxic but weak and uncertain. The knee-jerks were active, not exaggerated; there was ankle clonus (spurious) at times; the plantar reflexes were sometimes absent, sometimes extensor on one or both sides. The electrical reactions were normal. The muscular paresis varied greatly and was worst under the influence of emotion or after fatigue. If left alone he could get up, wash and dress himself, and walk about with the aid of sticks, and he seldom fell. But if notice was taken of him he became flurried and nervous with walking and presently fell like a tree and became completely paraplegic and exhausted for the time being. The influence of emotion in increasing general paresis was so marked that he (Dr. Guthrie) had regarded the condition as one of functional myasthenia until the history clearly pointing to relapsing and remittent insular sclerosis was forthcoming.—Dr. J. S. Risien Russell and Dr. Wilfred Harris took part in the discussion.—Dr. Risien Russell showed a case of Myasthenia Gravis in a young woman, aged 26 years, whose illness began about a year ago and in whom many of the characteristic phenomena of the affection were present, including the myasthenic reaction on faradic excitation by the muscles. The symptoms were not, however, always made worse by muscular exertion, nor were they more pronounced at the menstrual period, and they disappeared in a remarkable manner ten months ago but returned eight months later. Some impairment of resonance over the manubrium sterni suggested the possibility of enlargement of the thymus gland.—Dr. Guthrie called attention to the association of thymic and mediastinal growths with myasthenia gravis.—Mr. J. Jackson Clarke showed a girl, aged seven years, on whom over two and a half years ago he performed Costotransversectomy for obstinate paraplegia due to tuberculosis at the level of the fourth dorsal vertebra. The patient was shown at the Clinical Society two years ago, since when the mode of treatment had been successfully followed in similar cases. Paraplegia in spinal disease frequently yielded to rest and general treatment but there were two indications for operation—firstly, when total motor and sensory paralysis, including the bladder, supervened rapidly, and secondly, when in the more ordinary type of case in which the paralysis was chiefly motor rest had been given a fair trial without success. If performed with due care costotransversectomy was less dangerous than laminectomy and on other grounds was preferable to it. In the present case there was no return of paralysis after the operation and the patient was allowed to walk with the spine well supported by a modified Chance's splint.—Dr. Edmund Cautley showed a case of Cerebral Syphilis. The patient was a man, aged 22 years, who had been admitted to the Metropolitan Hospital for lassitude and headache of three months' duration and vomiting for three weeks. He was treated at the Lock Hospital for 18 months and still showed the remains of a specific rash. His hair came out a year ago and on admission he was almost bald. His mental condition was dull but he had distinctly improved under a month's treatment and there was a free growth of white hair becoming dark in places. The knee-jerks were exaggerated, there were no ocular changes, and the headache had ceased. The condition was doubtless due to a mild form of endarteritis.—Dr. Wilfred Harris showed two cases of Lead Paralyses. These cases illustrated two types of lead paralysis; both showed the ordinary form of wrist and finger drop with escape of the supinator longus and the extensor ossis and primi internodii muscles of the thumb. In addition one had complete paralysis of the two deltoids and supra- and infra-spinatus muscles, the remaining arm muscles escaping, while the other case had complete atrophy of the intrinsic muscles of both hands, a condition which was due to a symmetrical subacute poliomyelitis and which was permanent, while the forearm and upper arm paralyses were due to neuritis and would almost certainly recover.—Mr. T. Crisp English showed three cases. 1. A case of Goitre with unusual symptoms in which he had removed hypertrophied lateral and middle lobes. The patient, a girl, aged 17 years, had had exophthalmos, tachycardia, palpitations, and tremor, while there had been also a myxœdematous condition of the skin; the operation had been performed on account of severe dysphagia. This combination of symptoms was rare The general conditions had improved. 2. A case of a large Gumma of the Knee-joint which was of old duration and was sloughing. 3. A case of Encephalocele in the left frontal region which was increasing rapidly in size and demanded early treatment if such were advisable.—Mr. E. Percy Paton considered that the interesting feature of the second case was the thickening of the synovial membrane and possibly cartilage changes which in other circumstances might lead to an erroneous diagnosis of osteo-arthritis.—Mr. E. Laming Evans showed a case of Congenital Absence of the Fibula in a female, aged four months. The whole leg was small; the characteristic curve in the lower third of the tibia with a depressed scar or dimple at the point of maximum convexity was present. The metatarsal and phalangeal bones of the fifth toe were absent; the foot was in well-marked equino-varus. A skiagram confirmed the complete absence of the fibula. No history of deformity in the family or of injury during pregnancy was obtainable.

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[1] Annales de Gynécologie et d'Obstétrique, July, 1902.

British Balneological and Climatological Society.—A meeting of this society was held at Hanover-square, London, W., on April 14th, Dr. Alfred F. Street (Westgate), the President, being in the chair.—The discussion on Obesity, which was opened by Dr. Leonard Williams at a previous meeting on Feb. 3rd, was reopened by Dr. William Bain (Harrogate). Dr. Bain dealt with the subject from the physiological standpoint. Excessive fat deposition was either due to an abnormal production of fat or to diminished oxidation. Fat formation was chiefly linked with carbohydrate metabolism. The normal utilisation of fat was also considered. As regarded treatment he said that the essential elements were regulated exercise, the restriction of the carbohydrate and fatty materials of the food, living an outdoor life if possible, accelerating heat loss, and combating any tendency towards anæmia.—Dr. Robert Barnes considered that to elucidate the question of obesity it was desirable to study the conditions of race, climate, and food. He had been struck with the extreme leanness of the Arabians of the working class, most of whom were extremely active and fed mainly on vegetables. This applied also to the horses and cattle which were sparingly fed. He had noticed some exceptions in the persons of policemen and dragomans and other people who came in contact with the visitors. On the northern coast of the Mediterranean he noticed the general fatness of the inhabitants. Was this because they fed largely on macaroni?—Dr. S. D. Clippingdale referred to the frequency with which a state of obesity was found in persons of high intellectual capacity, contrary to the usual belief, giving several instances in the present and past times, and referred to Julius Cæsar's well-known dislike of thin persons.—Dr. E. Symes-Thompson pointed out that as life assurance experience showed how dangerous to life obesity was proved to be it behoved them to utilise to the utmost spas and climate treatment, to encourage exercise, to promote metabolism, and to raise the health level of their patients.—Dr. Alexander Morison maintained that undue mystery had been cast around both adult and infant feeding. The principles of nutrition were clearly known and their application was sufficiently clearly indicated by each case considered on its own merits. He pointed out the importance of separating obese cases with, from those without, anatomical organic disease. In the former the general force of the patient must be improved before his fat reduction by restricted diet was commenced.—Dr. W. Bezly Thorne drew attention to the fact that Bouchard placed obesity in the class of affections which he had denominated "l'arthritisme," that it was common in the subjects of [illegible] of which venosity was a recognised [illegible] as in those who were deficient [illegible] suffered from prolonged loss of blood. He recalled the fact that the obese were specially liable to angina pectoris and to death from syncope and to apoplexy consequent on atheroma. Such considerations, he said, pointed to a potent cardio-vascular factor in obesity and emphasised the danger of treating that condition on lines of arbitrary dietary restriction.—Dr. W. Ewart alluded to the distinctions between physiological stoutness which ran in families and needed no treatment and that which was pathological. The latter was generally admitted to depend upon relative deficiency in oxidation. This was to be remedied by various methods which had been fully discussed. The question arose whether oxygen itself, administered by inhalation, might not be of service. He was unable to furnish any definite results from systematic observations but his general impression was that the free use of oxygen tended to reduce rather than to increase body weight and he would be glad to hear the experience of other clinical observers on this point.—Dr. D. Baynes had found that high-frequency currents on alternate days with galvanism, using currents of from 80 to 150 milliampères, speedily reduced the most corpulent and quickly relieved the dyspnœa due to fatty heart. These currents were applied by large well-covered electrodes placed over the abdomen, loins, thighs, and buttocks. —Dr. Nightingale, after referring to the precautions taken in the tropics against chills, drew attention to the value of the high-frequency current in the reduction of obesity; he had found that there was an immediate loss of weight varying from a quarter to two pounds after each application of the current, and that it was possible to decrease the weight by from 7 to 14 pounds in a month without any injurious effect.—Dr. Joseph Groves (Carisbrooke) said that on entering the world everyone was different; in passing through life everyone differed in environment and occupation and in middle age the resultants of various influences necessarily differed widely. The duty of the physician was to obtain conformity to nature's laws and not to a type. Special dietetics and "high frequency" notwithstanding many people continued stout and the pressure of over-exertion upon organs worn by the stress of existence was checked. They might as well try to treat obesity apart from natural laws as to deal with ventilation without reference to the law of the diffusion of gases.—Dr. Septimus Sunderland considered it was necessary to warn patients who showed signs of commencing pathological corpulency to begin to take the requisite precautions against its increase in the early stage; they would then see fewer cases of excessive stoutness the reduction of which was sometimes attended with risk. He referred to the abuse of thyroid gland extract with which some people dosed themselves without medical advice and mentioned the case of a woman who had recently reduced her weight about one and a half stones in a few weeks by the self-administration of 45 grains of the extract daily. —The President said he wished that there had been put forward some explanation of the personal element as a cause of obesity and pointed out that this alone would suffice to condemn the distribution of printed dietary lists. He could not agree that abstinence from fluid at meals diminished the tendency to obesity only by providing space for the ingestion of more food but there did seem to be evidence that abundance of fresh air—i.e., increased percentage of oxygen —did so act, perhaps by hastening the oxidation of the food taken.—Dr. J. T. Leon (Southsea) and Dr. J. Braithwaite (Buxton) also made remarks.—Dr. Bain and Dr. Leonard Williams replied.

Epidemiological Society.—A meeting of this society was held on April 15th, Dr. B. A. Whitelegge, the President, being in the chair.—Dr. T. M. Legge, medical inspector of factories, read a paper on Industrial Anthrax, dealing with 211 cases reported to the chief inspector during the years 1899-1903 inclusive. These cases were about equally divided between workers in wool and worsted, hides and skins, and horsehair and bristles, with a few in other industries. The fatality was much less than formerly, averaging 26 per cent., and not differing greatly from that observed in France, Germany, and Italy, excepting the outbreaks reported by Eppinger among a group of rag sorters in Austria where 78 cases out of 88 were fatal. These, however, were of the internal form, to which five only of the 211 belonged. Of the 72 occurring among wool workers 56 were of persons employed in sorting and combing the classes of wools scheduled as dangerous, so that calculated on this limited number of workers the attack figure was 1·3 per cent. and for workers in horsehair factories, excluding those in brush and bristle works, it was 1·5 per cent. Of the 72 cases among wool workers 41 were in Bradford and 11 were in Kidderminster. Of the 69 derived from hides and skins 38 were in London and 18 were in Liverpool, while of those from horsehair 23 were reported from London, other towns and districts contributing from one to nine only in each group. The dangerous wools were those from China, Russia, Siberia, Persia, and Syria, and in like manner the cases of anthrax due to hides were almost limited to the ports of London and Liverpool. Of the whole 211 cases the seat of infection was the neck in no fewer than 84, the face and head in 77, the forearm in 16, and, strange to say, the finger only once and that open to doubt. The fatality was highest among patients attacked in the neck and face. In 143 cases excision of the pustule was practised but it was difficult to say what amount of benefit resulted from any one kind of treatment. Professor Sclavo of Siena had, however, prepared a serum from inoculation of sheep and had treated 164 consecutive cases with a fatality of 6·09 per cent., one woman recovering in whose blood the bacilli were already seen and the only fatal cases being those in which the patients were moribund when the injection was made. The question of disinfection was beset with difficulties, for no effective method of destroying the spores of anthrax was known except heat, the employment of which would be destructive of hides and wool. Current steam was, however, already extensively used in England, Germany, and elsewhere for horsehair and was found to be most successful and least, or practically not at all, injurious when at a temperature between 200° and 225° [illegible] to two and a half pounds for [illegible]ned wool, though formalin was [illegible]ax bacilli retained their vita[illegible] of the tanyard. In fact, save as regards horsehair, the only available means were thorough cleansing of the raw materials so far as possible by wet methods and with every precaution to prevent the diffusion of the dust which with all refuse should be burnt and not used, as it often was, for manure, nor should the waste water be turned into streams, at least unless after boiling, for many valuable horses and cows had been thus infected and lost. The workpeople, too, should be protected by clothes, plain, fitting closely round the neck, wrists, and ankles, kept at the factory and frequently boiled and washed; they should wear gloves and also respirators or veils when specially exposed to dust.—Dr. W. Arnold Evans, medical officer of health of Bradford, said that there were dangerous wools among the unscheduled ones and that he had found all disinfection to be ruinous to wools.—Mr. Webb, of Worcester, a horsehair manufacturer, said that he had in conjunction with the county medical officer and analyst conducted numerous experiments and cultures. He had often found the bacilli in the dust and had had some cases among his workpeople, but besides other precautions he had since 1897 employed current steam in a Lyon's disinfector at the moderate pressure and temperature recommended by Dr. Legge and by the German Home Office. It was remarkable that when the dust from carding contained no spores that separated by subsequent steaming often did, the moisture having detached organisms that had resisted mechanical processes. He described his visit to the factory of Signor Pachetti of Milan who employed 1500 workpeople and had independently adopted the same methods as himself.—Dr. W. H. Hamer said that he thought the 30 000 cases with 5000 deaths said to have occurred in ten years in Italy were incredible unless other diseases were included.—Dr. H. Franklin Parsons, in reply to Dr. H. T. Bulstrode's request for information as to non-industrial anthrax, said that it was occasionally met with among butchers and he believed that many cases occurring on farms were due to pollution of the streams. Cooking destroyed the bacilli for he knew a case in which the farmer and butcher who cut up the carcass of an infected animal both died within a week but no ill consequence followed the consumption of the flesh which, except the tongue, was all sold in the open market and could not be traced.—Dr. H. R. Kenwood, Mr. Wolf Defries, and others also took part in the discussion.—Dr. Legge, in his reply, said that of non-industrial anthrax 32 cases had been reported to him among butchers. These he believed to be far from all, but from the arms being oftenest the seat of infection the mortality was low. Anthrax was very prevalent in South America but in that country it was very mild in man. 200 cases without a death had been reported.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 22nd, Mr. C. Richardson, the President, being in the chair.—Dr. A. E. Porter read a paper on the Administration of Prophylactic Injections of Antitoxin to Persons who had been Exposed to the Infection of Diphtheria. He mentioned the results of this mode of procedure in Essex during the years 1900–01. Out of 136 persons in 24 households only one subsequent case occurred after the injection and this was a very mild attack. Of the remaining eight persons in the same houses who were not injected there were three cases of diphtheria. During the same epidemic there was another series of 24 similar households in which no injections were given and one-sixth of all the inmates, excluding the primary cases, subsequently contracted diphtheria. In neither series was it possible to maintain satisfactory isolation. The employment of prophylactic injections in Cambridge, Toronto, New York, and Chicago was quoted. Dr. Porter considered that for the majority of persons exposed to infection 500 units conferred protection for about three weeks. Failures occurred in a small percentage of instances but the subsequent attacks were of a very mild nature and the administration of antitoxin was especially advisable during [illegible] of diphtheria when ordinary measures [illegible] also in the case of institu[illegible] was mentioned that among persons so protected a considerable proportion were infective and that care should consequently be taken to prevent them from mixing with unprotected individuals.—Dr. A. H. Bampton, Dr. J. G. Sharp, and Dr. W. H. Cheetham took part in the discussion.—Dr. A. F. Dimmock described a New Method for the Estimation of Uric Acid in Urine. He had devised this method in conjunction with Mr. F. W. Branson, F.C.S., their aim having been to work out a simple process which did not require much time. A definite amount of urine was saturated with chloride of ammonium and the precipitated urate of ammonium was collected and carefully washed. This was placed in a closed bottle and by reaction with hypobromite of sodium the evolved nitrogen was collected in an apparatus similar to that used for the determination of urea. The volume of gas was noted and from this the uric acid present in the urine was calculated. Experiments with chemically pure uric acid had given excellent results.—Mr. H. J. Roper read notes of Two Cases of Intussusception which had occurred in Children and which he had reduced after abdominal section. In one case the symptoms had lasted four days and in the other for less than 24 hours. Both children recovered. Their ages were eight and a half years and 12 months respectively.—Mr. H. Littlewood and Mr. R. Lawford Knaggs took part in the discussion.—Mr. J. Tregelles Fox read a paper on the Mechanism of the Alimentary Canal. He discussed the mode of propulsion of its contents and advanced the opinion that a mechanism different from mere peristalsis could be traced in most if not all the divisions of the human alimentary tract. The object of the paper was to promote a better comprehension of the causes of constipation and allied complaints. A typical diurnal revolution or cycle of the alimentary system was described and its modifications to suit the various climates, races, and occupations of mankind were alluded to.—Cases [illegible] were shown by Mr. G. O. Hayes, [illegible] Barrs, Mr. Littlewood, Mr. [illegible] Moynihan, Dr. J. B. Hellier, and others.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this society was held on April 21st, Dr. James Barr, the President, being in the chair.—Dr. K. A Grossman exhibited two different colonies of Tænia Solium from the dog—one from a pug and the other from a collie. They showed marked differences—viz., that from the pug had a club shaped head, a long thin neck, was flat and transparent, and had small hooklets arranged in irregular rows three deep; that from the collie was larger and altogether thicker set, showed hardly any neck, and shorter, thicker, and more opaque proglottides. The hooklets were 16 in number and much larger than those in the worm from the pug.—Mr. R. O. Dun showed the following specimens: 1. Volvulus of the Small Intestine in a child in whom the whole of the jejunum and ileum was implicated. Two complete twists of the root of the mesentery had occurred from right to left. There was mesenteric disease present in the shape of numerous hard enlarged glands, probably tuberculous in nature. From the position of the cæcum which occupied the epigastric region when the abdomen was opened it seemed probable that a common mesentery had existed for the small intestine, cæcum, and ascending colon. 2. Embolism of the Pulmonary Artery obtained from a child, four years old, who died with extreme suddenness four hours after osteotomy of both tibiæ—Dr. A. S. F. Grünbaum showed Sections from the Lung and Bronchial Glands of a mouse which had been infected per os with blastomycetes from a carcinoma mammæ. The changes were those usually seen, the interest being in the mode of infection.—Dr. W. B. Warrington demonstrated the nature of the Cells and Micro-organisms found in the Cerebro-spinal Fluid withdrawn by lumbar puncture in cases of Tuberculous Postero-basic and Vertical Meningitis.—The Stomach, Intestines, and Liver were shown from a case of poisoning by corrosive sublimate under the care of Dr. J. Lloyd Roberts.—Dr. Grünbaum gave a demonstration of models illustrating Ehrlich's Theory of Immunity.—Dr. T. R Glynn showed a large series of coloured drawings illustrating various Lesions of the Heart.—Mr. F. T. Paul reported two cases of Cancer of the Bladder in which he removed during life the growths shown. The first case occurred in a female, aged 63 years. The growth was three-quarters of an inch in diameter, it was removed suprapubically with bladder scissors, and the base was cauterised with Paquelin's cautery. The second case was that of a female hospital patient, aged 69 years. In this case the tumour measured two inches across and was removed with the knife after splitting the urethra back well into the bladder through the vagina. Histologically the tumours were examples of the large-celled carcinomata of the bladder epithelioma type, but showed no nest cell groups. In the second case the carcinoma began in a small villous tumour which was still present at the upper end of the growth.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A clinical meeting of this society was held at the West London Hospital on April 8th, Dr. Seymour Taylor, the President, being in the chair.—Dr. P. S. Abraham showed a case of Molluscum Contagiosum in a girl, aged eight years. He also showed a case of Creeping Linear Dermatitis. The patient, a delicate, ill-nourished girl, aged seven and a half years, had suffered shortly after birth from an abscess in the right breast, which had gradually travelled right across the chest, leaving a serpiginous, slightly pigmented irregular line, marked by numerous whitish pits, evidently the sites of the little abscess. The case strongly resembled the "creeping eruption" described by Dr. R. H. Lee in 1894 and 1884, and to some extent those cases due to the subcutaneous burrowing of an œstrus larva. The term "larva migrans" had been applied to all these cases of creeping linear lesions, in Dr. Abraham's opinion incorrectly, as a certain number, like the case shown, had nothing to do with a migrating larva. Excision of the advancing end of the creeping line and careful microscopic examination was the treatment proposed.—Dr. H. Campbell Pope referred to a case of Molluscum Contagiosum recently under his care in an adult in which there were a large number of mollusca scattered over the body. The case had at first been considered to be one of varicella but the duration of the eruption and the typical appearance of the tumours led to a correct diagnosis. The application of pure carbolic acid to the individual tumours, a few at a time, effected a rapid cure.—The President showed a woman, aged 23 years, who had been admitted into the hospital on account of Extreme Emaciation. She had steadily refused food except under great persuasion for a period of six months. Mentally she was suspicious and obstinate and at times refused to reply to any questions. There was no evidence of physical disease and the case was considered to be one of anorexia nervosa. At first forced feeding by a nasal tube was necessary but gradually the patient was induced to take a fair quantity of nourishment. Such cases usually recovered under Weir-Mitchell treatment but the mental condition of many of these patients was on the border-line of insanity.—Dr. J. D. E Mortimer said that unremitting supervision was necessary in the treatment of such patients, as it was impossible to foretell whether sudden suicidal impulse might not arise. The association between melancholia and malnutrition was a close one and he agreed with Dr. T. S Clouston as to the necessity for "feeding up" and "fresh air" in such conditions.—Dr. J. B. Ball showed a case of Melanotic Sarcoma of the Soft Palate. The patient, a man, aged 53 years, had noticed black patches on the roof of his mouth for about two years and about 15 months later a growth appeared on the soft palate. This led to no inconvenience till three weeks ago when hæmorrhage caused him to seek medical advice.—Dr. Ball also showed a girl, aged 17 years, who had come under his care four weeks previously complaining of Swelling of the Left Cheek. The case was considered to be one of antral cyst. The treatment consisted in evacuation of the fluid through the anterior wall of the antrum and recovery was rapid without deformity of the face—Mr. G. A. Garry Simpson showed a case of Chloasma affecting the Neck.

THERAPEUTICAL SOCIETY.—A meeting of this society was held at the Apothecaries Hall, London, on April 19th, Dr. C. Cooper being in the chair.—Dr Herbert S. French read a paper on Some Experiments upon Drugs which are said to Increase the number of Leucocytes in the Blood. After describing the views of Metchnikoff and Ehrlich and Walker's experiments he said that he had found the leucocytes in his own blood amounted to 13,000 per cubic millimetre. He took nuclein by the mouth and hypodermically in increasing doses but he never found more than 13,125 leucocytes to the cubic millimetre of his blood. Then hypodermic injections of sodium cinnamate were tried but no increase of leucocytes occurred, and, lastly, collargol was injected in increasing doses. This raised the leucocytes to 22,187 per cubic millimetre, but caused fever, headache, and depression.—A note from Dr. T. B. Belgrave of Australia, a corresponding Fellow, was read inclosing the translation of a letter from Dr. Hahl, Imperial Governor, German West Guinea, stating that no parasite of a mosquito had been found there, but Dr. Dempwolff, the leader of one of the malaria expeditions, stated that a species of notonecta found in the pools devoured the larvæ of the anopheles and he suggested that the notonecta should be bred where malaria existed.—A paper from Mr. J. Maiden, director of the Botanical Gardens at Sydney, a corresponding Fellow of the society, was next read by the Secretary. The subject of the paper was Plants which Induce Eczema, the following being enumerated and instances of the irritation which they caused being given: (1) Phlebolium argenteum (rutaceæ) called blister plant; (2) and (3) (meliaceæ) dysoxylon Richii and dysoxylon Muelleri (red bean); (4), (5), and (6) (anacuardiaceæ) rhus radicans (the poison ivy), rhus diversiloba (the poison oak), and rhus vernix (the poison sumach or poison elder); (7) (leguminosæ) castanospermum Australe (the black bean); (8) and (9) (myrtaceæ) eucalyptus maculatus (spotted gum), and eucalyptus hemiphloia; (10) cassania aculeata (dogwood); (11) (compositæ) pyrethrum parthenium (feverfew); (12) and (13) (primulaceæ) primula obconica and primula sinensis; (14) and (15) (euphorbiaceæ) excæcaria agallocha and excæcaria parviflora; (16) (coniferæ) thuja Douglasii; (17) (liliaceæ) hyacinthus orientalis; and (18) (aroideæ) richardia Æthiopica (the arum lily). All these excited irritation of the skin by contact and some, such as the rhus and eucalyptus, even by proximity.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on April 22nd, Dr. Leslie Durno, the President, being in the chair.—Dr. J. S. Risien Russell read a paper on the Diagnosis and Treatment of Tumours of the Spinal Cord in which he laid stress on the fact that in their earlier stages cases of the kind were frequently mistaken for neurasthenia and hysteria. He quoted examples of this and pointed out what physical signs were present in the cases which were not in accord with the diagnosis of a functional affection and which of them made compression of the cord the most likely organic lesion present. Lumbago and sciatica were also often diagnosed in these cases and sometimes the pains were mistaken for those of tabes. It was not always easy to distinguish cases of syphilitic meningo-myelitis except when there were signs of concomitant syphilitic affection of intracranial structures, although the results of treatment might help to decide the question. Another disease that sometimes caused difficulty was subacute combined degeneration of the spinal cord, in which, however, pain did not antedate the motor and sensory paralysis in the way that it usually did in extramedullary tumours, while evidence of upward extension of the mischief might further prove of assistance in the diagnosis. Intramedullary tumours might readily be mistaken for syringomyelia, as in a case which he quoted, but trophic lesions of the skin, nystagmus, and curvature of the spine were absent. The differential diagnosis between intra- and extra-medullary tumours was most important, because while nothing could be done for the former the latter allowed of some of the most brilliant achievements of modern surgery. When there was good reason to suspect gumma mercury and iodide of potassium should be tried, but valuable time ought not to be lost when there were signs of progressive destruction of the spinal cord. In any case in which a non-syphilitic tumour was diagnosed and localised it should be removed with as little delay as possible unless the cord had already been destroyed beyond hope of repair.

PATHOLOGICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on April 20th, Dr. E. S. Reynolds, the President, being in the chair.—Dr. Nathan Raw made a communication on the Method of Infection of the Human Body by the Tubercle Bacillus and exhibited several specimens illustrating such invasions. He was of opinion that human and bovine tuberculosis were distinct varieties of the same disease and that the bacilli were culturally and morphologically different. Abdominal tuberculosis in children, together with enlarged glands and strumous joints, he considered were in reality bovine tuberculosis conveyed to the alimentary canal by tuberculous milk. He was also of opinion that acute miliary tuberculosis was generally bovine in origin and was not true human tuberculosis. He believed that the human body was attacked by two distinct varieties of tuberculosis.—Mr. W. P. Montgomery read notes of a case of Excision of a Congenital Dilatation of the Sigmoid Colon and showed the specimen.—Mr. F. A. Southam made some remarks on a series of 120 operations for the Removal of Vesical Calculi and showed the specimens which included examples of encysted calculi, spontaneous fracture, calculi containing foreign bodies as their nuclei, and so on. In 49 cases the calculi had been removed by lithotrity, 14 of the patients being boys under ten years of age. In 63 cases lithotomy had been performed, the lateral operation in 17 patients and the suprapubic in 46 patients. In ten cases there was a recurrence after operation—viz., in five patients after lithotrity and in five patients after lithotomy. No instance of recurrence was met with in children or in adults under 50 years of age.—Other preparations were shown as card specimens.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—A meeting of this society was held on April 11th, Mr. A. E. Maylard, the President, being in the chair.—Dr. G. B. Buchanan showed as a fresh specimen a Segment of Bowel with a Meckel's Diverticulum excised for the relief of obstruction. The tip of the diverticulum was not attached, nevertheless it and its mesentery had become twisted in such a manner as to produce a gradual strangulation of the bowel.—Mr. J. R. Riddell showed several cases of Rodent Ulcer, Lupus, &c., treated by the x rays and other electro-therapeutic means. Several of the cases were previously shown to the society in February, 1903. The results of the treatment had been most satisfactory.—Dr. A. N. McGregor and Dr. R. Ramsey gave a demonstration and read notes of experiments undertaken to determine the relative efficiency of some surgical dressing materials as absorbents of the discharges from wounds. The most efficient was found to be a cylinder of wood-wool and next to it was lint. The favourite packing (iodoform gauze) was found relatively very inefficient; some samples, indeed, were almost water-proof.—Dr. W. W. Christie (for Mr. J. Walker Downie) read notes of two recent cases of Crico-thyrotomy for the Removal of Intralaryngeal New Growths. Dr. A. R. Ferguson showed microscopical sections of the tissues removed and read a pathological report upon them.

WIGAN MEDICAL SOCIETY.—An ordinary meeting of this society was held on April 14th.—Mr. W. Mitchell Roocroft, who was in the chair, showed a patient (male), aged 45 years, on whom he had performed Gastro-jejunostomy for Cancer of the Stomach and adjacent organs three months previously. The patient recovered and had increased considerably in weight.—Mr. Roocroft afterwards gave his presidential address on Ankylostomiasis which was attentively listened to and much interest was evinced in the subject.

Reviews and Notices of Books.

A Text-book on the Practice of Medicine. By JAMES M. ANDERS, M.D., Ph.D., LL.D., Professor of Medicine and Clinical Medicine at the Medico-Chirurgical College, Philadelphia; Physician to the Medico-Chirurgical Hospital. Illustrated. Sixth edition. London, Philadelphia, and New York: W. B. Saunders and Co. 1903. Pp. 1275. Price 24*s.*

IT must be a source of gratification to Professor Anders that although the fifth edition of this work, of which two large reprints were made, was issued only two years ago yet another edition has now been found necessary. The practical applications of the results of experimental medicine to the diagnosis and the treatment of disease have been again made the feature of the work. The general plan and principles of classification adopted in the previous editions have been preserved, although the subject-matter has been thoroughly scrutinised and carefully revised. In our notice of a previous edition we commented favourably on the use which was made of tabular presentations of points in differential diagnosis and this plan has been retained. Those subjects which have recently attracted considerable attention, such as the mosquito-borne diseases (malaria and yellow fever), bacillary dysentery, cholecystitis and the use of the x rays in the diagnosis and treatment of disease, have all received a due share of attention. Brief descriptions have also been introduced of certain conditions which were not included in previous editions. Paratyphoid fever is noticed, this term being applied to a group of affections that closely simulate typhoid fever clinically but are due to an essentially different microbic cause; there is also an absence of intestinal ulceration; the condition which has been termed the "fourth disease" is also mentioned. The subject of trypanosomiasis only receives brief attention, the report of the Commission of the Royal Society not having been issued when this edition was in preparation. Attention is also directed to a rare form of aphasia—trans-cortical or conduction aphasia—originally supposed to be due to a lesion in the fibres uniting the centres of audition and motor speech. Examination has shown, however, that the lesions are of the most various description. A short account is given of adiposis dolorosa, a condition in which masses of fat are deposited irregularly in the subcutaneous tissues of the body with tenderness and spontaneous pain in these masses and derangement of the menstrual functions. A few remarks are devoted to a peculiar disease of the central nervous system termed amaurotic family idiocy. It is characterised by the occurrence, a few months or a few years after birth, of marked impairment of intelligence and gradually progressive loss of vision. The pathology of the disease is not known. We are informed in the preface that the changes and additions in the section devoted to diseases of the nervous system are from the pen of Dr. Joseph Sailer.

From the point of view of the medical practitioner this work is a most useful one. It is essentially a text-book on clinical medicine and as such will be found valuable for purposes of reference.

The Law relating to Pauper Lunatics. By SYDNEY DAVEY, B.A., LL.D., Barrister-at-Law. London: The Poor-law Publications Co. 1903. Pp. 177. Price 5*s.* 6*d.*

LIKE most of the manuals of lunacy practice this book consists of extracts from various statutes relating to insanity with explanatory notes and cross references. Inasmuch as it deals almost exclusively with pauper lunatics the reader interested in this class can find what he wants without being overwhelmed by "the literature of the subject" as contained within the covers of the unwieldy treatises of Archbold or Renton. Moreover, the work under review is up to date and fortified by recent decisions in the courts and as its author is a gentleman of considerable experience in matters relating to the Poor-law it may be safely recommended to the notice of boards of guardians and their officers, medical or other. It must be remembered, however, that Mr. Davey writes as a lawyer, not as one actually concerned in applying the provisions of the Lunacy Acts to the cases of insanity that the medical man meets with in practice, and consequently, although his opinions are perfectly sound, they are not necessarily always to be followed strictly. Thus in dealing with the definition of the term "pauper" as implied in Section 18 he inclines to the view that the words "in such circumstances as to require relief for his proper care" bring the case within Section 13. He is quite possibly right but Section 14 is the one which the Commissioners in Lunacy regard as the proper one and Section 20 is the one which relieving officers employ. It is a distinct convenience to regard the transfer to a workhouse and the reception there under the last-mentioned section as equivalent to relief and until the courts decide otherwise we see no reason for adopting the suggestion that such a construction is fallacious. Similarly, in spite of the opinion given by the Law Officers of the Crown in January, 1901, justices often adhere to the procedure formerly in vogue in dealing with cases under Section 20 instead of following the more orthodox route which requires the workhouse medical officer to assume the responsibility of detaining the alleged lunatic under Section 24.

There are one or two points concerning the duties of medical men upon which we have sought information in vain. For example, it is not explained what is to be done f the workhouse medical officer, acting under Section 24 (i.), does not see eye to eye with the workhouse master acting under Section 20 as to what constitutes proper accommodation in the workhouse.

A section deals with soldiers, seamen, and marines who become insane. The Army Act, 1881, which is as far back as Mr. Davey goes, was not retrospective and there are still military lunatics who do not fall within its provisions. A note dealing with these might be added to a future edition. The portion of the book concerned with the maintenance of paupers in asylums is commendably full and should prove very useful. Altogether the work is an excellent one and Mr. Davey has dealt with a complex and difficult subject n a manner which is, on the whole, quite satisfactory.

A System of Physiologic Therapeutics. Edited by SOLOMON SOLIS COHEN, A.M., M.D., Senior Assistant Professor of Clinical Medicine in Jefferson Medical College; Physician to the Jefferson Medical College Hospital. Vol. VIII: Rest, Mental Therapeutics, Suggestion, by FRANCIS X. DERCUM, M D, Ph.D., Professor of Nervous and Mental Diseases in the Jefferson Medical College of Philadelphia; Neurologist to the Philadelphia Hospital. London: Rebman. 1903. Pp. 332. Price 12*s.* 6*d.*

THE nature and scope of this system of therapeutics are well known to our readers, reviews of previous volumes having appeared in our columns. The subjects discussed in the present volume are for the most part not to be found in the ordinary text-books but are, nevertheless, of great interest. Rest is of the utmost importance in treating certain diseases of the central nervous system, more particularly those which have a functional origin. Professor Dercum has succeeded in presenting the subject in a systematic manner. Simple physiological truths and clinical facts have so far as possible been placed side by side together with logical deductions in regard to treatment.

The first condition described is neurasthenia or, as Professor Dercum prefers to term it, "fatigue neurosis." This disease is a common one but the principles which guide its treatment are not always fully understood. A graphic description is given of its clinical features and then the application of rest as a therapeutic measure receives full consideration. The management of the diet in these cases requires close supervision and Professor Dercum gives full directions as to the nature and quantity of food which is required. It is rightly insisted on that the closest possible attention must be given to the execution of details when a "rest cure" is being carried out lest the whole purpose of the treatment should be defeated by some apparently trivial neglect.

A very good account is given of hysteria. Professor Dercum points out that hysteria is a genuine affection, the symptoms of which are in no sense assumed. The manifestations which are observed, though presenting great individual variability, consist of sensory, motor, psychic, and visceral phenomena so definite in character that taken together they constitute a distinct, well-outlined clinical whole. The method of treating the disease by means of rest is clearly and minutely explained and especial emphasis is laid on the difficulty which is frequently experienced in dealing with the visceral symptoms of hysteria, anorexia nervosa more particularly often proving a great obstacle to recovery.

The second part of the volume deals with the Therapeutics of Mental Disease. It is divided into two chapters, the first containing a consideration of the prevention of insanity and the general principles of the treatment of the insane and the second giving many useful hints as to the treatment of the special forms of mental disease, including drug habits and the insanities of intoxication.

The third and last part of the work contains some very sensible remarks on Suggestion. Professor Dercum points out that much unnecessary mystery attaches to this term. Unfortunately it has been associated very closely with hypnotism and has acquired an almost specific meaning. To make a suggestion, however, does not mean to impose a hallucination or a delusion upon a person in the condition of hypnotic sleep, but merely to convey to, or to arouse in, the mind of another some thought or idea in an unobtrusive manner. Physicians employ suggestion habitually, though most frequently they do so unintentionally and unconsciously. That it often powerfully affects the progress of a case, for good or for ill, must be admitted. It is rarely, of course, that suggestion alone is relied on; it is commonly as an adjuvant to treatment by other means that it proves of value.

Professor Dercum discusses the subject of hypnotism in an able and judicial manner and comes to the conclusion that it is only applicable as a method of treatment to an exceedingly limited number of cases.

This volume is well worthy of perusal and we can commend it to the notice of our readers.

The Eye, its Refraction and Diseases. By EDWARD E. GIBBONS, M D, Assistant Surgeon of the Presbyterian Eye, Ear, and Throat Hospital. New York: The Macmillan Company. London: Macmillan and Co., Limited. 1904. Pp. 472, small 4to. Price 21*s.* net.

ALTHOUGH the title of this work implies that the diseases of the eye will be described the author confines himself almost completely to the consideration of the physics and physiology of the eye. The reader will not find any account of the numerous inflammatory affections of the different tunics of the eye which occupy so large a space in all modern text-books, or of the diseases of the lids or lacrymal apparatus, or of cataract and the operations that have been devised for its removal, but upon the other hand he will obtain by a perusal of the 28 chapters into which it is divided an exceptionally full and complete knowledge of those facts which are partly based on theory and partly rest on experiment and which have of late years so wonderfully increased the interest that has always been felt in the functions of this organ. It is curious to notice that only half a century ago many of the headings of the chapters would have conveyed but little meaning even to those who were most familiar with the anatomy, physiology, and pathology of the eye. Such terms as retinoscopy, ophthalmoscopy, ophthalmometry, optometers, prismoptometry, astigmatism, visual acuity, and others indicate the new ground that has been broken and the immense strides that have been taken since the introduction of the ophthalmoscope.

The essential feature of the book is the very complete account that is given of the numerous instruments devised of late years for testing the different functions of the eye, including distance, colour, field of vision, motility, and refraction, and the examination of the tunics and media. Thus in regard to ophthalmoscopy alone four forms of ophthalmoscope employed by Loring as well as others by Knauer, Payne, and Roth are described and illustrated. The appearances presented by the retina and the choroid in health and in some forms of disease are described briefly but clearly. It need hardly be added that the details of the course pursued by rays of light in refraction by lenses and reflection by mirrors and the mode of production of the ophthalmoscopic image are given in full.

In discussing the cause of the light streak seen with the ophthalmoscope on the surface of the vessels the author remarks that it is a reflex streak formed by the reflection of light from the anterior convex surface of the column of blood within the vessels; at the same time he gives the opinions of Loring and Noyes that it is due to the light being condensed in passing through the column of blood in them and then reflected back by the subjacent tissue and the view taken by others that it is due to different causes in the arteries and veins—in the veins resulting from a reflection from the surface of the column of blood within them, whilst in the arteries it proceeds from the axial part of the blood stream.

Many forms of perimeters are given and the examination of the field of vision naturally leads to the consideration of the nature and varieties of scotomata, with the conclusions that may be drawn from their number, form, extent, and position and the inferences deducible in regard to the situation of the lesion of the optic nerve, chiasm of the tract, or primary optic centres.

More space is devoted to the consideration of prisms and lenses than is to be found in modern ophthalmological works. An account is given of Dr. Williams's lantern for testing the colour sense of those employed in signalling either on land or sea. The best chapter in the book is probably that devoted to astigmatism. The numerous arrangements of dials, letters, discs, and lines for its discovery are described and illustrated, and in addition drawings are given of Ridgeway's chromatic test for astigmatism and of Holtz's astigmometer. The thoroughness with which the formulæ used in optics are given renders this book a valuable accompaniment to any of the larger ophthalmological treatises. The reader will find a full account of the theory of Gauss and the principles involved in the schematic eyes of Donders, Listing, and Helmholtz We can recommend the work to all those who are devoting themselves to the study of the diseases of the eye.

A Manual of Medical Jurisprudence for India. By Lieutenant-Colonel J. B. GIBBONS, I.M.S. Calcutta: G. W. Allen and Co. 1904. Pp. 475. Price Rs. 12 8.

THE officers of the Indian Medical Service can to-day rely on several works on medical jurisprudence. They can consult in addition to the old but valuable treatise by Chevers the more recent works by Lyons and Barry. The latest published volume on the subject is the one now under review. The author is eminently qualified as an exponent of the subject, having been formerly police and coroner's surgeon at Calcutta and professor of medical jurisprudence at the medical college in that city. He has embodied in these pages the experience derived from eight years' service in the former office. As the result of his own personal work and of the study of the standard works on medical jurisprudence at home and abroad, Lieutenant-Colonel Gibbons has in this volume given us a worthy addition to the above existing standard works.

In his introduction the author traces briefly the successive steps by which medical jurisprudence has attained its present importance. The questions connected with medical evidence are then lucidly considered and amply set forth by various illustrations and the chapter concludes by directing attention to the facts in connexion with the drawing up of medico-legal reports. After this introduction the author enters first on the subjects in relation with death, such as its modes, its signs, the characters of the post-mortem stains, and rigor mortis. It is pointed out that whereas cardio-respiratory inhibition may simulate death yet that this condition can only last a very few minutes. According to the author's experience, the body becomes cold in India in less time than in England. The onset of rigor mortis also comes on more quickly. The importance medico legally of the curious phenomenon of cadaveric spasm is insisted upon The chapter on Putrefaction is very complete; attention is here drawn to the manner in which flies, ants, jackals, rats, and fishes mutilate the dead body, it is pointed out how in India very great variation occurs in the rate of progress and in the appearances produced in the process. Lieutenant-Colonel Gibbons mentions in this chapter the important fact that in natives the presence of food in the stomach does not justify the opinion that the patient died within six hours of taking his last meal.

The matters to be noted in the examination of the dead body come next. The author does not agree with the oft-mentioned statements in medico-legal works concerning the retention by the face of the expression which it held at the time of death. He also notes the advanced state of putrefaction that so commonly has occurred before the body has been brought into the post mortem room to be examined. In our experience this has happened in India oftener than not. A very complete description is given of the method to be followed in the making of the post-mortem examination. In the chapter on Identification, besides the signs generally described in medico-legal works, attention is drawn to those due to the religious and caste customs of the people, such as are manifested by the ears and the nose, the fastening of the coat, and the course of the sacred thread. The symptoms and the post-mortem appearances of asphyxia are then detailed and the form of capillary hæmorrhages occurring along the posterior surface of the thoracic aorta, described by Kratter as being of considerable value in this respect, is noted. The three ways of producing asphyxia—by hanging, strangulation, and throttling—are then studied in considerable detail. Thus, in asphyxia from hanging we find that the cause of loss of consciousness is discussed and attention is directed to the fact that it is due to the compression of the carotid arteries and pneumogastric nerve; the post-mortem signs, and especially those due to the mark of the rope, are detailed. As regards the diagnosis of death by hanging it is pointed out with respect to the noose mark that Casper's conclusions also hold good for India, inasmuch as no difference can be detected between the mark caused by suicidal hanging and that produced by a noose applied after death. The author here points out that in a case of alleged hanging it is well to recollect that the tissues of the neck show no sign of injury, as a rule, in cases of suicide and therefore that where injuries are found close scrutiny should be made. After death by hanging that occurring from strangulation and throttling is next fully discussed; the latter in India is a common mode of homicide and in the signs detailed attention is drawn to the fact that the crescentic cuts produced by the nails are not *often* seen in India where the custom of keeping the nails short is general. The chapter on Drowning is very complete; the post-mortem appearances are well described and here the author points out that the presence of fine lathery froth about the nose and mouth is not peculiar to death by drowning; Lieutenant-Colonel Gibbons has many times seen it in cases of opium poisoning. As regards the period during which the body will rise to the surface and float after death the author states that in his experience this will be in or within 24 hours in the hot weather and in from one to two days in the cold.

Mechanical Wounds and Injuries next claim the reader's attention. These are discussed generally and also with respect to the different parts of the body concerned, such as the skull, the spine, the neck, the chest, the abdomen, and the extremities. The important subject of Rupture of the Spleen is fully considered. We then come to the subject of Fatal Injuries; here much useful information can be found with regard to the proper answering of questions that may be put to the medical witness in court. Burns and scalds and cognate conditions are described and the reader of this work in Europe may be surprised to find the subject of Death from Cold entered into; however, should he ever visit the Punjab in the winter months he will know what cold is during the early hours of the day.

The next section is an important one on Poisoning. How important it is for the medical man can be appreciated by him when he learns that "murder by poisoning in India is three times as prevalent and suicide by poisoning many times more prevalent than in England." It is probable that murder by poisoning also is much more common in India than the recorded cases indicate. The chemical examiner to the Bengal Government at the Indian Medical Congress in 1895 clearly showed the necessity for an Act to restrict the sale of poisons and more especially of arsenic which appears to be *the* homicidal poison. The diagnosis of poisoning, the evidence of poisoning in the dead body, and the precautions to be taken in the post-mortem examination are fully stated, and the various poisons are considered.

The question of sex in all its relations and of sexual crimes is then considered and the work concludes with the subjects of Pregnancy, Infanticide, and Insanity. The author is to be congratulated on having produced an excellent treatise.

Biographic Clinics. Vol. II.: The Origin of the Ill-health of George Eliot, George Henry Lewes, Wagner, Parkman, Jane Welch Carlyle, Spencer, Whittier, Margaret Fuller Ossoli, and Nietzsche. By George M. Gould, M.D. London: Rebman, Limited. 1904. Pp. xi.–392. Price 5*s*.

The present work by Dr. Gould consists of a republication of single papers or essays, one of which, the paper on the ill-health of Wagner, originally appeared in our own columns, and may be described as an additional attempt to convert the medical profession to a belief in the author's favourite doctrine that migraine in general, as well as a large number of the maladies which afflicted the eminent persons of whom he writes, may be attributed to undetected astigmatism or to other irregular forms of ametropia and were or would be curable by the employment of proper spectacles. Dr. Gould is no doubt entirely convinced of the correctness of his assertions and he is indignant both with reviewers who have accused him of exaggeration and with those who, as he conceives, have not taken sufficient heed of his earlier publications. But even reviewers, it may be pleaded, are subject to the limitations imposed by space and time; and should not be too hardly dealt with if they are sometimes more chary of expending these than the authors with whose works they deal may consider to be fitting or necessary. The weak point of Dr. Gould's case is that some of the sufferers of whom he writes died before astigmatism was commonly recognised even by ophthalmic surgeons, and that his opinion of the causes of their ailments cannot now be regarded as other than conjectural, while with regard to some of those who died more recently the evidence actually available can scarcely be said to confirm his views. In the case of Parkman, for example, Dr. Gould represents him as having entirely neglected study while at Harvard but does not explain how it happened that at the age of 21 years he graduated there with high rank; and in the case of Nietzsche he would have us believe that an astigmatism sufficient to produce serious symptoms was overlooked so lately as in 1899 or 1900 (the dates are somewhat vague) by no less an authority than Professor Alfred Graefe of Halle. As a matter of fact, indeed, it is an essential part of Dr. Gould's argument that English and German "oculists," as he calls them, habitually ignore or neglect not only astigmatism but also, generally speaking, all defects or inequalities of refraction which are slight or moderate in degree and which, he contends, are more frequently productive of serious symptoms than higher grades of the same conditions This latter conclusion appears to us to be contrary both to common sense and to experience; and the suggestion that ocular defects can only be recognised and dealt with in America is one that seems hardly to call for serious consideration.

It is, of course, perfectly well known that errors and inequalities of refraction are liable to produce headaches and other discomforts, including incapacity for sustained near work, but we think it is impossible to assign to these causes more than a very small part of the influence which Dr. Gould claims for them. He tells us that "the doing something while sitting means 'eyestrain' in *at least 25 per cent. of the doers*," and a few sentences before that the effects of "eyestrain" may be "awful," the "rights of the irritated brain being ruthlessly trampled upon by the most cruel overuse and abuse." With great submission to an American experience which is repeatedly described as covering "thousands" and sometimes "millions" of cases of this kind, we feel bound to say that, tested by the opportunities of this country, such assertions not only exaggerate the facts, but carry exaggeration to a limit at which it is either rendered harmless by its absurdity or is even calculated to produce a reaction possibly tending towards neglect. The one possible use of Dr. Gould's book will be to render ophthalmic surgeons careful to afford no justification for his strictures, and to increase the care of physicians in requiring complete investigation of the refraction of neurotic patients; but it is not likely, we think, to make many converts to his views. Among other grievous faults it is disfigured by an almost ferocious violence of language such as should have no place in a scientific discussion. The action or alleged inaction of "German and English oculists" is repeatedly described as "criminal," and Dr. Gould is not content with his endeavours to explain all Mrs. Carlyle's troubles by astigmatism but quite superfluously engages in the unsavoury contest which has recently raged over her life and correspondence and brings to it such words and sentences as "asinine," "atrocity," the "loathsome and infamous deed of a cowardly bungler," and so on *ad nauseam*. He has yet to learn that unmeasured language adds no force to argument and that mere abuse is eminently distasteful to gentlemen.

LIBRARY TABLE.

Martin's Up-to-date Tables of Imperial, Metric, Indian, and Colonial Weights and Measures. Compiled and written by ALFRED J. MARTIN, Fellow of the Surveyors' Institution, England. 1904 Pp. 255. Price 2*s.* 6*d.* *Martin's Up-to-date Beginners' Table book.* Pp. 48. Price 1*d.* London: T. Fisher Unwin.—The main object of the larger book of tables seems to be to encourage by comparison and argument the use of the decimal metric system of weights and measures and is more likely to appeal to adults with matured judgment than to school children. The two books are certainly full of useful tables and information of a kind that it is often difficult to get hold of quickly when wanted but there are a few things that require correction. In the penny introductory book, which is stated on the cover to be "for schools and home teaching," we think that it would have been better to omit the arguments in favour of the metric system and we hardly think that the pupil should be told that "all weights and measures not appearing in the following tables are purposely omitted to prevent a pupil's mind from being crammed with a lot of nonsense," and that "it is not only waste of time but harmful to teach *obsolete* tables of bread, butter, coal, wood, &c., put in most table-books." If a master is bound to teach these tables it might lead to rebellion and argument on the part of the pupil and to subversion of discipline. The rule for changing a recurring decimal fraction to a vulgar fraction given on p. 21 of the little book is not clear to us and we think that the terms "numerator" and "denominator" have become mixed. In the large book under "Measures of Temperature" the name of Celsius has been printed "Celius." One of the formulæ for converting degrees of temperature from one scale to another is given as $R=\frac{4(F-32)}{8}$. Here 8 has evidently been printed in mistake for 9. It is interesting in this connexion to note that the second reading of the Weights and Measures (Metric System) Bill was moved by Lord Belhaven in the House of Lords on Feb. 23rd. The object of the Bill is to render compulsory the use of the metric system of weights and measures in this country. This Bill was supported by Lord Kelvin who contended that the decimal system worked out by the French philosophers originated in England. In a letter dated Nov. 14th, 1783, James Watt laid down a plan which was in all respects the system adopted by the French philosophers seven years later. A writer in the *Daily News* of March 10th, 1904, claims that an Englishman, Sir John Riggs Miller, M.P., largely influenced the French in 1790 in starting the practical adoption of the metric system in France. Lord Belhaven stated that the adoption of the metric system would be of great advantage to our export trade. This was especially the case with the drug trade. It was given in evidence before the committee of 1895 that at the beginning of the nineteenth century the drug trade of the world was confined to London; at the end of the century London still retained 70 per cent. of this trade but was now fast losing the command, many of the drugs being sent to Amsterdam and Havre because people did not like to weigh and to pay for them by English measures. The South American Republics now went to Paris for their drugs because the metric system was used there. The Marquess of Lansdowne instanced the danger of getting English medical prescriptions made up on the continent, some pills being made for a friend of his as large as marbles in consequence of the ignorance of the druggist's assistant of English weights and measures. On April 15th, Mr. Bousfield, M.P. for North Hackney, moved the second reading of his Weights and Measures Bill in the House of Commons and tried unsuccessfully to introduce an instalment of the metric system and to abolish troy weight and apothecaries' weight. Particulars of this Bill will be found in THE LANCET of April 23rd, p. 1169, under "Parliamentary Intelligence." At p. 154 of his tables Mr. Martin gives a list of proposed reforms, one being the abolition of the old apothecaries' weight, and after two years the discontinuance of avoirdupois denominations in the Pharmacopœia and the issue of metric weights and measures to medical men, druggists, and others. Another reform proposed is the abolition of the apothecaries' fluid measures. The metric system of weights and measures is very useful and simple for many purposes but we have known well-educated people who have studied decimals say after doing a sum, "Yes, the figures are all there, but where am I to put the dot?" If the dot is put in the wrong place in medical prescriptions it may lead to serious trouble. To some minds the Latin and Greek prefixes of milli-, centi-, deci-, deka-, hekto-, kilo-, are confusing but these terms need not always be adopted. The duodecimal opponents of the decimal system complain that ten is not divisible by three without a remainder. This is particularly brought home where three articles are sold for 25 centimes, and a person only wants to buy one or two. We have observed that those Englishmen who have become thoroughly acquainted with the metric system of money and measures abroad are in favour of its adoption at home. Those who have not had that experience rather dread the innovation because it will give them a lot of trouble to learn new tables although they are willing to admit the advantages of the decimal system. In the engineering, electrical, and other technical trades and scientific circles in this country decimal metric weights and measurements are used every day and have become almost indispensable. The fact that the decimal metric system has become so extensively used by all the highly civilised nations with the exception of Russia and Great Britain is a very powerful argument in its favour. We feel that if the weights and measures of the decimal metric system are made compulsory in this country, a decimal system of coinage must be adopted simultaneously. Otherwise the full advantages of the system will not be apparent and there might even be confusion in trades dealing in dozens and grosses at certain prices.

JOURNALS AND MAGAZINES.

The Journal of Anatomy and Physiology. Conducted by Sir WILLIAM TURNER, K.C.B., F.R.S., D. J. CUNNINGHAM, F.R.S., G. S. HUNTINGTON, M.D., A. MACALISTER, F.R.S., and J. G. M'KENDRICK, F.R.S. Vol. XXXVIII., Part III. April, 1904. London: Charles Griffin and Co., Limited. Price 6*s.*—The contents of this number of the journal are: 1. A Study of the Astragalus, by R. B. Seymour Sewell, B.A., with four plates. Mr. Sewell has examined and compared upwards of 1000 specimens of this bone obtained from the tombs of the predynastic Nagadah race and from the tombs of Egyptians, the dates of which range from the fifth dynasty to the Ptolemaic and Roman periods. He obtained a length-breadth index by dividing the greatest breadth + 100 by the greatest length; the average was found to be 78 but there were considerable variations. Diagrams show the different types of curvature in the trochlear facet. 2. Observations on Traction Epiphyses, by F. G. Parsons, F.R.C.S. Eng., with 13 illustrations. 3. John Grattan's Craniometer and Craniometric Methods, by Johnson Symington, M.D. Edin., with two plates. 4. On the Presence and Significance of the Superior Commissure throughout the Vertebrata, by John Cameron, M.B. Edin., with two plates. Dr. Cameron finds the superior commissure a constant and well-marked structure in birds, the fibres arising from the cells of the ganglia habenulæ and decussating. In the adult human brain one lateral half of the pineal gland is supplied by fibres from the ganglion habenulæ of the opposite side.

Hence the human pineal gland is probably a bilaterally developed structure possessing a bilateral nerve-supply. 5. A Method of Demonstrating Tracings to Large Audiences, by Walter Colquhoun, M.B. Glasg. 6. A Comparative Study of the Grey and White Matter of the Motor-cell Groups and of the Spinal Accessory Nerve in the Spinal Cord of the Porpoise (Phocœna communis), with five plates, by David Hepburn, M.D. Edin., and David Waterston, M.D. Edin. 7. Observations upon the Distribution and Structure of Hæmolymph Glands in Mammalia and Aves, including a Preliminary Note on Thymus, by Thomas Lewis. 8 Lectures on the Early Stages in the Development of Mammalian Ova and on the Differentiation of the Placenta in Different Groups of Mammals, by Arthur Robinson, M D. Edin., with two plates. 9 The Germ Cells, Part I. continued, by John Beard, D.Sc.; Sect. xiv., Primary and Secondary Germ Cells.

The Quarterly Journal of Microscopical Science. Edited by E RAY LANKESTER, F.R.S., ADAM SEDGWICK, F.R S, W. F. R WELDON, F.R S., and SYDNEY J. HICKSON, F.R.S. With Lithographic Plates and Engravings on Wood. London: J. and A. Churchill. New Series, No. 188. 1904. Pp. 145. Price 10s—This number contains the following memoirs: 1. Edwin S. Goodrich, M A., on the Dermal Fin Rays of Fishes, Living and Extinct, with seven plates. Mr. Goodrich finds that in all the fins of true pisces there are present dermal rays of mesoblastic origin, the dermotrichiæ. In the elasmobranchii and holocephali and probably also in the acanthodii and ichthyotomi these rays are unjointed, occasionally branched and composed of a fibrous substance of horny consistence without bone cells. These he proposes to term ceratotrichia. All living teleostomes are provided with small horny unjointed rays at the edge of their fins to which the name actinotrichia has been given. The teleostomes are further provided with jointed and branched bony dermal rays developed outside the actinotrichia. They closely resemble the body scales, from which they are probably derived, and Mr. Sedgwick proposes to call them lepidotrichia. In the dipnoi (lepidosiren, protopterus, and ceratodus) are found jointed dermal rays of bony substance containing bone cells. To these the name of camptotrichia is provisionally given. The camptotrichia of the dipnoi represent the lepidotrichia of the teleostomes and the lepidotrichia are probably derived from modified scales. 2 E Ray Lankester, F.R S.: The Structure and, Classification of the Arthropoda. This memoir is a reprint of the articles Arthropoda and Arachnida, which were published four years ago in the widely advertised tenth edition of the Encyclopædia Britannica but which Mr. Lankester complains have been overlooked by recent writers. 3. Professor Marcus Hartog: Some Problems of Reproduction. The first part of this article is occupied with the subject of multiple fission and embryonic enzymes; the second is an essay on fertilisation, in which the author gives a very interesting account of recent views of the nature of this process.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 29, 1826.

REVIEW.[1]

Transactions of the Medical and Physical Society of Calcutta. Volume the First. 8vo. pp. 406. Thacker, Calcutta, and Parbury and Co., London, 1825.

To the oriental nations we owe the introduction of many simples into medicine, which were unknown to the Greeks and Romans, such as manna, senna, tamarinds, and rhubarb, besides musk, nutmegs, cloves, &c.; and in modern times, the mandàr, croton oil, &c. Hence it is not improbable, that many valuable remedies may yet be culled from the Materia Medica of the East; but if no accessions of value be derivable from that source, a vast store of knowledge, important equally to physiology and pathology, may be collected and rendered subservient to the healing art. That much may be done, is proved by the present volume of transactions, which, although the Society has been so recently established, contains many papers of sterling value, of these we shall now proceed to give some account. The first is an elaborate dissertation on "*Kushta*, or Leprosy, as known to the Hindus," by H. H. Wilson, Esq. The author of the present paper first takes a general view of the Hindu notions of leprosy, rightly judging that they might form a serviceable and interesting introduction to future and more scientific inquiries. "The advanced state of medical knowledge in Europe," he remarks, "is a sufficient security that the errors of these guides, imperfect as they undoubtedly are, will not lead us astray, whilst, from their long experience and accumulated observation, it is possible that some hints may be derived, which may lead us to an improved knowledge and classification, if not to a more successful treatment of the disease." From the systems of Hindu medicine,* therefore, (and it appears they are never satisfied with less than a system,) the author proceeds to specify the causes, symptoms, prognosis, and diagnosis, classification, and treatment of leprosy, a disease (according to these authorities) of the constitution, first disorganizing the integuments, but proceeding to destroy the solid parts and dismember the body.

According to Hindu writers, the causes of leprosy are disorders of the primæ viæ, however induced; hereditary disposition; contagion, and "political or popular superstition." Under the first head they reckon the taking of things which do not assimilate, as milk and fish, and viscous and indigestible foods. Exposure to fatigue or heat, after a full meal. Drinking water or walking while heated. Excessive bodily exertion or mental excitement. The use of new rice, curds, fish, and of salt and acid viands; of pulse, radishes, sesamum, milk, and treacle. Also sexual intercourse, and sleeping under a loaded stomach.

They assert that the blood and serum are affected by the disease, and that it may be thus communicated to the fœtus in utero. They declare that it may be communicated by contact, by breathing the same air, by eating together, by sitting on the same seat, or by wearing the clothes and ornaments, or using the perfumes of an affected person.

Lastly, to abuse Brahmins, or to hold in contempt spiritual preceptors, with many similar offences are superstitiously supposed to generate this loathsome affection.

It is probable that in warm countries rancid foods, or proper ones if devoured in excessive quantities, may be causes of this disease. Dr. Henderson makes the former one of the causes of elephantiasis in Norway, and Good, unwholesome diet of the Spanish and Italian varieties of that disease. Dr. T. Heberden also states that in Madeira, fish, melons, cucumbers, young garden beans, or mulberries, taken at the same meal with butter, cheese, or any preparation of milk, are supposed to produce it, and are therefore religiously avoided. Upon the whole, there is not much of novelty in the first set of Hindu causes.

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[1] Only a portion of this review has been transcribed. The whole occupies nearly eight pages of THE LANCET. 18 sorts of leprosy are enumerated in detail.

* The authorities which the author consulted, are the following:—The *Chikitsá*, or practical chapter of CHARAKA, which includes the *Nidan*, or pathology; the practical chapter of SUSRUTA; the *Chikitsá* and Nidan of BAGRHATTA; the Chikitsá of CHAKRADATTA and BANGA SENA; the *Nidan* of MADHAVA; the practical section of the *Rasa Ratnakar*, and the chapter of the *Bháva Praxás*, which comprehends all the branches of the subject. The classification of CHARAKA and SUSRUTA is uniformly adhered to.

ELECTION TO THE COUNCIL OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.—A meeting of Fellows of the College practising in Birmingham and the Midland counties was held at the Medical Institute, Birmingham, on April 21st, Mr. Frank Marsh being in the chair. The following motion proposed by Mr. George Heaton, seconded by Mr. John W. Taylor, and supported by Mr. Jordan Lloyd and others was unanimously adopted:—

> That this meeting of Fellows of the Royal College of Surgeons of England practising in Birmingham and the Midland counties is of opinion that the provincial Fellows are at present inadequately represented on the Council of the College and pledges itself to support the candidature of Mr. Gilbert Barling at the forthcoming election.

THE LANCET.

LONDON: SATURDAY, APRIL 30, 1904.

Small-pox and Vagrancy.

THE report of Mr. H. E. ARMSTRONG, medical officer of health of Newcastle-upon-Tyne, upon small-pox in relation to vagrancy is primarily a document issued for the information of the sanitary committee of the Newcastle corporation with reference to the dissemination of a particular disease by tramps. At the same time, however, its contents are fit matter for the consideration of all sanitary authorities throughout the United Kingdom and of the public whom it is their duty to safeguard, not merely because small-pox is a deadly and infectious disease but because all ought to realise that the tramp is a source of danger to the moral and the physical health of the community. In connexion with the present outbreak of small-pox and in order to ascertain the experience and the opinions of competent authorities upon its relation to vagrancy Mr. ARMSTRONG addressed a circular containing ten questions to the medical officers of health of 205 urban localities having populations of 20,000 and upwards. He has received and tabulated replies from 126 districts, 111 of which have suffered from small-pox during the recent epidemic, and of these 75 owed the introduction of the disease to tramps. This is a formidable proportion, whether we regard it as constituting over 50 per cent. of the districts returned as infected or as more than 25 per cent. of the whole. It is no trifling matter that one quarter of the principal cities, boroughs, and urban districts of England and Wales should have had to acknowledge the presence of small-pox with the expense and anxiety accompanying such a visitation and that this should be due to the insanitary and reckless habits of a worthless section of the community. The facts embodied in Mr. ARMSTRONG'S report and in similar collections of statistics surely should induce sanitary and other authorities to minimise the evil effects of the habits referred to and at the same time to lessen the evils inseparable from vagrancy by discouraging its existence. This can best and most justly be done by depriving it of its principal attractions. To wander at will without question and to be as dirty as he pleases are conditions of life essential to its enjoyment by the tramp; if they were made impossible for him he would almost cease to exist. Moreover, after living among vagrants in Germany, America, and England, Mr. FLYNT, the author of "Tramping with Tramps," declares that the British variety is far dirtier and more ragged than his Teutonic or his Transatlantic cousin. He appears also to be restrained less by law.

Among the questions asked by the medical officer of health of Newcastle-upon-Tyne which introduce or suggest the general topic of vagrancy is No. 7: "What means in relation to the spread of small-pox have you adopted to secure information as to vagrants visiting common lodging-houses? Have you put in force the provisions of Section 83 of the Public Health Act, 1875?" We find from the replies to this that in 56 out of 126 districts systematic inspection of common lodging-houses is relied upon and that in 37 only is Section 83 made use of. This provision of the Public Health Act is useful so far as it goes but its limited application is typical of our policy in such matters. It orders that the keeper of a common lodging-house in which beggars or vagrants are received shall from time to time make a report as to who has resorted to the house, with the reservation that this shall be done "if required in writing by the local authority." The discretion allowed to local bodies in such matters and the resulting variety in the methods adopted are shown from the answers to other questions besides the one referred to. Whether the tramp be regarded as a social or as a sanitary evil it seems highly desirable that a uniform manner of treating him should be obligatory throughout the kingdom. At present that locality profits the police and sanitary officers of which harass and restrain the wanderer, for it gets less than its share of vagrants and its laxer neighbours suffer in proportion to their laxity. The community at large, however, derives no benefit, for the attractions of vagrancy remain for those who know where to seek them. Other points with regard to which different practices prevail in different localities and to which Mr. ARMSTRONG'S report draws attention are the medical examination of tramps presenting themselves for admission to casual wards and the efforts made to impose revaccination upon them. Uniformity in the former case and the power to employ compulsion in the latter would seem to be desirable and just when we consider that these are persons who, whether they wander to seek work or in order to avoid the necessity of performing it, when they arrive in a district become a burden upon it with little prospect or with no intention of being anything else.

At the same time the problem of the vagrant is not one which can be dealt with easily or which can be solved by the enforcing of sanitary laws alone. The tramp is a moral and social evil as well as a danger to health. Drink has often been the original cause of his downfall and it remains as frequently a bar to his possible reformation. He may be vaccinated or cleansed when he patronises a casual ward and one of Mr. ARMSTRONG'S correspondents suggests that every common lodging house should have a bath to be used compulsorily and an isolation room for suspicious cases of illness. For several months of the year, however, the casual ward and the common lodging-house are the luxuries rather than the necessities of tramp life. The season is now beginning when those who have been spending the winter nights under cover in towns will find the hedge-row or the unwatched shed or outhouse sufficient in any locality where irksome conditions are attached to the use of more substantial sleeping apartments. "Sleeping out" may be punishable when those who indulge in it are brought before the magistrate but we are all familiar with the protests raised by so-called humanitarians when "sleeping out" is "punished as a crime" The carefully inspected common lodging-house, the Salvation Army shelter, cheap food, and the indiscriminate charity of rich and poor are sometimes welcome aids to the deserving worker in temporary difficulties but they combine to render the life of the tramp not only possible but pleasant and attractive. They enable the idle to live either by mendicancy or by crime or by both without any need to work and the example of men and women leading indolent, self-indulgent lives without responsibility or restraint is a constant temptation to others to adopt the same course. To control the beggar and the vagrant so as to prevent him from being by his example and contact a danger to his more industrious neighbours is no easy task for a country to undertake; to make a labouring man of the confirmed wastrel is still more difficult and in many cases may be found impossible. At present in the United Kingdom jails and the casual wards of workhouses are practically the only means provided for teaching him; the policeman eyes him with suspicion and enforces a Vagrancy Act passed in 1824 and the medical officer of health watches him with apprehension but cannot forcibly control his liberty to spread disease even when he is believed to have been in contact with it. The Salvation Army and other private agencies have made experiments with labour colonies and similar institutions. For organised State intervention, however, specifically directed against vagrancy we must seek examples abroad. Mr. ARMSTRONG refers to the colony at Merxplas in Belgium and to four others in that country for undesirables who are not criminals, and there are examples and experiments elsewhere. The literature on the subject published in England alone is not inconsiderable and the recommendations which have been made are numerous and in many cases of a practical nature. Legislative interference in such matters is, however, not easy to rouse and, as has been pointed out above, it usually takes the form of conferring powers upon local authorities and private individuals which they may exercise or not as they please. This is a characteristic of the private Bill now before Parliament to promote the establishment of labour colonies and to enable judges and magistrates to order vagrants to be detained in them. Meanwhile, the army of tramps does not diminish; indeed, it apparently doubled itself recently in a period of ten years and is probably still on the increase. A pedlar poet quoted by Mr. ARMSTRONG has written of the wanderer's existence—

> "If such a life as this I live
>   Offend some tender, high-strung soul,
> Then I must pray him to forgive
>   A blame of which I bear the whole."

But we may point out that the offence is to the soul not of the highly strung and tender but of those who have at heart the moral and physical welfare of the people and that the blame is not to be borne wholly by the tramp but must be shared by the system which permits, and, indeed, renders easy, his existence.

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Feeding in Relation to the Health of the Young.

THE Victoria University of Manchester is unquestionably rendering a valuable public service in printing the little pamphlet which has recently been sent to us and which represents a report of a lecture delivered by Dr. JAMES NIVEN, the medical officer of health of Manchester, on the subject of Feeding in Relation to the Health of the Young. We gather that this is one of a series of lectures bearing on the general subject of food and drink in relation to disease. In Manchester, as in other large centres of population, the signs of the physical degeneration of the people would appear to be so obvious that it has become necessary for the custodians of the public health to take official cognisance of a state of affairs which, if allowed to drift, might have serious industrial and economic results. It is a curious fact that although it is considered by many medical men that there is a progressive deterioration in the physique of the poorer classes in our towns there are no trustworthy anthropometrical statistics on a sufficiently large scale to prove that this widespread belief is true. This state of affairs, as we indicated in a leading article in THE LANCET of April 9th, p. 1003, will probably in the near future be rectified by systematic observations of height, weight, and general physical condition, being taken in the elementary schools. Dr. NIVEN has not accepted the progressive physical degeneration of the urban population as a proposition needing no demonstration, but has attempted to prove his point by relying on statistics of mortality. He contends that there is a close relationship between the capacity of wages to obtain food and the physical condition of the people. This, no doubt, is a perfectly justifiable conclusion, as also is the deduction that inadequate and improper dieting during the periods of infancy and childhood is the chief factor in the determination of physical inferiority in later years. In his lecture Dr. NIVEN makes certain practical suggestions for improving the present unsatisfactory condition of affairs. Among the more important of these suggestions may be included the following: that teachers should be trained to look after the physical condition as well as after the mental instruction of their scholars, that there should be legislation to enable the educational authority to enforce the provision of sufficient food and the maintenance of cleanliness in school children by parents, that the educational authority should be empowered to obtain from the rates sufficient provision for the free feeding of children under certain definite conditions, that in all schools a kitchen should be provided for instruction in the elements of cooking, and finally that the poorer population generally should be instructed as to the diet requisite and the means by which it may be most cheaply obtained. This latter point is a most important one, for in the economical expenditure of wages on food—and by economical we mean economical in both a physiological and a pecuniary sense—there is still a great deal to be learnt not only by parents but by others who are supposed to be familiar with the principles of dietetics. As a matter of fact, growing children require a much larger proportion of nitrogenous food than do grown-up persons, but among the poorer classes it is almost invariably the case that relatively they receive a very much smaller quantity, chiefly for the reason that nearly all forms of food of this kind are more expensive than the less essential but commoner varieties of carbohydrates. With a little ingenuity in cooking, two very cheap and valuable varieties of food—namely, pea flour and cotton-seed oil—might be largely employed for providing the poor with palatable and genuinely nutritious meals. The value of these foods in the feeding of cattle is well known but both of them are neglected in their application to the feeding of human beings. Although we have only mentioned a few of the many excellent points which Dr. NIVEN brings out in his lecture we have probably said enough to indicate that it deserves to be read by all those who are concerned with educational and hygienic questions.

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A Bolt from the Blue.

OUR esteemed contemporary the *St. James's Gazette* has suddenly discovered, or at least has suddenly announced, that the medical profession is in a parlous state and that its "ineptitude" is such as to constitute "a national danger." It seems that while we, its humble members, were on the whole rather well-satisfied with ourselves, thinking that the more original-minded of our number had made discoveries or had introduced improvements which were calculated greatly to diminish the ravages of disease, and that the immense majority were at the very least doing their best to render these discoveries and improvements available for the service of the public, we have, after all, been self-deceivers to a pitiable extent. The *St. James's Gazette*, supported by no less an authority than that of an unnamed "old resident surgeon at a famous London Hospital," one, moreover, who has achieved the exceptional distinction of being not only "M.D." but also "B.Sc. (Lond.), M.R.C.S. (Eng.), and L R C.P.," has torn away the veil behind which our weaknesses were concealed and has displayed us as we are to a scornful and horror-stricken world. It appears that there are "degrees which are legal registrable qualifications, but which would not entitle the holder to be considered in a senior student or junior house appointment at a good London hospital," and also that "anyone who has done (*sic*) a resident appointment at a big hospital will tell you of the huge blunders made by town and country practitioners alike, men of poor qualifications and no experience, who will go on making the same mistakes and missing the same vital points simply because there is no one to check them." Following these cheerful and lucid accounts of our deficiencies we have a gruesome history of a man with hæmorrhagic small-pox who was brought by his medical attendant (surely at least a benevolent and kindly one) 50 miles in a third-class carriage in order that he might reach a hospital where he could be operated upon for supposed stone in the kidney, and of another man who was told that he was "dying of consumption" and must not marry and who nevertheless got well, a "chance consultation with another man," possibly the narrator, having brought to light the fact that the supposed consumption was "a sort of muscular rheumatism." As a protection against the dangers likely to arise from the employment of incapable practitioners the public are advised to study the Medical Directory, which "gives shortly a man's qualifications, his appointments, and so forth," by which course not only would "the man in the street have less cause for complaint, but there would arise by competition a necessity for more skill and experience among the rank and file of the medical profession." Even this desirable consequence is scarcely held forth as a certainty, because the correspondent adds that "the public does not see any difference between A.B., late H.P., and C.D., L S.A. They are both equally doctors." "Late H.P." is good if, as we suppose, the mysterious initials mean "house physician." We cannot suggest any other interpretation of them, but an earlier portion of the letter described the writer as an "old" (? late) "resident" (? house) *surgeon*. It is gratifying to note that he holds the kindred office in even higher esteem than that which he would no doubt claim to have filled with distinction to himself and with advantage to his patients.

It is really pitiable that a respectable newspaper can be beguiled into giving currency to such flatulent rubbish as this. As a matter of course the medical profession, like every other, includes men of various kinds and degrees of capacity. Even the wisest of them are not infallible and only the most foolish of them think themselves so. The somewhat ungrammatical correspondent of our contemporary falls, we greatly fear, within the latter category. There are very few men of real professional learning and experience who have not encountered from time to time the "cocksure" youngster fresh from the schools or the hospital and who have not been amused by his kindly methods of dealing with their supposed deficiencies. But such youngsters, as a rule, are not eager to rush into print or to accomplish the feat known in homely phrase as "the fouling of their own nest." Generally they are more inclined to be magnanimous and to conceal the fancied errors which they plume themselves upon having detected. To write after the fashion of the correspondent of the *St. James's Gazette* is to display a profundity of unwisdom which only a very few persons can ever hope to reach. If he were to publish his name and so to seek "bold advertisement" of the skill which had enabled him to proclaim the errors of others his position would at least be intelligible, and non-medical persons of his own mental calibre are sufficiently numerous to confer upon such an enterprise some reasonable hope of success. By anonymity he cuts his own throat as well as the throats of his neighbours. When next he gives good advice to a patient he must expect to be told, on the authority of the *St. James's Gazette*, that medical men generally are incompetent and ignorant persons and that he himself is probably one of the majority. It will be of small avail for him to have an extract from the Medical Directory in his pocket-book, or even to display convincing evidence of an "old" H.P.-ship. The rule is likely to make more impression upon the patient than the exception, and even "old H.P.s," being human, must admit their liability to occasional error.

But, after all, fools have their uses and the curious effervescence of this particular example of the genus may possibly be rendered subservient to purposes of utility. It is probably true that some members of the medical profession, we believe a very small minority, can hardly be described as fit for the discharge of the duties which they undertake, and it is a question worthy of serious consideration whether for the future such persons should not, and might not, be altogether excluded from its ranks. We believe them to be mainly or entirely recruited from those who at most hospitals are known to the authorities as "chronic" students—men who from the first take but slender interest in the facts and principles which it is their duty to master and who either from idleness or incapacity are late in completing each of the stages of a student's career or who fail in successive examinations or in successive control and that the Board of Education lays down excellent rules. But these rules are in many instances disregarded and the Board of Education seems to have no machinery for enforcing its recommendations. Dr. Walford gives various instances in which ventilation was found defective and where the only heating apparatus was one which was strictly forbidden by the Board of Education—namely, a cast-iron stove with a flue-pipe running through the wall. He further quotes an instance on the authority of Dr. J. Kerr, formerly medical officer to the Bradford School Board, in which the amount of carbon dioxide in a Bradford school was found to be 31 volumes per 10,000. Besides ventilation Dr. Walford touched upon many other points of school hygiene, such as the provision of separate seats or desks and the spread of infection by means of school attendance, and concluded by referring to the necessity for medical inspection of schools and scholars. He mentioned in this connexion the recommendation of the recent Royal Commission on Physical Training (Scotland) to the effect that it is desirable that all schools should be under medical inspection. How this is to be carried out is a question by no means easy to answer but primarily the sanitary authorities, who after May 1st will be the education authorities too, must be responsible for medical inspection. Ratepayers are only too painfully aware of the expense of education but a little more spent upon medical supervision of the schools and scholars would result in a saving to the ratepayers by the lessening of epidemics of such diseases as diphtheria and scarlet fever.

"NEURASTHENIA."

Invented by Beard of America in the "sixties" to describe and to include a class of nervous affections more common in America than elsewhere, the term "neurasthenia" has been used with great elasticity since then to cover a multitude of obscure nervous affections of the most varied and opposing characters, to the great confusion of exact diagnosis and of scientific treatment. A process of elimination has, however, been going on during the past decade and much has been done to clear up and to define more precisely the essential characters of neurasthenia. In the *Boston Medical and Surgical Journal* of March 31st Professor Charles Dana deals with the important differential characters of this condition. While neurasthenia is, says Professor Dana, a psychosis or morbid condition of the cerebral nervous system it is different from a large number of psychical states which, though not acute or severe enough to constitute insanity, show a definite kinship to insanity. These cases come to the general practitioner or to the neurologist by whom they are put down commonly as some form of neurasthenia, hysteria, or "degeneration." "It is my contention," adds Professor Dana, "that a large number of these so-called neurasthenics and all the hysterics should be classed as prodromal stages or abortive types—a shadowy imitation—of the greater psychosis insanity. For in these cases it is the morbid mind which dominates the situation, not a weak eye-muscle, a poor stomach, a heavy womb, uric acid, arterio-sclerosis, or even an exhausted motor nerve cell." The psychical centres of the brain are the primary seat of the disorder, but the body may also be at fault. Many of these neurasthenic conditions are understudies as it were of the graver forms of mental aberration. There are, broadly speaking, says Professor Dana, five classes of insanity which represent varying degrees of departure from mental health and stability of brain (excluding idiocy, imbecility, and the organic dementia of syphilis, epilepsy, and cerebral softening). Representing the normal condition of the ego by a horizontal line the mental departures from this line (degrees of alienation) are in the following order of increasing magnitude—viz., dementia præcox, paranoia, maniacal-depressive insanity, melancholia, phrenasthenic psychoses, and toxic and exhaustion psychoses. The insanity of puberty and adolescence, which occurs before the age of 30 years and very often before 20, sometimes may come on quietly and insidiously with a long period of pseudo-neurasthenia. Paranoia is a form of grave and progressive mental disorder which comes on after adolescence and has a tendency to a cyclical course in which there are at first depression, moodiness, suspicion, egotism, and a sense of being badly treated; then follow systematised delusions and sometimes active explosions of excitement. The course is long but there is very little tendency to dementia, for though the degree of alienation is great the organic deterioration of the brain is almost inappreciable. The condition known as maniacal-depressive insanity is harder to recognise. We see much melancholia but true acute mania is rare. But there is, adds Professor Dana, a depressive insanity which begins early in life, often develops from slight causes, and recurs again and again with slight tendency to dementia. The chronic melancholia of middle and later life is often heralded by a "history of nervous prostration or of obscure nervous attacks when in the twenties or later," which have occasionally recurred. It can readily be understood that what is a pure psychosis, as is maniacal-depressive insanity in youth, may easily be made a chronic one by the complications and degenerative changes of later life. The late development of a psychosis such as this suggests that the constitutional taint underlying it is dying out, since violent mental confusion and tendencies to dementia are not seen in the pure forms of maniacal-depressive insanity in youth. The phrenasthenic psychoses form a "degenerative" group. It includes the mental and moral perversions, hysterias, phobias, aboulias, as well as morbid impulses and imperative ideas, and the many forms of dipsomania. With all patients of this class there is a tendency to "psychical storms or explosions" as in dipsomania, hysteria, and impulsive acts, or to fixity of morbid ideas, such as obsessions of fear, doubt, superstition, and the like. These patients are also neurasthenic on the somatic side. "I have been watching for a case of neurasthenia due to excessive physical work alone," says Professor Dana, "but I have never seen it." It does not occur—for example, as the result of long and hard athletic work, nor in bicycle races, or six-day pedestrians, or in firemen and stokers. "It is also the psyche that has to be hit in order to get a neurasthenia." Neurasthenia, strictly speaking, very rarely occurs under twenty. What we see then is the pseudo-neurasthenia of dementia præcox, or dementia præcox itself, or slight attacks of recurrent maniacal-depressive insanity, or the initial symptoms of a developing phrenasthenia. The depressive and anxious types of neurasthenia occurring after the age of 40 or 45 years are usually mild forms of the involutional melancholia of middle age, while so-called congenital neurasthenia is usually a phrenasthenia, a dementia præcox, or a paranoia. Cutting out the foregoing, concludes Professor Dana, one has cut away about one-half of the great national malady attributed to America.

INFANT FEEDING IN FRANCE.

In France the artificial feeding of infants has during recent years to a considerable extent displaced the time-honoured system of wet-nursing. Establishments known as "gouttes de lait" have arisen in various places. In these institutions, which are under medical supervision, sterilised milk is supplied to poor parents gratuitously or at a reduced rate. It is not pretended, of course, that any substitute of equal value for the mother's milk has been found. Nevertheless the feeding bottle is considered to be more wholesome and more merciful than a foster-mother and its effect on the health of the infant appears to have been distinctly beneficial. At such a "goutte" in Rouen 128 children were supplied, 46 of these being healthy when entered and 82 suffering from gastro-enteritis. Among the former there were four deaths, two from gastro-enteritis, and among the latter 22 deaths, of which seven were due to this disease. At Amiens prior to 1900 the mortality from gastro-enteritis varied between 292 and 196 cases. In 1900 a "goutte" was opened and the death-rate from this cause fell to 168 in 1901 and 100 in 1902. In the Montmartre district of Paris there were not more than 47 deaths among 384 infants taken to the "goutte." These figures, if not definitely conclusive, at least suggest an increased security of infant life under the new system. In estimating its effect allowance must necessarily be made for occasional errors due to ignorance or carelessness on the part of mothers or nurses. After more prolonged experience the statistical records of these institutions, already far from discouraging, may be expected to assume an aspect even more favourable than at present. Artificial feeding, when thus carefully carried out, possesses an obvious advantage over foster-parentage in the fact that it insures, or should insure, the continued supervision of a mother, while it also obviates the danger of constitutional contamination by the wet-nurse. It is the plan which has always found most favour in this country where the maternal source of supply has not been available. Its employment in the like case is further justified in France by the objection hitherto entertained there to the use of milk-food preparations which are unfortunately still too freely used in the British nursery.

ANTIVACCINATIONIST GUARDIANS AND THEIR VACCINATION OFFICERS.

A MAJORITY of the guardians of the poor in the Wandsworth and Clapham union hold "antivaccinationist" views and the methods which they adopt in order to avoid the fulfilment of their public duties in respect of vaccination are consistent with their opinions. These methods are likely to prove expensive to the ratepayers of Wandsworth and Clapham who will have to pay the costs in two actions brought against their board of guardians by two vaccination officers which were recently tried together by Mr. Justice Channell sitting without a jury. The actions were brought by the vaccination officers to recover the amount of two solicitors' bills of costs incurred in the prosecution of offenders against the Vaccination Acts. Upon a past occasion the antivaccinationist majority on the board had resisted the payment of solicitors' costs for this purpose and one of the vaccination officers had in consequence ceased to prosecute offenders. As a result of this the Local Government Board, which, of course, has power to dismiss him from his office, had exacted from him an undertaking to take proceedings in future. He had accordingly resumed the fulfilment of his duties but the opposition of the antivaccinationist guardians had continued, one of these gentlemen saying to him: "If you dare to take proceedings we will employ Mr. Schultess Young to fight you." This threat, intimating that legal aid would be at the disposal of all defendents, coupled with the fact that the barrister named was, in fact, employed in a large number of cases, was strong evidence to justify the vaccination officers in employing solicitors to prosecute. Mr. Justice Channell took this view and himself pointed out the technical nature of the defences usually raised in vaccination cases. He therefore held that the vaccination officers had acted perfectly reasonably in employing solicitors to assist them and in employing them from the beginning to the end—that is, to apply for the summons as well as to support it. He did not go so far as to decide that the discretion given to the vaccination officer to employ legal assistance under Article 29 of the Vaccination Order of 1898 enabled him to do so in all cases without question. The correctness of his judgment in doing so must be liable to review in a court of law, should it be questioned. No one interested in local affairs and local finances would wish this to be otherwise. The employment of legal assistance in all cases by vaccination officers would be useless and costly and no one desires that the expenses of the administration of the Vaccination Acts should be increased unnecessarily. Considerable increase of these expenses, however, will have been caused quite unnecessarily to their ratepayers by the guardians of Wandsworth and Clapham, for not only the costs of the actions to which we have referred will have to be paid, as has been said above, but the actual amount of the judgments obtained, being the sums paid for legal assistance, must have been considerably augmented owing to the guardians' attitude. Mr. Justice Channell did not conceal his views upon this subject. He said, according to the *Times*, "that as long as boards of guardians were found who set themselves up in opposition to the law under which they had been elected, so long would their constituents be put to wholly unnecessary expenses. It was entirely the conduct of the guardians which had driven these gentlemen to seek legal assistance and if people were so foolish as to elect such people they must pay for it."

ACUTE HEPATITIS WITH JAUNDICE IN SECONDARY SYPHILIS.

JAUNDICE is a recognised complication of secondary syphilis but as a symptom of severe disease of the liver (*ictère grave*) it is very rare. Fournier in the course of his vast experience has observed only 25 cases. At the meeting of the Société Médicale des Hôpitaux de Paris on March 4th M. Armand Siredey and M. Henri Lemaire described the following case. A girl, aged 18 years, was admitted to hospital on Jan. 9th, 1904, in a delirious condition. She could not furnish any history of her illness. On the next day one of her friends gave the following details. In August, 1903, she left home and began to lead a dissolute life. On Nov. 1st she returned ill and wasted and complaining of lassitude and severe pains in the head which became worse in the evening. Some days later she showed an icteric tint which gradually increased until the end of 1903. Then there was a slight remission of short duration which was followed by an increase of the jaundice. The latter persisted up to the time of admission. At the beginning of December there were violent pains in the lower abdomen and profuse leucorrhœa. Abundant epistaxis took place on Dec. 25th and 26th. On Jan. 8th, 1904, she suddenly became greatly agitated and in the evening she was delirious and vomited several times. On the following day she was admitted. She took no notice of questions but cried out or used abusive words. There were masticatory movements of the jaw, slight rigidity of the lower limbs, exaggerated knee-jerks, general hyperæsthesia, and dilatation of the pupils. The skin was of a marked yellowish green colour. The urine contained a little albumin and abundance of bile pigments but the stools were not decolourised. On the abdomen and thorax were numerous "papulo-squamous and papulo-erosive syphilides." On the vulva and at the anus were many mucous patches and on the neck were the "marblings" of a pigmentary syphilide. There were also manifest lesions of scabies, pediculi pubis, and gonorrhœal urethritis and vulvo-vaginitis. The liver was not enlarged. The temperature was subnormal, 97·5° F. On the following day there was profound coma with muscular relaxation. Examination of the blood showed 19 per cent. of mononuclears and 80 per cent. of polynuclears; no microbes were found. Lumbar puncture yielded a yellowish liquid containing numerous lymphocytes. The lumbar region was wet-cupped and injections of biniodide of mercury were given. Death occurred 30 hours after admission. At the necropsy the viscera were found bile-stained. The kidneys were congested. There were double salpingo-ovaritis and peritoneal adhesions in Douglas's pouch. The free ends of the Fallopian tubes were red, thickened, surrounded with false membrane, and adherent to the ovaries which were also congested and surrounded with membrane. The brain and spinal cord were congested but showed no lesions. The liver was of normal size; on section the right lobe showed a mahogany-brown colour with little yellowish masses which projected from the surface; the left lobe, on the contrary, showed a dark brown surface traversed by fibrous bands of a greenish tint and was more resistant than the right lobe. Microscopic examination of the left lobe showed extensive destruction of the cells which were in process of atrophy accompanied by fatty degeneration. They were surrounded by meshes of connective tissue, sometimes thin and sometimes dense and thick. The right lobe showed similar changes but less in degree. The kidneys were in a state of acute nephritis. A similar condition of the liver has been found in other cases of syphilis, acquired and hereditary. We may add that in the Transactions of the Pathological Society of London for 1867 the late Dr. Hilton Fagge recorded a case very similar to that reported above. A young woman had jaundice and died comatose in the sixth month of a secondary syphilitic eruption. The liver was found to be of an opaque bright yellow colour and dense consistence; it was infiltrated with nucleated fibroid material resembling that described by Gubler and others in infantile syphilis.

TWO GREEK PHYSICIANS AT THE COURT OF THE CÆSARS.

IN a passage referring to two medical men who were brothers and whose patients included members of the reigning family Pliny has left a record of the magnificent emoluments of medical practice in Rome under the Emperor Claudius.[1] He gives the name of one brother as Q Stertinius and we know that the other was C. Stertinius Xenophon who is twice mentioned by Tacitus.[2] These brothers came originally from the island of Cos and were members of an Asclepiad, or medical family, there; their grandfather, whose name was Xenophon, lived in Cos. A variety of particulars relative to C. Stertinius Xenophon and his family have recently been learned from inscriptions discovered at Calymnos and at Cos. The first which was brought to light makes only an indirect reference to the Xenophon of the Emperor Claudius but does so in a significant manner. It is a text in honour of a certain Cleonymos and in it one of his principal claims to notoriety is his relationship to C. Stertinius Xenophon. This latter personage, the text tells us, was a Roman citizen and had once been a tribune in a Roman legion. This almost certainly was the personage referred to by Tacitus and another inscription found about the same time near by, speaking of him as a friend of Augustus and of Claudius, confirmed this view. Subsequently three other texts were found all honouring Stertinius Xenophon, and the series explains to us that the brothers Cleonymos and Xenophon were sons of Heraclitos who we know, from one of the documents, was a son of a Xenophon. The text which tells us this genealogical fact is one relating to C. Stertinius Xenophon's uncle, Tiberius Claudius Philinos, whose friends, when inscribing a statue base in his honour, thought it advantageous to him to mention that C. S. Xenophon, the great man at Rome, was his nephew. But more than this it tells us that this nephew was in the medical profession. For the purpose of illustrating the career of the younger Xenophon of Pliny and Tacitus all these inscriptions are insignificant compared with a long one which was the last epigraphical evidence relating to him to be discovered. We have of this record some 18 fairly complete lines. These relate that C. Stertinius Xenophon was chief physician to the Imperial family and subsequently, at his native Cos, priest of the Asclepiad deities, Hygeia and Epione. For us, too, it divulges a most interesting episode in his career, for it relates that he had been a *præfectus fabrum*, or officer of pioneers, in the Roman army under Claudius in the British war and conducted himself with such distinction as to receive special honorary insignia from his general. It is not known whether he died and was buried in Italy or in his native Cos, but at any rate his admiring fellow islanders have not suffered his memory to be forgotten.

THE PARKES MEMORIAL PRIZE.

THE above-mentioned prize, which consists of 75 guineas and a bronze medal, is awarded every third year to the writer of the best essay on a subject connected with hygiene. The competition is open to the medical officers of the navy, the army, and the Indian services of executive rank on full pay with the exception of the professors or assistant professors of the Royal Army Medical College during their term of office. The subject for the next prize is as follows: "On the Sanitary Requirements of Naval and Military Units in Peace and War, with Suggestions for a Complete Scheme of Sanitary Organisation suitable for both the Navy and the Army." The essay is to be illustrated as far as is practicable from the personal experience of the writer and all essays must be sent in to the secretary of the Parkes Memorial Fund, Royal Army Medical College, Examination Hall, Victoria Embankment, London, on or before Dec. 31st, 1906. Each essay must bear a motto and must be accompanied by a sealed envelope bearing the same motto and containing the name of the competitor.

A HEAVY FINE INFLICTED UPON A QUACK.

A MAN named Lewis Hirst, summoned recently at the Bradford police court at the instance of the Medical Defence Union for taking and using a title implying that he was a qualified medical practitioner, was fined £40 and £1 8*s.* costs with the alternative of two months' hard labour. The evidence as to the infringement of the Medical Act showed that to two witnesses who called at the house where the defendant carried on his trade and who said when he appeared that they "wanted to see a doctor," he replied "I am Dr. Hirst." A bill containing his advertisement also stated that a "qualifying surgeon" was in attendance. If this expression is correctly given in the account of the proceedings before us it must be taken as implying qualification to the ignorant who would understand it to mean a "qualified surgeon," and as intended to leave a loophole of escape to the quack who would deny that he represented himself to be qualified. It may be, however, that the word "qualified" was in fact used and the matter is not of great importance as no doubt, in inflicting the exemplary sentence which he imposed, the stipendiary magistrate was largely influenced by proof of the extent to which the quack was prepared to impose upon the humbler members of the community under the disguise of a medical title. A witness who had shown to Hirst his arm was asked, apparently by the solicitor for the defence, what he was suffering from and he answered "nowt"—a reply the truthfulness of which was not questioned. The defendant, however, had said that the pretended patient's "blood was out of order" and had added that he would make it right but that it would take him about three years to do so. It is not surprising that the stipendiary magistrate observed that such a case was an extremely bad one and pointed out how much the public were indebted to the Medical Defence Union for instituting the prosecution. We observe that the business carried on was advertised under the name of "King and Co.," but apparently no point was raised as to the existence of any company and as to the position of the defendant with reference to it.

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[1] Historia Naturalis, lib. xxix., cap. 5

[2] Annales, lib. xii, cap. 61 et 67.

THE DISTRIBUTION OF PLAGUE.

THE medical officer of health of the Cape Colony reports that the state of plague in the colony during the week ending April 2nd was as follows.—No case of plague was discovered throughout the colony during the week, but at Port Elizabeth 96 rats and 40 mice were bacteriologically examined, of which 10 rats and 2 mice proved to be infected with plague. In the Cape Town and Harbour Board area 265 rats were examined during the week but none was found to be affected with plague. As regards the Mauritius the Acting Governor in a telegram received at the Colonial Office on April 22nd states that for the week ending April 21st the number of cases reported was 0. As regards the Transvaal the latest figures are as follows:—Suspected cases of plague reported up to April 23rd, 160: coloured persons, 142; and whites, 18. Of these 80 have terminated fatally: coloured persons, 72; and whites, 8.

MUCO-MEMBRANOUS COLITIS AND ITS TREATMENT.

THE paper by Dr. de Langenhagen which will be found at p. 1186 of our present issue came by a happy coincidence very shortly after we had received from Dr. Bottentuit the paper on Some Forms of Pseudo-appendicitis (Entero-typhlo-colitis, Intestinal Lithiasis) which appeared in THE LANCET of April 23rd, p. 1113. The two papers have been printed in consecutive numbers for the purposes of comparison and mutual confirmation but in thus presenting the views of these physicians we do not wish our readers to assume that we entirely endorse them, still less that we hold a brief recommending the treatment carried on at Plombières as superior to that at Vichy, Carlsbad, or many other English or continental hydropathic centres The two articles are left to speak for themselves and they supplement each other in an interesting manner. Dr. Bottentuit's contention is almost a protest against the prevailing fashion of appendicitis; at all events, he calls attention to two conditions often associated and often mistaken for appendicitis. The name of the first is sufficiently ponderous—viz, "muco-membranous entero-typhlo-colitis," formerly known as "catarrhal enteritis." The second is happily more simple—viz, intestinal lithiasis—and, like the former, it is stated to be dependent upon a gouty or arthritic diathesis. In this paper the author is content to indicate what he believes to be the diagnostic features which will conduce to the avoidance of error and he attaches special importance to the examination of the stools for slimy substance, false membrane, or sand. Dr. de Langenhagen, on the other hand, passes quickly over the description of muco membranous colitis to reach the question of treatment. The clinical picture, however, bears strong resemblance to the first condition described by Dr. Bottentuit, though perhaps greater stress is laid upon the importance of atony of the large intestine His description of the treatment he advocates is very full. The dietary, with the exclusion of fat and green vegetables and the substitution of very small quantities of rusks in place of bread, would appear to offer grave difficulties. His main contention, however, is a plea for thorough systematic irrigation of the intestine with a quart or a quart and three-quarters of water at a temperature of from 35° to 45° C. slowly passed in at a low pressure. From what is said of previously boiling the water used for irrigation and of the admixture of various softening or medicated substances it is obvious that this treatment might be conducted anywhere under skilled guidance and with proper appliances. A third feature, the "hydro mineral cure," is, according to this author, only to be carried out satisfactorily at Châtelguyon or at Plombières. The former is advocated for drinking the water when constipation is a marked feature, while special advantages are claimed for the baths and irrigation at the latter when catarrh is intense and neurasthenic phenomena are pronounced. *The different principles of treatment thus enunciated* might almost be expressed in anatomical phraseology as "from above downwards" and "from below upwards." Seriously, however, whatever opinion may be formed of the treatment in these or other hydropathic resorts there can be no doubt that good service has been done in these two papers if they direct attention to conditions which are frequently ignored. It is to be feared that operations for supposed appendicitis may sometimes be undertaken when perhaps a little further patient investigation might have led to less heroic but more satisfactory measures.

THE METROPOLITAN STREET AMBULANCE ASSOCIATION.

As has already been announced in our columns the first general meeting of the Metropolitan Street Ambulance Association will be held on May 2nd, at 20, Hanover-square, London, W., when Mr. Reginald Harrison will take the chair. The following three motions will be proposed:—

1. Proposed by Sir William S. Church, President of the Royal College of Physicians of London, and seconded by Sir E. Cooper Perry:—

> That this Association, having considered the present condition of [illegible] ent and [illegible] st there [illegible] l ambu- [illegible] o rapid transport.

2. Proposed by Mr. J. Tweedy, President of the Royal College of Surgeons of England, and seconded by Sir Alfred Cooper:—

> [illegible] m [illegible] Lo [illegible] provided and maintained.

3. Proposed by Sir Thomas Barlow and seconded by Mr. G. H. Makins.—

> That the foregoing resolutions be communicated to the London County Council by deputation and that the officers of this Association be requested to arrange for the coöperation and support of other representative associations and persons for this purpose

It is to be hoped that a good attendance of medical men will assemble so that the public and the London County Council may see that the movement is an important one in behalf of a much needed reform. The present position is discreditable to the largest city in the world and a source of danger to the public We have every reason to believe that the London County Council is alive to the seriousness of the situation and wishful to adopt, at any rate in substance, the views of this association.

THE INFANTS' HEALTH SOCIETY.

WE have received a letter signed by the Duke of Portland, the Earl of Mansfield, and other influential gentlemen intimating that the Infants' Health Society was founded on Feb. 11th and that one of its objects is "to spread a knowledge of, and to put on an organised basis, the best methods of systematically dealing with the chief factors affecting the health and life of infants." The society has appointed a special committee to carry on the Infants' Hospital which was established in March, 1903, and is situated is Denning-road, Hampstead, London, N.W. The hospital, therefore, serves as a nucleus for the propagation of the society's views and as an illustration of its methods. The Duchess of Teck is president of the society and the Earl of Mansfield is chairman. There is a large general committee, in which ladies are in a slight majority; the medical members of the committee are Sir Alfred D. Fripp, Dr. Henry Ashby, Mr. A. W. Mayo Robson, Dr. F. M. Sandwith, and Dr. Ralph H. Vincent. The bankers of the society are the London and County Bank (Westminster branch) and the secretary is Mr. R. R. Garratt, 120, Victoria-street, S.W. Membership of the society is open to all who sympathise with its objects. The hospital is entirely free to the infants of the necessitous poor, no payment of any kind or letters of introduction being required.

ST. BARTHOLOMEW'S HOSPITAL.[1]

THIS is a little 32-page pamphlet adorned as to its cover by a sketch of the Good Samaritan by the President of the Royal Academy. *Pace* Professor Clifford Allbutt, we do not like the term "Bart.'s," but, after all, it is no worse than "Powle's," as our ancestors used to call St. Paul's Cathedral. Be this as it may, Sir W. P. Treloar's appeal is well written. It is short, convincing, and set forth by a plain business man for his fellows of like kind. We need not here recapitulate the arguments which we put forward in the columns of THE LANCET of Dec. 5th, 1903, p. 1587, as to why St. Bartholomew's Hospital should continue to stand where it has stood for 800 years and why the citizens of London and all those interested in the hospital should subscribe. The City of London is never behindhand in works of charity and St. Bartholomew's Hospital is pre-eminently the City hospital. We hope that all those whom Sir W. P. Treloar's appeal reaches will read it and will accede to the request therein set forth. In round numbers £500,000 are wanted. Let it not be said that the citizens of London and those whom the hospital has sent to all parts of the world have been asked in vain.

THE DIAGNOSIS OF FRACTURE OF THE BASE OF THE SKULL.

IN a fracture of the base of the skull most of the signs of fracture met with in the bones of the limbs are wanting. There is no deformity, no abnormal mobility, no crepitus, and we have to depend on collateral evidence of the fracture. Hæmorrhage from the ear is greatly valued, and deservedly so, for it is usually produced by a fracture passing through the middle fossa and involving the tympanic cavity, while it is also necessary that the membrana tympani should have been torn. Hæmorrhage from the ear after a fall may, however, be due to a local injury to the external auditory meatus. We print on p. 1235 of this issue of THE LANCET a communication from a correspondent who reports a case of severe injury to the head followed by hæmorrhage from the ear and from the nose. Temporary deafness also was present on the same side, and our correspondent suggests that fracture of the base of the skull had occurred. This diagnosis is very likely to be correct and the fact that the patient was never laid up and that no ulterior results ever occurred in no way tend to discredit the diagnosis. It is not improbable that fracture of the base of the cranium is more common than is thought and that it is present in many cases in which it is not even suspected. Unless it is rendered manifest by hæmorrhage or by the loss of cerebro-spinal fluid it is impossible to be sure that a fracture of the base has occurred. From the point of view of therapeutics it is well to treat all doubtful cases with the same care that would be given to obvious fractures of the base.

CHILDREN'S COUNTRY HOLIDAYS FUND.

THE annual report of the work done by this excellent fund was presented at a meeting held in the Hôtel Métropole on April 28th at which, in the unavoidable absence of the Duchess of Albany, Princess Alexander of Teck presided. The number of children sent away by this fund during 1903 for a little bit of country or seaside life amounted to 34,434—nearly 200 more than in any previous year. This number cannot be largely increased, however, until the various schools close at different times for the holidays. Most of the children sent away were distributed among more than 1000 villages, where they resided in cottages. A new and pleasing feature has been introduced by the supply of boxes of games and books on country subjects for the amusement of the children at some of the villages. Gifts of games and books have been very welcome in this connexion. The subscription list, although greater than that of 1902, is less than that of 1901 by £1800. The Earl of Arran has undertaken the duties of treasurer in place of the Hon. A. Lyttelton who has not been able to spare the time necessary for the work since he became Secretary of State for the Colonies. It is to be hoped that the Children's Country Holidays Fund will be enabled to continue its good work this year in a still more satisfactory manner.

IN connexion with the recent visit of the King to Copenhagen Professor Thorvald Saxo Viggo Petersen, physician in ordinary, and Professor Jens Schou, surgeon in ordinary, to the King of Denmark, have been made honorary Commanders of the Royal Victorian Order, and Dr. Christen Martin Wittüsen le Maire, resident surgeon to the King of Denmark, has been appointed honorary member of the Fourth Class of the same Order.

Mr. Edwin Fullarton Hatton, M.D. Toronto, M.R.C.S. Eng., superintendent of the lunatic and pauper asylums and medical officer of the No. 2 district of the island of Grenada, has been appointed by the King as an official Member of the Legislative Council of that island.

THE annual dinner of the Epidemiological Society of London will be held at the Grand Hotel, Trafalgar-square, London, on Thursday, May 12th, at 7.15 P.M. The chair will be taken by Dr. B. A. Whitelegge, C.B., the President of the society.

THE festival dinner of the City of London Hospital for Diseases of the Chest, Victoria Park, E., will be held at the Hotel Cecil on Friday, May 13th, at 7 for 7.30. The Right Hon. the Lord Mayor of London will preside.

THE annual Medical Mission meeting of the Church Missionary Society will be held in the Queen's Hall, Langham-place, London, W., on Wednesday, May 4th, at 7 P.M.

EDINBURGH UNIVERSITY CLUB OF LONDON.—The May dinner of the Edinburgh University Club of London will take place at the Criterion Restaurant on May 11th at 7.30 o'clock. Sir Robert Finlay, K.C., M.P., Lord Rector of the University, will preside and amongst those who have accepted the invitations of the club are Mr. Justice Darling, Mr. J. M. Barrie, Captain Robert Marshall, and others. It is expected that a large number of members will be present to support the chairman.

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[1] "Bart.'s": its Past, Present, and Future. An appeal to the Citizens of London. By Sir William P. Treloar, Alderman, chairman of the Special Committee appointed to collect funds for the reconstruction of St. Bartholomew's Hospital.

SOME REMARKS ON PATHOLOGICAL SCHOOLS.

BY EDWARD S. PRIOR, M.A.,

ARCHITECT OF THE CAMBRIDGE UNIVERSITY NEW MEDICAL SCHOOLS.

A NEED has come for a fresh departure in the planning and construction of schools for special purposes. The architecture of such schools has long been at the mercy of the traditional idea that building is a compromise between the ornamental styles—that are considered those of art—and the building ways—that are considered those of modern construction. The fact is that the systematic training of architects has been almost entirely in the technicalities of house and church building. Architecture has been defined in the terms of such building, and the planning of schools has been evolved mostly as a hybrid—some cross or other between a mansion and a religious meeting-house. No doubt one class of school, that of the school board, has emancipated itself in some hands and has been built for its purpose. But even with this model how few are the private or public institutions for scientific education that show building individuality or such adaptation as declares specifically the object for which the building exists. Whether that be divinity, music, or shorthand, planning and construction usually have kept to a colourless unconsciousness. But even the school board model is not adapted for the more technical kinds of school building. The accommodations of these are not for classes taught orally but for students trained in laboratories (rightly called working rooms), by working in which scientific practice grows into the habit of the student's life. The medical school is, perhaps, the most special of such laboratory schools and has many needs which cannot be approached on the basis of ordinary architectural method. Its essentials of efficiency differ widely from those of a church, a mansion, or a public building. The canons, say, of the architectural competition as to planning would be hopelessly at fault in judging of the plan of a pathological school. And no less does the construction of such a school stand outside current building practice. Not only must it have special provisions for its economy but even a wholesale rejection of many time-honoured traditions of building. To some extent this is true of all medical building in which scientific sanitation is attempted, and it may be thought that the medical s[illegible] comes under the heading of hospital architecture. E[illegible] practice the hospital model takes one but a little way. The ward system, with its lighting and ventilation, its isolations and publicities, the effective combination of which makes the hospital plan, has no counterpart in the necessities of a building which is essentially not a dormitory but a workshop; which is no caravansary for sojourners under observation but rather a group of cells for the training of neophytes, the hermits of science who may attain perfection.

I propose here to give some slight account of the steps which lead the planning and construction of the pathological school away from the traditions of ordinary building, and I deal first with *construction* because in it we have the foundation of planning which is conditioned by it to an extent that is sometimes not perceived. The fact is that houses and churches have so long [illegible] compromise as to the [illegible] and take between wha[illegible] to be built—has left little remembrance of itself. But all forms of building art are based on such a compromise: and when new needs of convenience arise then a new review must be made of the facts of construction, and the terms of agreement between art an[illegible] seen at once how the [illegible] divergence from the [illegible] of building for some centuries has developed itself in a system of *face work*—the deliberate masking and draping of the lay figures of bare construction. The misfits have been taken quite unconcernedly—disregarded hollows have been allowed to multiply beneath the skin of style. But such get full of fluffy dust or worse; they are the lairs of black-beetles, spiders, rats, and mice, so that an old house is indeed a place of many mansions—a zoological museum with whole sets of uncatalogued specimens. Now a pathological or bacteriological school ought to be aware of what it propagates, lest by chance the cultures, the observation of which is its business, prove too successful and escape where they cannot be controlled. The medical building really cannot follow the older traditions; the signal is at danger and the art of building must be switched on to a new course in order to run with ordinary safety.

The essentials of construction for medical schools are: (1) perfect solidity of all the inclosing construction, so that no unfilled spaces are left in its walls, floors, or roofs; (2) a smoothness of all the surfaces and the elimination of all *crevices and ledges for dust*; and (3) such a treatment for all corners and angles that they can be easily and thoroughly cleaned. How far this means a revolution of ordinary building modes will be understood by anyone who will look at an ordinary building in course of construction.[1] For example, joisted floors are mostly but a series of catch-pits into which dust and dirt perpetually drift and which are quite uncleanable. Most of the patent concrete floors have hollowed spaces in their body and are open to the same objections. Then the whole tradition of wall ornament, of its skirtings, surbases, cornices, of its door architraves and window linings, fosters not only the numberless little zoological lairs which we have hinted at, but a system of elaborated dust ledges, such as spring cleanings never thoroughly clear. Moreover, the habit of cubic construction makes corners into which no cleaning implement can find its way; nests where without disturbance dirt colonies may live for generations.

Now it is possible to build without accepting the laws of all this tradition and (though it is not to my point here) the art and beauty of building need not suffer by their rejection. For though these cornices, architraves, &c., are now the associations of architectural taste, yet it was strictly in the meeting of definite needs that these associations were created, and other needs can produce new associations of equivalent value. If we build for the direct object of cleanliness we shall create associations of taste. For the beauty of art seems to spring insensibly out of the simple expression of some direct need. It has certainly always been so in the building art. The simple necessity of vaulting in stone was an impetus to Gothic art, and vaultings of perfectly unadorned construction are beautiful. A clean unequivocable building for the purpose of defence was the Château Gaillard and of it said Richard Cœur-de Lion, "Is she not fair, my one-yea old?" Certainly so far as the constructed shell of a building is concerned, there need be no concealed vacancies, no square angles, no projecting dust traps; doors and windows can be smoothly modelled and need have no architraves or other trappings of traditional architecture; skirtings and cornices [illegible] of additions [illegible] and shaped [illegible]e art of all such building need be none the worse—nay, rather the better—for its independent return to first principles and the rejection of the creeds of some outworn art. Finally, roofs (though this is the hardest task) can be such constructions of concrete and steel that the necessary spans are covered on the safe principles of smoothness and solidity, with no residuum of unventilated crannies, with no unsuspected catchpits and vantage-points for dust, not even a rivet-head need project. There are adaptations of present day materials which can build all this without difficulty or expense; the desire to do it has only to be urgent and the way is open. Again, the finishing of the rooms of a medical [illegible] same lines of construction [illegible] can claim help from one or [illegible]at of "bracket-bricks" or [illegible] of all supports, we can use [illegible] certain patent slabs which [illegible]inciple, if steadily adhered to, will allow perfect cleanliness if it does not actually enforce it. It is this—that the level tops and all ledges or holes that are necessary should be where they are directly open to the eye; and secondly, where their cleaning can be thorough and systematic. All the furniture of a laboratory can be constructed and placed so that it is sealed from dust as to its interiors and so that its exteriors can be submitted to constant cleansing.

There are difficulties, no doubt, with the pipes—the light and water conductors—the wastes, taps, sinks, and shaftings of a laboratory. The wastes can be glazed channels in the floors, made to run straight to the outside of the building, with removeable covers so that their whole lengths can be constantly inspected and flushed. All pipes can be best managed by their being placed on the walls where they can be directly got at and where the least accumulation of dust and dirt about them can be detected. They should be painted white so that the dirt may be conspicuous and this provocation to cleanliness should be everywhere adopted, for it is fortunately supported technically by the fact that white paint is the only pure paint, all colouring added thereto being a detrimental adulteration. The stair flights of public buildings as ordinarily constructed provide many little fastnesses for the dirt tribes from which no cleaning implement can drive them, but construction can minimise the deeply set angles where the treads abut on the walls and there is no necessity to add to medical staircases such accessories of style as dust-catching balustrades. The science of sanitary materials for wall surfaces has for some time received considerable attention in hospital construction and I do not propose to enter on the discussion of specialities as to which rivalry exists. But one may point out as extraordinary that while there has been keen competition among the manufacturers of perfectly smooth non-absorbent substances in the way of glazed tiles, &c., the pertinent facts as to the fixing of these tiles and ultimate history of their glazes have been disregarded. Most of the glassy wall coverings offered have the objection that, perfect in themselves, their joints cannot be made thorough, so that the attachment of them to the walls leaves crevices. And too often the most glassy surfaces carry in themselves the seeds of destruction. In fact, the higher the glaze the greater the tendency to scale, owing to the high tension and the uneven contractions of the surface and under material. The best success has been with the thick rougher glazes and coarser makes the jointings of which can be made thorough.

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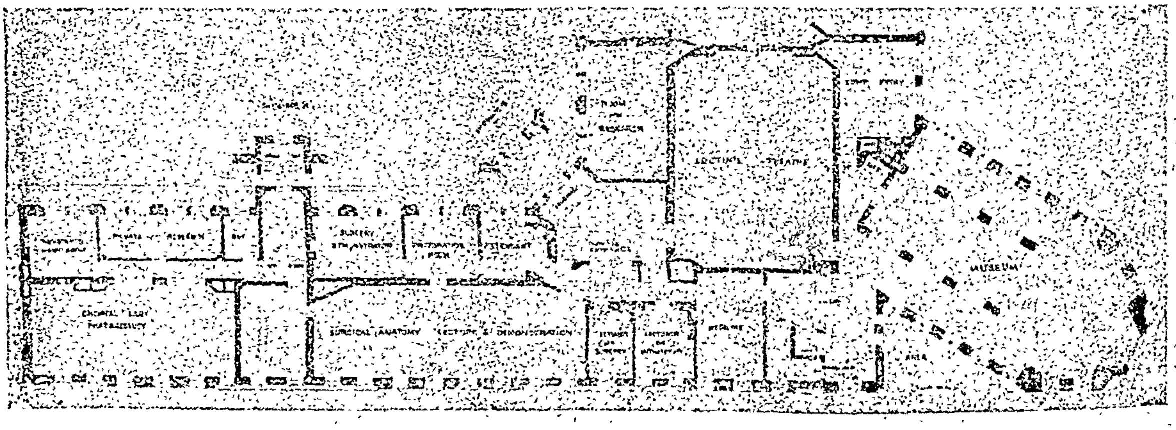
[1] The extent to which what appears solid in building is really cellular is not generally understood. Many walls are built purposely hollow and, with purpose or not, the trade bricklayer using as little mortar as possible leaves the walls half air-space.

The sketch I have made above of what is possible in laboratory construction has to be supplemented in many particulars. Especially the controversial question of heating and ventilation has to be reckoned with, since decision on this point involves many constructional consequences. Particularly the mechanical appliances necessary for the shifting of the air and the fittings required to regulate its proper course throughout the rooms must be so applied that they do not create those dirt traps and that dust concealment which all the rest of construction has striven to minimise. The lighting of laboratories is also a special point in their architecture and one that is often shirked or considered as an afterthought instead of a consistent factor in the problem of their design. For most of their purposes north light is the only one that is satisfactory. East light is better than west, since the use will be more often in the afternoon, but south lighting should be used only for the less distinctive departments and offices of a medical school. But it is the make of the windows that needs specialising, seeing that their use is to light microscope practice. They have to be made convenient for two ranges of tables, one at the windows and the other back in the room. It has been found that at table-height and at a distance of ten feet (which is a convenient distance for the second range of microscopes) an unbroken oblong opening of glass 24 by 20 inches gives the proper field. The divisions to carry such sheets of glass need to be strong and so are best of iron. There is no need to make them thick stone mullions and transoms, as under the belated traditions of style is often done as a sort of compromise between use and art. For art's sake the top lights are glazed in little squares; while for use formless big sheets below advertise themselves as in obvious disagreement. Indeed, thick mullions and the heavy transom become particularly bad for the microscope that has to be used at a distance. The best lighting of a working laboratory for a class of students where tables have been ranged behind one another is that of the weaving shed, with north sloping skylights. But in order that the necessary bars of the skylight construction may not spoil the microscope field for work at the tables the height of the room must be as low as possible. The nearer the skylights are to the work the greater the unbroken spaces in the reflection. Such weaving-shed roofs require careful construction to be successful. The ordinary steel building of roofs has had no thought of minimising to the utmost the ledges for dust and dirt.

It will be seen how immediately these essentials of lighting connect the constructive question with that of planning and arrangement. Where the aspect and construction of certain rooms are exactly indicated by the conditions of microscope use the available spaces must be mapped out accordingly. The plan must provide for the constructions necessary to this purpose and dispose the other parts of the building to suit. Besides the laboratories in which microscopes are in use the equipment of a medical school needs lecture theatres and oral class rooms. Now here, too, we come upon conditions which separate the building of the medical school from that of others. Under modern conditions of teaching by the projection lantern the use of artificial light in the medical lecture room is almost constantly required. Hence it is want of economy laboriously to give what is not wanted for the lecture theatre, an outlook upon open areas the wealth of daylight of which is of such importance elsewhere. Yet so strictly does architectural convention apply its canons that the building of a room without admission of daylight to it is reckoned a freak. For the pathological school this vagary is, however, not only to be sanctioned but made the direct way to success in planning economically and to the purpose of the building.



The ground floor of the Cambridge Medical Schools, showing the lecture theatre dependent entirely upon artificial light.

On all sides do the conventions which govern the planning of most public buildings fail us for the dispositions of a medical school. Access by means of broad corridors, the symmetrical approach to the rooms and the serried arrangement of them in sets are the qualities which show well in the paper planning of our public buildings and obtain their reward by success in competitions. But the medical school needs none of these and indeed must count all such stateliness as waste of space. The arrangements of workshops and factories, not those of public offices, are most convenient to it. It must cluster functional departments round the laboratories, giving immediate openings from room to room and providing a general inter-communication in which much corridor is inconvenient. In its lecture theatre and libraries and museums no doubt the ordinary arrangements for allowing easy approaches must be studied, but with many differences from those in use for a less special institution.

As to its lecture theatre, a large preparation room should be immediately attached to the rostrum of the lecturer whose table should be in sight from all the benches and provided with special arrangements for lantern work. It is a useful point that the access corridors by which the students reach the theatre should be large enough to have cases set in them, so that the students passing in or out may supplement the lecture by personal study of specimens illustrating the subject treated.

The library, just as the lecture theatre, should of course be centrally placed and easy of access. Seeing that the majority of books to be consulted by the medical student are special rather than general works, there need not be those facilities for reference to open shelves which general libraries develop to the full. The block system of stacking the books together, with bookcases that pull out into the room, should be used for
spaces for a student's ta
library of a medical scho
be easily consulted. In the same way the medical museum is not quite on the lines of other museums, since its specimens have constantly to be brought into the lecture theatres and laboratories.

Another special department of the medical school is that which provides the rooms for private research. As already said, the scientific education does not lie in a few years' attendance at lectures but is the inducement to a mental habit to be exercised on constant experiment. The placing of the student where he can proceed with definite work is the necessary complement of his preliminary training. Now to equip all this experiment there are many special depart-
must provide—rooms for
illation, for freezing, for
aphy, glass-blowing, &c.
All this bears out my initial definition, that the basis of the medical school planning lies in the idea of workshops or scientific factories. And in this connexion one necessary provision, that of sheds and stables where can be properly housed both the larger and smaller animals necessary for pathological experiment, can be seen to mean a very special contrivance in the planning.

[To give some distinctness to the variety of feature which the arrangement and equipment of a medical school involve Mr. Prior inclosed the plans of the Government laboratories at Netley which the War Office proposed to build for the Army Medical Service. The arrangements were planned under the direction of Professor A. E. Wright and Professor

Since there was a perfectly open site for this building the dispositions were unfettered and an order and symmetry could be adopted which the very confined site of the Cambridge Medical School did not allow. The latter, however, when completed, will deal with a much wider range of
ose of
refer
s new
and highly successful medical schools at Cambridge, which were opened by His Majesty the King at the beginning of last month (see THE LANCET, Feb. 27th, pp. 599 *et seq.*). It will be seen by that article how closely Mr. Prior has adhered in practice to his tenets, and it will be admitted that his buildings have lost nothing æsthetically by his intention to subordinate every feature, whether of construction or ornament, to his aims of practical utility.—ED. L.]

THE ROYAL ACADEMY.

THE one hundred and thirty-sixth exhibition of the Royal Academy of Arts, which will be open to the public on Monday next, contains many good and interesting pictures. There are others deserving neither qualification and it would be surprising if this were not the case, for the rooms at Burlington House contain nearly 2000 pictures, water-colours, drawings, miniatures, sculptures, and bronzes. On the whole, the level of achievement, we think, may be considered high, certainly higher than that attained by the other annual exhibitions. The hanging committee has had regard to modern developments in painting and the old Academicians have only sparingly availed themselves of their vested right to space, so that room has been found for a representative collection of works of art of which, as a non artistic people, we need not be ashamed.

Of course, there are some dreadful presentation canvases, dull scenes or unlovely people in unbecoming costumes, whose features no painter's skill has been able to make into a pleasing show. But there are, on the other hand, some beautiful portraits, Mr. Sarjent and Mr. Shannon in particular carrying on the traditions of Reynolds and Gainsborough. Mr. Sarjent sends six large portraits, three of women—Lady Lathom, the Duchess of Sutherland, and Mrs. Wertheimer—and three of men—Lord Londonderry, Major General Wood, and Mr. Devitt. Of these the women are the best. Not that they have necessarily had the most care bestowed upon them, for probably the portrait of Lord Londonderry in Coronation costume, bearing the sword of state and attended by his page, is the most elaborate of all. Nor have concessions been made to prettiness in the female portraits, for the Countess of Lathom is represented with a markedly asymmetrical mouth, while her arms and hands do not strike us as being elegant factors in so stately and highbred a total. Still, it is impossible not to feel that the portrait is a lifelike though uncompromising representation of the sitter, and the same may be said of the somewhat smaller portrait of Mrs. Wertheimer. As in the case of Lady Lathom the colour scheme here is sombre, but the blacks and greys and yellowy browns make up a very pleasant picture. The Duchess of Sutherland, on the contrary, is painted in a glorious metallic green robe, contrasting vividly with her sunny hair. She has a high colour and a bright smile and is altogether a very satisfactory example of young and splendid womanhood. Mr. Shannon sends four portraits—Mr. Martin Harvey in his well-known representation of "Sydney Carton," Sir William Emmerson, the President of the Royal Institute of British Architects, Miss Gladys Raphael, and two young ladies, daughters of Mr. W. H. Bell, painted together on a sofa. In this picture Mr. Shannon is particularly happy, the figures are restful, as figures on a sofa should be, the poses are natural, and painter and sitters are alike to be congratulated. Mr. William Orpen's portrait of Mr. Charles Werthemier is a very satisfactory performance. Mr. Arthur Hacker sends an admirable portrait of the Rev. E S. Roberts, for many years tutor and now master of Gonville and Caius College, Cambridge, whose features will be familiar to several generations of Cambridge medical men. Mr. Cope's portrait of Lord Alverstoke, Mr. Herkomer's portrait of Mr. Chamberlain, Mr. Bacon's portrait of Mr. T. P. O'Connor, Mr. Furse's portrait of Sir Francis Mowatt are all sound pieces of work and the same may be said of Mr. John Collier's portrait of Professor Ray Lankester, but in a portrait of Mr. H. T. Butlin this gifted artist hardly does himself justice. Mr. Draper's portrait of the nonagenarian Duchess of Abercorn is worth attention. It is a sympathetic representation of dignified old age, while the pains that he has expended upon the hands should be noted, pains which Mr. Sarjent appears to think waste of time.

Among many good landscapes the canvases of Mr. Joseph Farquharson, Mr. Arnesby Brown, Mr. David Murray, and Mr. La Thangue are noticeable. Two of Mr. Farquharson's four canvases show that he can tear himself away from snow scenes, and it is to be hoped that he will not allow the public, who are so insistent upon an artist repeating himself, to confine him to perpetual midwinter. Several terrible examples this year among the Royal Academicians of the result of the constant treatment of the same theme in the same way should prove a warning. Mr. David Murray continues to paint in Constable's country and it speaks much for his skill when we say that his rendering of Flatford, showing the present appearance of the scene of the master's famous picture, "The Hay Wain," is quite satisfactory. Two of Mr. La Thangue's pictures are Italian scenes and two are English, and all four are excellent, the work of a man who has seen often, and never without learning some lesson, the effects of light, shade, and atmosphere which he depicts.

Sir Lawrence Alma-Tadema sends only one small but characteristic study—some classical ladies looking from a marble building over a blue sea. Sir E. J. Poynter and Mr. Orchardson, who run him close in cultivated favour, send three pictures each, but nothing of the first importance. The President's picture in Gallery II., "The Nymph's Bathing Place," is certainly beautiful, but the lady's skin seems to have been painted more to fit the colour scheme than to imitate anything in life. Her bronze cuticle, with her brown-red robe and her brown-auburn hair, makes a delightful harmony and she is an exquisite young person but to the coldly medical eye she has a funny tint. A picture by Mr. Seymour Lucas in the same gallery, entitled "Finis," shows very skilfully the restful abandonment into which a performer on the 'cello has fallen at the end of his task. The droop of the body and limbs following on muscular relaxation has been accurately caught.

In Galleries III. and IV. will be found most of the portraits to which we have alluded. In Gallery V. the most conspicuous pictures are the central panel of a reredos by Mr. Abbey, whose deliberate mediævalism looks rather out of place in its environment; "Timber Hauling in the New Forest," by Miss Lucy Kemp-Welch, a fine, vigorous, and very large picture; and a symbolical work by Miss Offor. The last is a well painted female figure, but the work is made a little ridiculous by the verse which it is supposed to illustrate, for although the damsel is supposed to be engaged in a long and weary climb barefoot over rocks there is not a trace of muscular exertion in the well-painted body, no scratches mar the contour of her elegant feet and hands, and her legs are entangled in a wrap that would effectually impede the ascent that it is her allegorical duty to achieve.

In Gallery VI there is an impressive little picture by Signor Antonio Mancini entitled "*En Voyage.*" In Gallery VIII. two large allegorical pictures overshadow everything, "Mammon," by Mr. Rob Sauber, and "Despised and Rejected of Men," by Mr. Sigismund Goetze. The latter picture contains some carefully executed types of modern civilisation, the young man of pleasure and the young woman of the same bent, the low sportsman, the bar loafer, the soldier, the man who has come down in the world, the prelate, the deserted mother, and so on. The meaning of the canvas is very obvious and it will probably attract the attention of the public. Two small pictures in this gallery are worth attention, "A Sunny Shore," by Mr. Lionel Smythe, and "The Viaticum," by Mr. Chevallier Tayler. The cleverness of Mr. Tayler's street scene is conspicuous, the crowd of hucksters and loafers forming a piquantly contrasted background for the priest, the holy nature of whose errand is recognised only by the Italian organ-grinder.

In the sculpture gallery we noticed a capital bust of Mr. Alfred Willett, F.R.C.S., and another of the late Sir George Humphry, both by Mr. Hope Pinker.

We close our necessarily brief notice of the oil paintings of the exhibition with a query, Did Joan of Arc suffer from Graves's disease? Mr. Frank Dicksee would have us believe so and Mr. James Sant appears to be of somewhat the same opinion.

LORD CROMER'S ANNUAL REPORT ON EGYPT.

IN a prefatory letter to the Marquis of Lansdowne Lord Cromer expresses a fear that his report "will be found tedious" on account of its length. We do not think that he need be afraid of this. The clear and succinct narrative in which year by year he records the results of his stewardship will always be full of interest for his fellow countrymen. Nothing within the last quarter of a century has added more to the national reputation than the establishment in Egypt under Lord Cromer's guidance of order and solvency instead of anarchy and ruin. It is truly a marvellous piece of work, challenging comparison with events of a similar character whether in ancient or in modern history; but they alone can fully appreciate its excellence who knew the country under the old *régime* and can understand the complicated international tangle in the midst of which all reform had to be effected. In 1883 the fate of Egypt was in the balance. In Lord Cromer's words: "The chaos and confusion, resulting partly from a long course of misgovernment and partly from the special circumstances of the moment, were indeed extreme. ...... Stated in the most general terms the main object to be pursued was manifestly to substitute another bond in the place of that which previously existed and which had recently been strained to the extent of producing what really amounted to a revolution—for it is altogether a mistake to suppose that the Arabi upheaval was merely a military mutiny and nothing more." To save the State from political and social extinction a master mind was needed and happily the occasion brought forth the man. The rehabilitation of Egypt in such exceptional circumstances is in truth an achievement of which every Briton may well feel proud. No wonder Lord Cromer's reports are increasing in length. As he says: "Fresh interests are rapidly springing up. Egypt is in a state of transition and the problem of adapting the whole machine of government to meet the wants of a society which is almost bewildering in the variety of its component parts becomes daily more complex." At first the material improvement of the country could alone be attempted but as soon as possible action was taken towards the moral amelioration of the mass of the population. "I have no hesitation," continues Lord Cromer, "in stating that the action taken during the last 20 years in this field has produced the intended result. At no former period in their long history have the people of Egypt been so prosperous or so contented as at present. The forces of reaction have in well-nigh every direction undergone a signal defeat. The system of personal government as previously practised in this country—which found in those forces its most potent ally—has received a blow from which it can never recover and from which I hope and believe it will never have a chance of recovering." Lord Cromer being well known as the personification of discretion an authoritative statement of this description is most satisfactory.

Turning to the detailed information, which as usual is supplied under separate headings, we find much that has a special interest for medical men and sanitarians. Notwithstanding a surplus of revenue over expenditure at the close of 1903 amounting to upwards of three-quarters of a million sterling no more than about £E.6000 was added to the sanitary budget for the current year. Of this sum £E.2500 were devoted to increasing the number and improving the position of subordinate employés, £E.2000 to the street services of Cairo, and £E.1000 to hospital expenses. The number of admissions into the Government hospitals increases year by year. In 1893 there were 17,473 patients admitted; in 1903 the total number was 25,162. "This is satisfactory," says Lord Cromer, "in so far as it shows that the people are gaining confidence in the hospitals, whereas formerly not a single patient entered of his own free will. It is, however, very necessary to insist on the payment of fees for treatment, save in the case of the really indigent poor. No Government can afford to give medical treatment gratis to the larger portion of the population. ...... The principal function of government is the prevention of epidemic diseases, not the cure of persons suffering from ordinary maladies. The Egyptian Government is still far from being in a position to deal adequately with the former of these two questions." The views here enunciated by Lord Cromer are undeniable. Unless the budget of the sanitary department can be substantially increased it is to be feared that the inability of the Egyptian Government to deal adequately with epidemics of disease will long continue. Still, even as things are, a good deal has been done. "Egypt was entirely free from cholera during the whole of last year," continues Lord Cromer, "2118 cases of small-pox occurred, of which 394 were fatal; 406,856 successful vaccinations were performed, as against 377,421 in 1902. There was a good deal of diphtheria in Cairo during the autumn months. 286 deaths occurred, of which 15 were amongst Europeans. I am informed that whenever the children in the house where one case has occurred have been treated with anti-diphtheritic serum the disease has not spread. Plague appears to be diminishing; 303 cases were notified throughout Egypt, of which 160 were fatal, as against 481 cases and 291 deaths in 1902. The cases in 1903 occurred in the same towns and villages as those which suffered in 1902."

Of sanitary works in connexion with drainage or sewerage Lord Cromer makes no mention. The project for draining Cairo of which so much was heard some years ago seems to have been relegated to the Greek Kalends, and yet with diphtheria prevalent and a death-rate of 42·5 per 1000[1] it is evident that sewers are urgently required. With regard to water-supply, however, Lord Cromer is able to announce considerable progress not only in the capital and at Alexandria but also in several provincial towns. "It is with very special pleasure," he says, "that I am able to record that the Egyptian Government has at last found itself in a position to embark seriously on the very wide field of sanitary reform. There could scarcely be any question as to the point which, more than all others, required attention. Experience has abundantly proved that public health depends in no small degree upon the purity of the drinking water supplied to the population." It cannot of course be denied that pure water is an excellent thing, but if water is laid on to a town there should also be provided some means for its removal when soiled. A water-supply is certain to be followed by water-closets which in the absence of sewers cannot be regarded as unmixed blessings. This is well exemplified in Cairo where the contents of innumerable water-closets are discharged into loose-bottomed cesspits situated among the foundations.

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[1] Week ending Jan. 14th, 1904.

During the year with which Lord Cromer is dealing the resources of the sanitary department were severely tried by a serious outbreak of cattle plague. Sir Horace Pinching deals with the epizootic in a memorandum of which the full text is given in an appendix and which has been dealt with by our Egypt correspondent in THE LANCET of April 23rd, p. 1161. Referring to this document Lord Cromer says: "It cannot be doubted that the main difficulty in the way of dealing with an outbreak of this sort is to be found in the apathy and want of initiative amongst the people themselves With rare exceptions the Egyptians, from the highest to the lowest, expect the Government to [illegible] s of [illegible] im- [illegible] forts [illegible] form [illegible] s to [illegible] the growth of centuries and the outcome of a long course of misgovernment can be altered in a hurry."

In illustration of "the almost universal tendency to shirk responsibility" which, together with corruption, is a "besetting sin" among Egyptian officials, Lord Cromer tells the following story. "I have heard of a doctor being sent to examine into the condition of a station master supposed to be insane. On entering the room he was attacked and nearly strangled by the madman. He was able, after a sharp struggle, to call on two orderlies who had been present all the time to seize the man. They saluted and did so. On being asked why they had not interfered sooner they replied that they had received no orders to that effect. Without doubt they considered that the struggle on the floor which they had witnessed was part of some strange European process, with which they were unfamiliar, for dealing with insane station-masters."

THE SANITARY STATE OF MADEIRA.

IN view of a recent rumour that typhoid fever was prevalent in Funchal we have made inquiries and are able to publish the following from the pen of a well-informed correspondent:

During the last autumn months of September and October there was a considerable prevalence of typhoid fever in Madeira, mainly amongst the lower classes of the Portuguese people in the crowded eastern side of the city but the cases had already subsided when I returned from London in November. The latest returns covering the month of March give only five fatal cases in the district of Funchal, embracing a population of 145,000 persons. If there are added 20 odd cases returned as diarrhœa in the official list—and these lists are now more accurately kept than formerly—it will be seen that no outbreak has happened which can be termed epidemic in character.

During the last six months there have been 12 cases amongst the thousand or so of visitors and residents of our own people but no deaths have occurred. The hygiene of Madeira is undoubtedly primitive and defective and we are urging the authorities to develop promptly those elementary matters of mountain water-supply and town draining which are first considerations in the equipment of the meanest health resort. I have done my best in this direction and quite recently I went to Lisbon and succeeded in persuading the Lisbon Cortes [illegible] argo annual sum of money to [illegible] in Madeira and I have every [illegible] of water-supply and drainage accomplished before the termination of my long career in this island. The house drinking water is supplied mainly from a deep source in the centre of the district; this is of unquestioned purity and no case or outbreak of typhoid fever has ever been reported from the numberless steamers crowded with passengers which touch and draw their supplies at this port. In the hotels and quintas the drinking water is taken from the same source, but for baths and other domestic purposes mountain water is used which is brought in open channels subject to pollution from the human habitations in its course. In the hotels this is pasteurised in bulk and rendered safe; but it is this supply of two qualities of water which I trust shortly to see superseded by an adequate supply from a mountain district far beyond the contamination of human contact. The plans are all ready and elaborately drawn out and the money, as I have stated, has been voted.

It is impossible to over-estimate the importance of this health station and the absolute necessity of bringing the sanitary conditions up to date. We are now hardly more than three and a half days distant from England and the finest steamers almost daily call here and hundreds of our countrymen land, spend their money, and pass a few hours in exploring the mountain scenery and the surprising garden growths of a sub-tropical region. About 2000 steamers—most of them British—now call annually and land their passengers and take their supplies from Madeira; important industries have developed and the perishable produce of the land is conveyed to distant and less favoured countries with immense advantage to the people and the government of Portugal. In return we expect, as a matter of protection, merely the development of the elementary conditions of modern salubrity.

For two years there has been a serious want of rain in Madeira. We have had far too much fine bright weather and sunshine—agreeable enough to visitors but detrimental to the general interest.

April 7th.

ASYLUM REPORTS.

Ayr District Asylum (*Report for the period April 1st, 1902, to Dec. 31st, 1903*).—The average number of patients resident during the period was 515, comprising 245 males and 270 females. The admissions during the period amounted to 248—viz., 131 males and 117 females. Excluding from these 31 old-standing cases representing an artificial influx of already confirmed and registered pauper lunatics, the direct admissions were 212. Of these 187 were first admissions. Dr. C. C. Easterbrook, the medical superintendent, states in his report that among the admissions 33 were over the age of 60 years and that the mean age on admission was 45 years. A family history of insanity was traceable in 63 cases, of tuberculosis in 26 cases, of alcoholism in 14 cases, and of nervous diseases in 19 cases. Previous attacks of insanity occurred in 81 cases, while a "nervous" constitution or attacks of epilepsy and hysteria had occurred in 50 persons. The varieties of insanity present in the admissions were alcoholic insanity in 58 cases, senile insanity in 32, adolescent insanity in 36, climacteric insanity in 18, insanity of lactation and the puerperium in 12, and the insanities of inherent insane constitution (recurrent insanity, hypochondriacal insanity, and paranoia) in 12. General paralysis was met with in nine cases. Suicidal and homicidal tendencies were exhibited by at least 67 persons, 35 of whom had made suicidal and 32 homicidal attempts. The prospect as to mental recovery was doubtful in 83 cases and bad in 30. From the data collected, says Dr. Easterbrook, "there are two main lesson [illegible] insanity in the count [illegible] and the influence of [illegible] sent as a hereditary factor in 14 instances and as a personal factor in 58 cases. "These 58 cases do not include other 24 persons in whom alcoholism was present as a symptom of the insanity. I have most carefully excluded such cases, wishing to get at the real facts if possible. Further, I have excluded three cases in which I regarded alcoholism as a contributory factor only. ...... This left 55 alcoholic patients in whom the diagnosis of alcoholic insanity was based not merely on the history of the patient's habits but also on the character of the symptoms present, mental and bodily." These 55 cases out of 212 direct admissions represent a proportion of alcoholic insanity of 25·9 per cent., "which, so far as I know, is not exceeded in any other county asylum in Scotland." The evil is thus widespread, but the remedy is less obvious, says Dr. Easterbrook who further suggests perpetual sequestration in "colonies"—islands for choice—for habitual inebriates, criminals, and degenerates who could thus "propagate neither their kind nor their influence and where all should be made to work for their maintenance." The number of cases discharged as recovered during the year amounted to 98, or 19 per cent. of the average number resident. The deaths during the year amounted to 89, or 17 per cent. as calculated on the same basis. Of the deaths three were due to senile decay, ten to pneumonia, 11 to general paralysis, 14 to cardiac disease, 14 to pulmonary and other forms of tuberculosis, and the rest to other causes. The Commissioners in Lunacy state in their report that the condition of the patients was in every respect satisfactory, that the clothing was neat and good, that the asylum was throughout in good order and scrupulously clean, that the day rooms were comfortably furnished, and that the medical case books were correctly and well kept.

Barnwood House Hospital for the Insane, Gloucester (Annual Report for 1903).—The average number of patients resident during the year was 144, comprising 61 males and 83 females. The admissions during the year amounted to 35—viz., 11 males and 24 females. Of these 31 were first admissions. Dr. James G. Soutar, the medical superintendent, states in his report that during the year one man was admitted as a boarder but he left unimproved within a fortnight. Two women were admitted as boarders; one of these had to be placed under certificates and the other recovered but continued in residence longer. Only cases of acute and curable insanity "and those chronic cases who were likely to appreciate or be influenced by their surroundings" were accepted for admission. Among the causes of mental disorder in the admissions hereditary predisposition occupied a prominent place, being ascertained to be present in 40 per cent. of cases. The number of patients discharged as recovered during the year amounted to 19—viz., six males and 13 females, or 13·2 per cent. of the average number resident. The deaths during the year amounted to eight, or 5 6 per cent. as calculated on the same basis. Of the deaths one each was due to general paralysis of the insane, pulmonary tuberculosis, strangulated hernia, and injury on a railway, and two each were due to bronchitis and to cardiac disease. "It is agreed that efficient treatment in the early stage of insanity is that which beyond everything else gives the patient the best chance of recovery and our statistics for the year emphasise this point. Of those who recovered nine had on admission been ill for one week or less, seven had on admission been ill for more than one week but less than one month, and one had been ill for more than a month but less than two months." The health of the inmates was good during the year and there were no cases of epidemic disorder. The Commissioners in Lunacy state in their report that all parts of the building were found to be in good order, that there was no restraint or seclusion, that the patients appeared contented and well cared for, and that the medical case-books were well kept. The committee of management states in its report that "the hospital buildings, both as regards structure and decoration, the character of the establishment, the amusements, comforts, and luxuries provided for the patients, are all planned so as to conduce to the speedy recovery of the curable cases," so that their provision and maintenance have been, and continue to be, very costly. To further this end the committee has during the past five years discharged many patients whose condition seemed incapable of amelioration and it has also refused to admit many others who apparently belonged to the same unfavourable class. The committee has thus gradually reduced the number of chronic and incurable cases in the hospital within a reasonable time.

MEDICINE AND THE LAW.

The Definition of an "Accident."

It is a matter of some importance to a medical man when he is called in to attend a working man to know whether the condition in which he finds him, the causes of that condition, and the treatment prescribed are likely to form the subjects of investigation in a court of law. Consequently recent decisions enlarging and defining the meaning of the word "accident" as used in the Workmen's Compensation Act, 1897, are of interest to members of the medical profession who may have to figure as witnesses as well as to their patients. Moreover, the signification and uses of words of frequent occurrence in the English language must always be worthy of the consideration of educated persons whose native tongue it is and who are in a position to form their own opinions upon the question under discussion. The phrase in the Act concerning which doubt has arisen is that which makes the employer liable to pay compensation to his workman for "personal injury by accident arising out of, and in the course of, the employment." It will be seen that not only must the personal injury be due to an "accident" but also that the accident must arise out of, as well as in the course of, the employment. A large number of occurrences causing injury to workmen fulfil these conditions so plainly that dispute cannot arise. With others, however, it is different. Frequently a workman becomes disabled although no outward fortuitous event such as is often associated with the word "accident" has taken place. Sometimes he has deliberately encountered excessive strain, as for example in lifting a heavy weight, and a hernia or other serious injury or the aggravation of existing injury has been the result. On such occasions medical evidence is necessary in order to explain the injury and to connect it with the workman's employment, but the question whether it has been "accidental" is a matter for judicial interpretation. The Act uses the word "accident" but does not define it. There were conflicting decisions upon the subject until the case of Hensey *v.* White was heard by the Court of Appeal in 1899. This and others which followed the precedent laid down in it may be said to have decided that where the work performed presented nothing fortuitous or unforeseen there was no accident. As an instance of these decisions may be cited the case of Roper *v.* Greenwood (83 Law Times, N.S., 471) in which a woman engaged upon the manufacture of wooden boxes had to turn and to move some heavier than those which she usually handled. Having lifted several with effort but without apparent ill-effect to herself she essayed another but complained at once of injury and was found to be suffering from prolapsus uteri induced by her exertions. This was held by the Court of Appeal not to have been an "accident" such as would entitle the woman to compensation. This case, with Hensey *v.* White and others of the same class, were overruled by the House of Lords in another (Fenton *v.* Thorley, 1903, A. C. 443) which may be described as a typical instance of over-exertion in the ordinary course of work. The workman had to raise the lid of a large vessel by turning a wheel. The wheel worked stiffly, he called a fellow workman and while they were endeavouring to move it felt "a tear in his inside" which proved to be a hernia and for which he claimed compensation. This was refused by the county-court judge whose view was upheld by the Court of Appeal following the decisions referred to. The House of Lords, however, unanimously decided that the Court of Appeal and the previous decisions were wrong and that the workman should be compensated as for an "accident." This word Lord Macnaghten considered to be used in the Act "in the popular and ordinary sense of the word as denoting an unlooked-for mishap or an untoward event which is not expected or designed." Lord Robertson spoke of the word being used to denote "any unintended and unexpected loss or hurt apart from its cause." The result has been that the workman does not now have to adduce proof of an unforeseen incident external to himself and arising out of his work in order to be compensated. He can claim in respect of those results of physical strain of which a willing worker must at times run the risk but the actual occurrence of which neither he nor anyone else can predict. This decision appears to be one in accord with the spirit of the statute and it is one which naturally has brought others in its train. In December, 1903, two cases came before the Court of Appeal in which the workmen had suffered from anthrax contracted in wool factories. Two county-court judges had given contrary decisions, one of them holding that the infection constituted an accident and the other refusing so to regard it. The Court of Appeal declaring the matter to be governed by Fenton *v.* Thorley had no doubt that according to that judgment infection with anthrax was an accident arising out of the workmen's employment. How far the *possibilities* thus suggested *may* be extended in the future remains to be seen. It was said by the county-court judge who refused to treat anthrax as an "accident" that if infection with disease was to be so regarded then a workman who caught scarlet fever from one of his fellows would be able to claim compensation from his employer and it is by no means impossible that some day claims of this kind may be attempted. Yet a third case of doubtful "accident" was more recently heard by the Court of Appeal in which, however, the question turned principally upon whether the occurrence arose "out of" the employment. In this (Andrew *v.* Failsworth Industrial Society, Limited) judgment was given on April 13th. The man whose relatives applied for compensation was employed upon a building which complied with the requirements of the Workmen's Compensation Act in being above 30 feet in height and he was working at a point 23 feet above the ground when he and a fellow workman were struck and killed by a flash of lightning. The expert evidence dwelt upon the danger arising from the height above surrounding objects, upon the effect of wet, and upon the fact that the man would afford a well-defined point at which a discharge might occur. The increase of danger owing to elevation was thus defined: "If you draw a line at an angle of 45 degrees from the highest point of an erection to the earth persons within the cone are protected and it is therefore clear that as you ascend the zone of safety diminishes." The county-court judge held that there was a right to recover for an "accident arising out of the employment" and the Court of Appeal confirmed his decision. It will be seen that the trend of these later judgments is towards widening rather than towards narrowing the scope of the Acts in question and that they are likely to make employers careful of the safety of their workmen in matters with regard to which they could before afford to be indifferent. They will also increase the number of occasions upon which medical evidence will be required.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8789 births and 4697 deaths were registered during the week ending April 23rd. The annual rate of mortality in these towns, which had been 18·7, 18·4, and 17·6 per 1000 in the three preceding weeks, further declined last week to 16·0 per 1000. In London also the death-rate was 16·0 per 1000 and was equal to the average rate in the 75 other large towns. The lowest death-rates in these towns were 5·1 in Willesden, 7·0 in Handsworth (Staffs.), 7·1 in Hastings, 7·3 in Newport (Mon.), 7·7 in Hornsey, 8·5 in Leyton, and 9·7 in Tottenham and in Devonport; while the highest rates were 20·6 in Oldham, 20·7 in Sunderland, 20·9 in Birkenhead, 21·8 in Burnley, 22·0 in Manchester, 22·4 in Birmingham and in St. Helens, and 25·6 in Warrington. The 4697 deaths in these towns last week included 556 which were referred to the principal infectious diseases, against 640, 583, and 530 in the three preceding weeks; of these 556 deaths 215 resulted from whooping-cough, 199 from measles, 44 from diarrhœa, 42 from diphtheria, 34 from scarlet fever, 16 from "fever" (principally enteric), and six from small-pox. No death from any of these diseases was registered last week in Hastings, Bournemouth, Southampton, Northampton, Devonport, Burton-on-Trent, Handsworth (Staffs.), Smethwick, Wigan, South Shields, or Newport (Mon.); among the other towns the highest death-rates from the principal infectious diseases were recorded in Walthamstow, Birmingham, Wallasey, Bootle, St. Helens, Warrington, Manchester, Salford, Burnley, Huddersfield, and Rhondda. The greatest proportional mortality from measles occurred in Hornsey, West Ham, Walthamstow, Brighton, Norwich, Wallasey, St. Helens, Burnley, Huddersfield, and Rhondda; from scarlet fever in Warrington; and from whooping-cough in Walsall, Birmingham, Leicester, Birkenhead, Wallasey, Bootle, Warrington, West Hartlepool, and Swansea. The mortality from diphtheria, from "fever," and from diarrhœa was not excessive in any of the large towns. Of the six fatal cases of small-pox registered in these towns last week two belonged to Manchester and one each to London, Nottingham, Gateshead, and Tynemouth. The number of small-pox cases remaining under treatment in the Metropolitan Asylums hospitals, which had been 126, 134, and 144 on the three preceding Saturdays, had declined again to 123 on Saturday last, April 23rd; 23 new cases were admitted during the week, against 42, 25, and 37 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 1543, against 1570, 1505, and 1523 at the end of the three preceding weeks; 210 new cases were admitted during the week, against 153, 141, and 172 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 370, 333, and 295 in the three preceding weeks, further declined last week to 254 and were 29 below the number in the corresponding period of last year. The causes of 47, or 1·0 per cent., of the deaths in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Leicester, Bradford, Leeds, Hull, Newcastle-on-Tyne, and in 45 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Manchester, Blackburn, Rotherham, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 20·6, 20·3, and 20·9 per 1000 in the three preceding weeks, further rose to 21·0 per 1000 during the week ending April 23rd and was 5·0 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 11·0 in Leith and 17·8 in Edinburgh to 25·8 in Dundee and 26·2 in Perth. The 695 deaths in these towns included 29 from whooping-cough, 26 from measles, 11 from diarrhœa, five from "fever," four from scarlet fever, three from small-pox, and one from diphtheria. In all, 79 deaths resulted from these principal infectious diseases last week, against 72, 57, and 65 in the three preceding weeks. These 79 deaths were equal to an annual rate of 2·4 per 1000, which was 0·5 per 1000 in excess of the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 23, 19, and 20 in the three preceding weeks, rose again last week to 29, of which seven were registered in Glasgow, seven in Aberdeen, six in Edinburgh, five in Dundee, and two in Greenock. The deaths from measles, which had been 23, 14, and 21 in the three preceding weeks, further rose to 26 last week and included 19 in Glasgow, three in Edinburgh, and three in Dundee. The fatal cases of diarrhœa, which had been nine, seven, and 15 in the three preceding weeks, declined again last week to 11, of which six occurred in Glasgow, and three in Dundee. The deaths referred to different forms of "fever," which had been four, three, and four in the three preceding weeks, further rose to five last week and included three in Glasgow. The fatal cases of scarlet fever, which had been five, two, and one in the three preceding weeks, rose again last week to four, of which three were recorded in Glasgow. The deaths from small-pox, which had been five, seven, and three in the three preceding weeks, were again three last week, and included two in Glasgow and one in Greenock. The deaths referred to diseases of the respiratory organs in these towns, which had been 157, 138, and 152 in the three preceding weeks, declined again last week to 115, and were 14 below the number in the corresponding period of last year. The causes of 20, or nearly 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 28·5, 29·7, and 24·4 per 1000 in the three preceding weeks, further declined to 23·3 per 1000 during the week ending April 23rd. During the past four weeks the death-rate has averaged 26·5 per 1000, the rates during the same period being 17·5 in London and 18·9 in Edinburgh. The 169 deaths of persons belonging to Dublin registered during the week under notice showed a decline of eight from the number in the preceding week and included ten which were referred to the principal infectious diseases, against 20, 19, and 17 in the three preceding weeks; of these, five resulted from whooping-cough, three from measles, one from diphtheria, and one from diarrhœa, but not any from small-pox, from scarlet fever, or from "fever." These ten deaths were equal to an annual rate of 1·4 per 1000, the death-rates last week from the principal infectious

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING MARCH, 1904.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1904.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,649,088	143	925	590	—	116	—	35	372	—	2181	4·9	6	337	21	85	270	—	14	—	2	825	1·9	8158	18·3	143
West Districts.																										
Paddington	146,975	1	24	12	—	2	—	2	9	—	50	3·5	—	13	1	4	4	—	—	—	2	24	1·7	236	16·7	167
Kensington	179,236	—	28	16	—	3	—	2	16	—	65	3·8	—	18	—	2	2	—	—	—	8	30	1·7	308	18·0	149
Hammersmith	117,412	—	16	10	—	6	—	—	8	—	40	3·6	—	43	—	—	3	—	1	—	2	49	4·4	239	21·2	191
Fulham	152,482	—	18	26	—	3	—	2	9	—	58	4·0	—	10	—	2	10	—	—	—	4	26	1·8	215	14·7	149
Chelsea	74,329	—	11	6	—	—	—	—	3	—	20	2·8	—	6	—	1	4	—	—	—	1	12	1·7	139	19·5	162
City of Westminster	177,321	—	20	10	—	7	—	—	9	—	46	2·7	—	7	1	—	2	—	1	—	1	12	0·7	278	16·3	126
North Districts.																										
St. Marylebone	130,337	2	19	5	—	1	—	1	14	—	42	3·2	—	8	1	1	1	—	—	—	2	13	1·0	243	19·4	97
Hampstead	86,663	—	9	3	—	2	—	1	8	—	23	2·8	—	1	—	—	1	—	—	—	1	3	0·4	89	10·7	103
St. Pancras	235,936	—	78	43	—	5	—	2	19	—	147	6·5	—	32	4	3	14	—	—	—	4	57	2·5	476	21·0	169
Islington	341,044	3	48	31	—	6	—	1	13	—	102	3·1	—	15	—	3	14	—	—	—	5	37	1·1	565	17·3	109
Stoke Newington	52,445	—	8	1	—	—	—	—	3	—	12	2·4	—	—	—	—	2	—	—	—	—	2	0·4	69	13·7	115
Hackney	226,266	4	56	80	—	5	—	3	28	—	176	8·1	—	3	—	7	12	—	2	—	2	26	1·2	341	15·7	120
Central Districts.																										
Holborn	57,161	2	8	4	—	5	—	2	5	—	26	4·7	1	11	—	—	—	—	—	—	1	13	2·4	129	23·5	147
Finsbury	98,958	1	27	9	—	—	—	—	3	—	40	4·2	—	3	1	1	5	—	—	—	2	12	1·3	220	23·2	153
City of London	23,482	1	—	2	—	3	—	—	2	—	8	3·6	—	—	—	—	2	—	—	—	—	2	0·9	53	23·5	128
East Districts.																										
Shoreditch	117,033	—	21	7	—		—	—	9	—	45	4·0	—	8	1	2	16	—	—	—	3	30	2·7	228	20·3	182
Bethnal Green	130,207	45	30	35	—	6	—	2	15	—	133	10·7	4	3	2	7	4	—	1	—	2	23	1·8	244	19·5	130
Stepney	303,791	42	82	45	—		—	1	27	—	204	7·0	—	26	2	10	38	—	1	—	11	88	3·0	630	21·6	167
Poplar	169,905	24	36	55	—	4	—	2	16	—	137	8·4	1	14	1	15	20	—	—	—	5	56	3·4	384	23·6	154
South Districts.																										
Southwark	207,937	8	41	22	—	6	—	2	20	—	99	5·0	—	41	—	5	12	—	3	—	5	66	3·3	464	23·3	183
Bermondsey	129,397	1	32	25	—	3	—	1	16	—	78	6·3	—	13	4	1	17	—	—	—	4	39	3·1	262	21·1	151
Lambeth	310,359	4	41	31	—	6	—	1	23	—	106	3·6	—	15	1	5	12	—	2	—	8	43	1·4	548	18·4	133
Battersea	175,465	3	22	16	—	5	—	1	17	—	64	3·8	—	7	1	2	20	—	1	—	5	36	2·1	293	17·4	167
Wandsworth	257,586	—	61	23	—	6	—	2	22	—	114	4·6	—	4	—	5	7	—	—	—	3	19	0·8	378	15·3	114
Camberwell	263,384	2	77	24	—	3	—	1	23	—	130	5·1	—	21	—	5	14	—	1	—	4	45	1·7	440	17·1	146
Deptford	113,509	—	33	8	—	—	—	3	9	—	53	4·9	—	7	1	—	10	—	—	—	1	19	1·7	193	17·7	107
Greenwich	101,651	—	13	16	—	9	—	—	9	—	47	4·8	—	3	—	2	12	—	1	—	1	19	1·9	157	16·1	160
Lewisham	140,401	—	25	14	—	1	—	1	9	—	50	3·7	—	3	—	1	7	—	—	—	2	13	1·0	168	12·5	122
Woolwich	123,416	—	41	11	—	4	—	2	7	—	65	5·5	—	2	—	1	5	—	—	—	3	11	0·9	169	14·3	110
Port of London	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

diseases being 1·8 in London and 1·7 in Edinburgh. The fatal cases of measles, which had been four in each of the three preceding weeks, declined last week to three. The five deaths from whooping cough showed a decline of six from the number in the preceding week. The 169 deaths in Dublin last week included 29 of children under one year of age and 46 of persons aged 60 years and upwards; the deaths of infants showed a considerable decline, while those of elderly persons were slightly in excess of the number in the preceding week. Seven inquest cases and four deaths from violence were registered, and 67, or nearly two-fifths, of the deaths occurred in public institutions. The causes of seven, or more than 4 per cent., of the deaths registered in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING MARCH, 1904.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 4·9 per 1000 of the population, estimated to be 4,649,088 persons in the middle of the year. In the three preceding months the rates had been 5·4, 5·1, and 4·8 per 1000 respectively. The rates were considerably below the average in Chelsea, the City of Westminster, Hampstead, Islington, and Stoke Newington; while they showed the largest excess in St. Pancras, Hackney, Bethnal Green, Stepney, Poplar, and Bermondsey. The prevalence of small-pox during March showed a very marked increase as compared with that recorded in other recent months; the greatest proportional prevalence of this disease was recorded in Hackney, Holborn, Bethnal Green, Stepney, Poplar, Southwark, and Battersea. The Metropolitan Asylums hospitals contained 126 small-pox patients at the end of last month, against 26, 21, and 31 at the end of the three preceding months; the weekly admissions averaged 31, against four, four, and six in the three preceding months. Scarlet fever was proportionally more prevalent last month than it had been during the preceding month. Among the various metropolitan boroughs the greatest proportional prevalence of this disease occurred in St. Pancras, Finsbury, Stepney, Camberwell, Deptford, and Woolwich. The number of scarlet fever patients under treatment in the Metropolitan Asylums hospitals, which had been 1606, 1626, and 1560 at the end of the three preceding months, had further declined to 1546 at the end of last month; the weekly admissions averaged 160, against 168, 182, and 153 in the three preceding months. The prevalence of diphtheria, which had shown no appreciable variation during the four preceding months, had slightly decreased during March; this disease was proportionally most prevalent in St. Pancras, Hackney, Bethnal Green, Poplar, and Bermondsey, The Metropolitan Asylums hospitals contained 786 diphtheria patients at the end of last month, against 734, 752, and 782 at the end of the three preceding months; the weekly admissions averaged 94, against 104, 97, and 107 in the three preceding months. Enteric fever, which had shown a declining prevalence in the three preceding months, further diminished last month; among the various metropolitan boroughs the greatest proportional prevalence of this disease occurred in Hammersmith, Holborn, the City of London, Shoreditch, Bethnal Green, and Greenwich. The number of enteric fever patients in the Metropolitan Asylums hospitals, which had been 246 166, and 125 at the end of the three preceding months, had further decreased to 86 at the end of last month; the weekly admissions averaged 11, against 30, 16. and 15 in the three preceding months. Erysipelas was proportionally most prevalent in St. Marylebone, Hackney, Bethnal Green, Southwark. Bermondsey, and Battersea. The 35 cases of puerperal fever notified during the month included three in Hackney and in Deptford, and two each in Paddington, Kensington, Fulham, St Pancras, Holborn, Bethnal Green, Poplar, Southwark, Wandsworth, and Woolwich.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in public institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the five weeks ending April 2nd the deaths of 8158 persons belonging to London were registered, equal to an annual rate of 18·3 per 1000; in the three preceding months the rates had been 17·2, 18·2, and 16·7 per 1000. The lowest death-rates in London last month were 10·7 in Hampstead, 12·5 in Lewisham, 13 7 in Stoke Newington, 14·3 in Woolwich, 14·7 in Fulham, 15·3 in Wandsworth, and 15·7 in Hackney; while the highest rates were 21·6 in Stepney, 23·2 in Finsbury, 23·3 in Southwark, 23 5 in Holborn and in the City of London, and 23 6 in Poplar. The 8158 deaths from all causes in London last month included 825 which were referred to the principal infectious diseases; of these, six resulted from small-pox, 337 from measles, 21 from scarlet fever, 85 from diphtheria, 270 from whooping-cough, 14 from enteric fever, and 92 from diarrhœa. The lowest death-rates from these diseases were recorded in the City of Westminster, Hampstead, Stoke Newington, the City of London, Wandsworth, and Woolwich; while they caused the highest death rates in Hammersmith, Shoreditch, Stepney, Poplar, Southwark, and Bermondsey. Of the six fatal cases of small-pox registered last month four belonged to Bethnal Green and one each to Holborn and Poplar. The 337 deaths from measles were slightly in excess of the average number in the corresponding periods of the ten preceding years, 1894–1903; among the various metropolitan boroughs this disease was proportionally most fatal in Kensington, Hammersmith, St. Pancras, Holborn, Southwark, and Bermondsey. There were only 21 fatal cases of scarlet fever last month, against an average of 54 in the corresponding periods of the ten preceding years; of these 21 deaths, four occurred in St. Pancras, four in Bermondsey, two in Bethnal Green, and two in Stepney. The 85 fatal cases of diphtheria showed a decrease of 100 from the corrected average number; this disease was proportionally most fatal in Paddington, Hackney, Bethnal Green, Stepney, Poplar, and Southwark. The 270 deaths from whooping-cough were slightly below the average number in the corresponding periods of the ten preceding years; among the various metropolitan boroughs the greatest proportional mortality from whooping-cough was recorded in Shoreditch, Stepney, Poplar, Bermondsey, Battersea, and Greenwich. The fatal cases of enteric fever numbered 14 last month, against an average of 41 in the corrresponding periods of the ten preceding years; three cases belonged to Southwark and two each to Hackney and Lambeth. The 92 deaths from diarrhœa were 27 in excess of the corrected average number; this disease was proportionally most fatal in Kensington, Fulham, Shoreditch, Stepney, Poplar, Bermondsey, and Battersea. In conclusion, it may be stated that the aggregate mortality in London last month from these principal infectious diseases was nearly 17 per cent. below the average

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 143 per 1000. The lowest rates of infant mortality were recorded in St. Marylebone, Hampstead, Islington, Wandsworth, Deptford, and Woolwich; and the highest rates in Paddington, Hammersmith, Shoreditch, Stepney, Southwark, and Battersea.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: P. E Maitland to the *Caledonia* and G T. Broatch to the *Challenger* Staff Surgeon O. M. Beadnell to the *Erebus*. Surgeon W. P. Yetts to the *Challenger*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel F B. Maclean takes over charge of the troops and Station Hospital at Canterbury. Major W. E. Hardy is posted to the Station Hospital, Shorncliffe, for duty. Lieutenant Colonel R. H. Moore and Major H. N. Thompson, D S.O., join at Aldershot for duty and are posted to the Cambridge Hospital.

The following officers have been appointed to the command of station hospitals for the summer season: Captain Powell, Lower Topa; Captain J F. Martin, Upper Topa; Captain W Beyts, Solan; Major G. T. Rawnsley, Kuldannah; Captain E. W. Siberry, Thobba; Captain P. McKessack, Khanspur and Ghora Dakka; Lieutenant P. Davidson, Kalabagh; Major C. J Holmes, Cherat; and Lieutenant S. M. W. Meadows, Khaira Gali.

Lieutenant-Colonel John Hoysted (retired) has been selected for duty with troops and appointed to Norwich.

The undermentioned Lieutenants, from the Seconded List, to be Lieutenants (dated April 5th, 1904): R. M. Ranking and F. H. Noke. Lieutenant G. W. G. Hughes is seconded for service with the Egyptian Army (dated April 7th, 1904). Lieutenant G. W. Smith resigns his commission (dated April 23rd, 1904).

Royal Army Medical Corps (Militia).

2nd South-Eastern District Company: Lieutenant H. V. Craster resigns his commission (dated April 23rd, 1904).

Imperial Yeomanry.

Derbyshire: Surgeon-Lieutenant R. M. Wilson to be Surgeon-Captain (dated April 23rd, 1904). The North of Ireland: Edward Charles Thompson to be Surgeon-Major (dated April 16th, 1904).

Army Medical Reserve of Officers.

Surgeon-Captain D. Todd to be Surgeon-Major (dated April 13th, 1904).

Volunteer Corps.

Rifle: 1st Bucks: Brigade-Surgeon-Lieutenant-Colonel W. H. Bull is seconded whilst holding the appointment of Senior Medical Officer of the Home Counties Volunteer Infantry Brigade (dated April 23rd, 1904). 2nd Volunteer Battalion the Loyal North Lancashire Regiment: The undermentioned gentlemen to be Surgeon-Lieutenants:—James Wood (dated April 23rd, 1904) and Frank Robinson (dated April 23rd, 1904).

Royal Army Medical Corps (Volunteers).

The London Companies: The following is substituted for that which appeared in the *London Gazette* of April 15th:—Major V. Matthews to be Lieutenant-Colonel and to command under paragraph 55A Volunteer Regulations (dated April 9th, 1904).

Volunteer Officers' Decoration.

The King has conferred the Volunteer Officers' Decoration upon the undermentioned officer of the Volunteer force:—*Scottish District*: *Rifle*: 1st (Inverness-shire Highland) Volunteer Battalion the Queen's Own Cameron Highlanders: Brigade-Surgeon-Lieutenant-Colonel Ogilvie Grant, retired.

Scottish Volunteer Ambulance Trophy.

The first annual competition for the new ambulance trophy presented by the Scottish Volunteer Medical Officers' Association will take place at the headquarters of the 1st L R V., West Prince-street, Glasgow, on Saturday, May 14th, at one o'clock. The need of a Scottish competition has arisen from the obvious difficulties which prevent many teams presenting themselves in London for examination in the already existing national competition. The trophy is valued at 300 guineas and the examiners appointed are Lieutenant-Colonel R. J. Geddes, D.S.O., R.A.M.C., Major C. C. Fleming, D.S.O., R.A.M.C., Brigade-Surgeon-Lieutenant-Colonel A. D. Webster, 1st L.V.I., Edinburgh, Surgeon-Lieutenant-Colonel A. Napier, 3rd L R.V., Glasgow, Honorary Staff-Surgeon J. McIntyre, R.N.V.R, Surgeon-Major J. Mill, A.M.R., Leith, and Major McGregor Robertson, R A.M.C.V., Glasgow. The competing teams represent practically all branches of the volunteer services and hail from as far north as Inverness. The competition will be presided over by Director-General Sir William Taylor, in the presence of Colonel the Marquis of Breadalbane and the Marquis of Graham, commanding officer of the Clyde Division of the Naval Volunteers. Lord Provost Sir John and Lady Primrose also intend to be present and the winning team will have the trophy handed to it by her Grace the Duchess of Montrose who has consented to perform this ceremony. The organisation of this competition has been largely the work of the honorary secretary of the association, Captain R T. Halliday, R A.M.C.V., Glasgow, who with Lieutenant Wright Thomson of the same corps is responsible for the general arrangements. On the same evening the annual dinner of the association will take place in the Windsor Hotel under the chairmanship of the President, Surgeon-Major Quintin Chalmers, H.L.I. Brigade Bearer Company, and Lord Breadalbane, Sir William Taylor, and Sir John Primrose will be the chief guests.

The Projected War Office Reform.

The Army Medical Service is not the only branch of the service affected by the new scheme set forth in the reports of Lord Esher's Reconstruction Committee. It is contended on the part of the Auxiliary Forces that the reversal by that committee of Mr. Brodrick's ruling that the office of the Inspector-General of these forces was to be a separate one under the Commander-in-Chief has altogether altered the basis of their position at the War Office. The Government, without waiting for the report of the Royal Commission on the Auxiliary Forces now sitting, has apparently adopted the arrangement recommended by Lord Esher's committee and the Auxiliary Forces are to be placed, as in the case of the Army Medical Service, under the adjutant-general as a branch of his office. This has naturally given rise to a good deal of difficulty and discussion. A correspondent of the *Standard*, in an able article on "War Office Reform" which appeared in that journal on April 25th, deals with the scheme which has been proposed by Lord Esher and his colleagues as a whole and from this article we extract the following remarks regarding the Army Medical Service:—

> The third part of the report contains, as the committee observe, no new principle but is descriptive and explanatory of the nature and duties of offices already created and of principles already accepted. A noticeable feature of it is the proposal to place the Army Medical Department under the Adjutant-General. The position and status of the staff of this department have long been a source of trouble and friction. Under the Army Council system now inaugurated the head of the department must clearly either be on the Army Council as an extra military member or must "report to" one or other of the military members. For strong reasons, the committee reject the first alternative and select the Adjutant-General as the natural superior of the medical staff. The staff of this department having only recently been elevated into a Royal corps and placed directly under the Commander-in Chief it is to be feared that the change now proposed will not be altogether acceptable to this vitally important branch of the Service; but it is difficult to see what other alternative is compatible with the new organisation of the Military Departments of the War Office.

The writer of the article in question then goes on to say that a similar difficulty arises with regard to the Auxiliary Forces as to the position of their representative at the War Office.

Volunteer Ambulance School of Instruction.

Surgeon-General Sir William Taylor, K.C.B., K.H.P., Director-General of the Army Medical Department, has accepted the invitation of Brigade Surgeon-Lieutenant-Colonel P. B. Giles and officers of the Volunteer Ambulance School of Instruction to be present at the annual dinner which will take place at the Trocadéro Restaurant, Piccadilly Circus, London, W., on Thursday, May 12th. Among others who have signified their intention of being present are: Sir Robert Ball, F.R.S., Mr. Jonathan Hutchinson, F.R.S., Colonel A. T. Sloggett, C.M.G., R.A.M.C., Colonel G. W. Robinson, R.A.M.C., Colonel E. M. Wilson, C.B., C.M.G., D.S.O., R.A.M.C., Colonel E. C. Stevenson, 3rd City of London V.R.C., and Dr. J. Galloway.

The War in the Far East.

The *Daily Graphic* says: "The services of Miss McGee, the American lady doctor who, with a staff of eight nurses, has volunteered to assist the Japanese medical staff at the front, have been accepted and the party has already arrived at Yokohama where they received a most cordial welcome. Miss McGee and her companions, after a short stay in the Japanese capital, will be detailed to a hospital ship."

Surgeon Francis F. Lobb, R.N., at present attached to the Plymouth division of the Royal Marine Light Infantry, has received the African general service medal, with clasp "Aro, 1901–1902." Colonel-Commandant A. D. Corbet, C.B., made the presentation at the morning parade at the Royal Marine Barracks, Stonehouse, on April 22nd.

GENERAL LYING-IN HOSPITAL, YORK-ROAD, LAMBETH, LONDON, S.E.—The entertainment referred to in THE LANCET of April 16th, p. 1047, has been postponed from May 26th until some time in the autumn, probably October, but the bazaar on July 8th and 9th will be held as announced.

THE MEDICAL DIPLOMATES SOCIETY OF LONDON.—At the last meeting of the London Licentiates and Members Society, which was held at 20, Hanover-square on April 19th, under the presidency of Dr. F. J. Smith, it was agreed to alter the name of the society to the Medical Diplomates Society of London.

Correspondence.

"Audi alteram partem."

ON SYPHONAGE IN THE LARGE INTESTINE.

To the Editors of THE LANCET.

SIRS,—May I point out to Dr. R. W. Leftwich that experiments worked out with a syphon of garden hose with glass insertions and treacle, fully described in his book, "prove" nothing as regards the action of the human colon and do not justify the treatment of patients as syphons. Before placing his patients in the upright posture to secure a syphonage effect he must first render the contents of the great intestine "capable of flowing" (which will be necessary in over 90 per cent. of cases); he must render the walls of the colon rigid, which can be done only by producing a negati [illegible] ity, which can be done by inv [illegible] nnot be produced by either [illegible] of the colon, the one shorte [illegible] ishes its calibre, but neither can act in the opposite way, as Dr. Leftwich believes it can. A negative pressure in the cæcum is a product of Dr. Leftwich's imagination. The muscular coats are, as I have already shown, more than sufficient to propel the contents of the colon and readily hypertrophy when there is a localised obstruction to be overcome. As for the "daily morning evacuation" being the result of syphonage, how does Dr. Leftwich account for the fact that most domestic animals (especially noticeable amongst cows) always evacuate when they rise from a period of rest?

I am, Sirs, yours faithfully,
ARTHUR KEITH.
April 23rd, 1904.

BILHARZIA HÆMATOBIA.

To the Editors of THE LANCET.

SIRS,—*Re* bilharzia hæmatobia, as I have been practising here for the last ten or 12 years and have necessarily, therefore, come in contact with very many cases of the above I take the liberty of answering Mr. E. H. Worth's question as regards treatment published in THE LANCET of Feb. 27th (p. 611). My experience leads me to believe that treatment has very little, if any, effect upon the course of the disease which in temperate persons is almost invariably mild and favourable. Iron alum is, I think, the best iron preparation if the hæmaturia is excessive, or the tinctura ferri perchloridi, while for the burning at the meatus during micturition my favourite drug is potassium citrate, which also presumably assists in preventing the formation of calculi These last are occasionally a troublesome complication but are, in my experience, invariably of small size and are only brought under the notice of the practitioner by becoming impacted in the urethra or by causing an attack of renal colic.

I am, Sirs, yours faithfully,
F. T. AUDEN, M.D. Edin.
Rustenburg, Transvaal, March 26th, 1904

A PROBABLE FRACTURE OF THE BASE OF THE SKULL WITH RECOVERY.

To the Editors of THE LANCET.

SIRS,—The following case may be of some interest. The accident occurred to a friend of mine who was coasting down a steep hill on his bicycle when, owing to a sudden swerve while he was going very fast, he collided with a wooden fence, completely injuring the front wheel and forks and also receiving a cut over the right parietal eminence from which there was considerable hæmorrhage. He was slightly unconscious for a few moments but managed with slight assistance to walk afterwards. Later there were some hæmorrhage from the right external meatus and considerable pain about the right tympanum when coughing or blowing his nose, also complete loss of hearing by the right ear and a considerable amount of blood came from the nose when it was blown. This condition continued for about 12 hours and then the hæmorrhage ceased but for three days the patient was quite deaf on the right side and still had pain about the right tympanum and a hissing noise when he blew his nose. When walking on the fourth day he noticed a slight creaking noise about his right ear. This disappeared after a while and his hearing after a week was much improved. He was never laid up.

I am, Sirs, yours faithfully,
AJAX.
April 23rd, 1904.

THE VISION OF MYOPES.

To the Editors of THE LANCET.

SIRS,—With reference to the correspondence on the above subject which appeared in THE LANCET during October, 1903, when some methods of temporarily improving the vision of myopes were discussed, I beg to call attention to a little dodge which I have discovered with the same object. In the centre of my watch glass there is a little plano-concave disc with which many watch glasses are made and I find that by opening the glass of the watch and looking through this little concave portion it acts as a lens especially suitable to the myopic eye. Of course, this is merely an emergency dodge, but it is far better than making two pin-holes in a piece of paper or cardboard to get a binocular effect or looking into a small convex mirror wherein, although objects are clearly reflected to the myopic eye, the reversal of words on shop fronts, and so forth, is especially noticeable.

I am, Sirs, yours faithfully,
MYOPE.
London, April 27th, 1904

THE GERMAN SURGICAL CONGRESS.[1]

(FROM OUR BERLIN CORRESPONDENT.)

THE German Surgical Congress met in Berlin from April 6th to 9th, Professor BRAUN of Göttingen being in the chair. After the conclusion of the introductory proceedings Professor Braun made a sympathetic allusion to the eight deceased members and especially to Professor Gussenbauer of Vienna, the president of the Congress held in 1901. The Librarian (Professor FISCHER) reported that the new catalogue was now at the disposal of the members and on sale, the library containing 3756 books, 2254 volumes of journals, and 8862 reprints of articles.

Operations on the Blood vessels.

Professor KORTE (Berlin) showed a boy, 13 years of age, who as a sequel to a knife wound suffered from an arterio-venous aneurysm of the popliteal vessels. Professor Körte under Esmarch's ischæmia cut down on the tumour, broke down the adhesions, and sutured the wounds of the vessels. Primary union and complete cure were obtained.

Dr. RIESE (Britz) reported a similar case of aneurysm in a boy, aged 11 years, where a piece of bone two inches long was found in the wound of the popliteal artery.

Carcinoma.

Professor PETERSEN (Heidelberg) reported some cases of late relapses of cancer. In a case of cancer of the tongue operated on by the thermo-cautery a relapse appeared after 19 years and was treated a second time by the same procedure; no enlargement of the glands was present on either occasion. In another instance of cancer of the mamma where radical extirpation had been performed in 1889, local relapses were observed every third year and operated on, so that five operations—the last one in 1903—took place. At present the woman was in good health.

Dr. PERTHES (Leipsic) read a paper on the treatment of cancroids by the Roentgen rays. In 12 out of 13 cases a complete cure, and in the last one a considerable improvement, was obtained. As the majority of the cases were of comparatively recent date there might possibly be relapses. In three cases of cancroid of the lips the result was favourable, in other instances unfavourable, and so were some cases of cancer of the mamma. Dr. Perthes explained that the action of the rays was somewhat superficial—namely, only for a depth of about an inch. He was of opinion that the rays might have a specific action on the carcinomatous tissue, their influence on the metastatic glands being obvious.

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[1] For this report we wish to tender our thanks to the editor of the *Deutsche Medicinische Wochenschrift*, through whose courtesy it has been forwarded to us by our correspondent.—ED. L.

Professor **LASSAR** (Berlin) in the discussion concurred in the opinion of Dr. Perthes and showed a number of patients who had either recovered or been benefited. He mentioned that cancroids sometimes disappeared under arsenical treatment.

Operations on the Gall bladder.

Professor **KEHR** (Halberstadt) reported that he had up to the present time performed 911 operations on the gall-bladder and among them there were 11 remarkable ones in which he had directly joined the gall-bladder with the stomach (cystogastrostomy); in one of these 11 cases a retention cyst of the pancreas was present which was led into the gall-bladder so that after the operation the bile and the pancreatic juice were discharged into the stomach. One case was a hepato-cholangio-enterostomy—i e., a direct union of the bile passages to the duodenum; in another case of aneurysm of the hepatic artery this vessel was tied.

Professor **RIEDEL** (Jena) recommended making the ductus choledochus accessible by a large flap and raising the liver. By this procedure more complicated measures might be avoided.

Professor **PAYR** (Graz) spoke of Kocher's method of freeing the duodenum in the course of which he had once observed fatal hæmorrhage

Professor **HAIDENHAIN** (Worms) showed an instrument by which after the opening of the gall-bladder the calculi might be removed.

Dr. **HABERER** (Vienna) described experiments relative to the possible formation of a new gall-bladder after cholecystotomy.

Professor **KRASKE** (Freiburg) drew attention to the difficulty of removing calculi situated in the end of the ductus choledochus. A direct incision on Vater's diverticulum might be dangerous owing to the fact that eventually a pancreatic fistula might arise. In every instance of diverticulo-duodenostomy accurate sutures and packing with gauze were indispensable.

Dr. **PELS-LEUSDEN** (Berlin) showed a patient in whom, after a cholecystostomy, papillomatous growths developed in the gall-bladder; the patient made a good recovery, but a small fistula persisted from which some years afterwards new papillomata were removed.

Dr. **MEYER** (Brussels) discussed the resection of parts of the abdominal wall and of the ligamentum teres for hepatoptosis which as a rule was associated with general enteroptosis.

Dr. **GRASER** (Erlangen) discussed traumatic rupture of the liver. In the course of a laparotomy for abdominal pain he found a large cavity in the liver filled with pus and containing some small pieces and one large piece of liver. The etiology of the cavity was somewhat obscure; it was, however, ascertained that the patient, one and a half years before, had fallen from a height of 16 feet without feeling any considerable pain. Six months later pain began without fever. In another case of abscess of the liver after perityphlitis the infection had very likely arisen from the portal vein.

Traumatic Lesions of the Abdominal Organs.

Dr. **RIESE** showed a patient who had received a bullet wound of the liver, stomach, kidney, and spleen. An operation was speedily performed, and recovery ensued. Dr. Riese recommended the use of catgut for sutures of the liver.

Dr. **BRENTANO** (Berlin) reported the case of a patient with a bullet wound of the abdomen who had suddenly died after seven days' illness. At the necropsy a retroperitoneal lesion of the abdominal aorta with enormous hæmorrhage was found.

Dr **PELS LEUSDEN** showed a girl who had received a gunshot wound, the thorax and the abdominal cavity being traversed and the diaphragm and the spleen lacerated Notwithstanding this grave injury recovery ensued. By means of radiography about 30 shots could still be seen.

Dr **THOLE** gave a report of his researches on the blood of the portal vein which, according to him, was sterile, so that the way of infection from the duodenum was probably not through the blood-vessels but through the bile.

Dr **VON FRISCH** (Vienna) said that he had observed in a case of abdominal gunshot wound, where the stomach was perforated, that the posterior opening was smaller than the anterior one and found this fact to be confirmed by numerous experiments on animals.

Connexion between Diseases of the Gall-bladder and Pancreatitis.

Professor **KORTE** spoke on the connexion between diseases of the gall-bladder and pancreatitis. He had seen seven cases of acute pancreatitis together with cholelithiasis, of which four were cases of calculi of the ductus choledochus, one was a case of 900 calculi of the gall-bladder, one of cholecystitis, and one of cholangitis; three patients recovered and four died. The symptoms of these complicated and grave cases were rather obscure.

(To be continued.)

THE BATTLE OF THE CLUBS.

(FROM OUR SPECIAL COMMISSIONER.)

THE MANCHESTER AND SALFORD PROVIDENT DISPENSARIES ASSOCIATION.

WHILE dealing with the prevalence of hospital abuse at Manchester in a series of special articles some years ago the Manchester and Salford Provident Dispensaries Association also came in for a large share of criticism.[1] Cases were given of the gross abuse proving that what was intended for the poor was being utilised by persons who could well afford to pay proper medical fees. Complaints were also made that leaflets and other methods of advertising these dispensaries were employed, much to the detriment of the interests of the private practitioner. It is true that the practitioners themselves were somewhat to blame, for many new-comers had commenced their careers under the patronage of the Provident Dispensaries Association. Being anxious to render themselves popular and to increase the number of members on their list so as to lay the foundations of a practice, these new arrivals were not so likely to endeavour to prevent abuse. Originally the idea was, on the contrary, to constitute a district provident and charity organisation society of Manchester and Salford and thus to combine the work of preventing abuse of charity with that of organising a provident dispensary. For this purpose patients were divided into four categories. Persons absolutely devoid of any resources were to be referred to the Poor-law. The second category consisted of very poor people and they were to be sent to the hospitals. This meant in the case of single persons those who could not earn more than 15*s.* a week and in the case of married couples a limit of 21*s.* Above this figure the third category was reached and this consisted of people still too poor to pay medical fees but yet earning enough to insure against sickness by paying a penny per week. Should such persons have failed to take this precaution before they fell ill they might nevertheless join a provident dispensary and obtain immediate medical attendance on paying an entrance fee of 5*s.* The fourth category was composed of the rest of the public, that is, persons who on inquiry were considered capable of paying medical fees. Such were the principles which it was intended should govern the provident dispensaries. They soon broke down in practice.

Instead of maintaining the classification just described it was thought that the interests of the medical profession would be sufficiently guaranteed by allowing medical officers of the dispensaries to sit on the boards of management. In spite of this, however, so much abuse arose that the 17 medical men who formed the first staff of the dispensary resigned and thereupon two new medical men were imported from outside and were given fixed salaries. With their aid the dispensary grew and branch establishments were opened in the outskirts, but the original scheme for reform and the prevention of abuse was more than ever consigned to pigeon-holes where are kept records of a forgotten past. Not only were abuses allowed but the medical officers were obviously sweated by the dispensaries and in 1895 they met and protested, pointing out that during the year the subscribers had paid £4422 and the medical officers had only received £2612 It is true that answer was made to this, the management throwing the whole blame for abuse on the medical officers themselves [2]

All this, however, is ancient history. The profession is better organised now, especially in the Manchester district.

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[1] See THE LANCET, Jan. [illegible]th, 1897, p. 136.
[2] See THE LANCET, Jan. 23rd, 1897, p. 276.

It is also better supported by the General Medical Council in matters of this description. Institutions like these provident dispensaries should therefore be particularly careful not to re-awaken the old grievances and complaints. Nevertheless, new, as well as the old, grievances have arisen involving a whole series of side issues and sociological problems. It has been explained that the provident dispensaries are supposed to enrol only poor people who cannot pay medical fees and that they must subscribe a penny per week—*that is, 4s 4d.* per annum. *It has also* been very generally believed that when the State or a municipality employs labour it is in honour bound to set a good example and to pay the highest current rate of wages. Therefore it was to be expected that persons employed by the Manchester corporation would on their side pay their medical attendants at least as well as do the other members of their class. To the credit of one of the bodies of workmen concerned it must be recognised that they never *thought of acting otherwise. The Manchester corporation servants engaged in the cleansing department and* the tramway employés, who number some thousands, followed the example of other large bodies of workmen and sought to join a sick benefit society. There is a Vehicle and Tramway Workers Association which is a trade union and has branches all over the country. Representations were made on behalf of the Manchester Medical Guild to the secretary of the Salford branch of the Tramway Workers Association and he approved of the position taken up by the organised members of the medical profession. It was pointed out that in Salford some medical practitioners had applied for the post of medical officer to the Salford tramway workers and had offered to do the work for a subscription of only 3*s*. 6*d*. or 3*s*. per member. The tramway workers, however, would not entertain such proposals. They preferred to engage a member of the Medical Guild, paying him the established rate accepted by the Guild of 4*s*. 4*d*. per annum, rather than to save a little money by employing a practitioner who was acting against the interests and the policy of the members of his profession.

In the face of all these circumstances it is easy to imagine the indignation aroused by a rumour that efforts had been made to induce all, or at least a large number, of workers engaged by the corporation to join the dispensaries at a reduced tariff. The secretary of the provident dispensaries was said to have addressed midnight meetings of tramway servants. Though ordinary poverty-stricken people had to pay 4*s*. 4*d*. a year he was reported to have offered to accept as members the comparatively well-paid municipal employés for only 3*s*. 6*d*. per head. At the same time the chairman of the tramway committee was boasting that the receipts made by the corporation tramways had exceeded £16,000 in one single week and that this was a record for Great Britain. In that case, why should the workers engaged in so exceptionally prosperous an enterprise be unable to pay medical fees? Were medical men to attend on charitable terms the servants of the ratepayers? On what ground had they any right to claim medical services at reduced rates? The Manchester Medical Guild discussed this matter on several occasions and correspondence ensued. The upshot was that first the general secretary of the provident dispensaries denied that he had addressed a meeting of tramway workers. The council of the Medical Guild then attempted to obtain evidence, though it was a difficult matter, as considerable time had elapsed since the holding of such meetings. Nevertheless, several men were found who swore an affidavit before a commissioner for oaths that they were present at a meeting held at Holt Town cleansing depôt dining-room on March 28th, 1903, when about 200 men were present. Mr. Stanley Jones, the general secretary *of the provident dispensaries, is reported by the Medical Guild Quarterly* on the evidence of these witnesses to have addressed the men and to have pointed out to them the advantages of joining the dispensaries. The handbill con- [illegible]

regarded as "touting and canvassing" and would in consequence, if reported to the General Medical Council, be regarded as "infamous" in the professional sense because the medical officers of the dispensaries would profit by the touting practised by their secretary. Thereupon the medical officers of the Pendleton branch of the dispensaries passed and forwarded resolutions to the general committee of the Provident Dispensaries Association complaining of the action of the secretary as it compromised their position and exposed them to a reprimand from the General Medical Council. Perhaps after this warning *the secretary of the dispensaries will be more reserved.* But, nevertheless, a large number of tramway workers in the service of the Manchester corporation have been induced to join the dispensaries at 3*s*. 6*d*. a year and the medical staff only receives a little more than half this sum for attending to them when they are ill. So there are two causes of complaint: first, that touting has been practised; and secondly, that there is no reason to offer what amounts to charity when the recipients are the employés *engaged on what has proved to be an exceptionally prosperous municipal enterprise. Municipalities are, on* the contrary, bound to do their utmost to prevent sweating but because in this case the victims of the sweating system are professional men instead of members of the artisan class is no concern to be manifested for their welfare? "Sweating" is subcontracting and here are a lay secretary and committee contracting to supply medical attendance at 3*s*. 6*d*. per annum. But being themselves incapable of supplying this medical attendance they subcontract with medical men to attend the tramway servants and others. This is a subcontract and this constitutes sweating in the technical sense of the term, the first contractor having an opportunity of "sweating" a profit out of the second or sub-contract. To what extent this sweating is practised in this particular instance still remains to be proved but in the meanwhile the following figures are suggestive. They were submitted at the twenty-seventh annual meeting of the Hulme branch of the Manchester and Salford Provident Dispensaries Association. The subscription of members during the year amounted to £637 4*s* 2*d*. and out of this only £376 9*s*. 10*d*. were paid to the *medical staff.* The receipts of the year exceeded the expenditure by £50 19*s*. 3*d*. and the branch had a reserve fund of £521 10*s*. 4*d*. There were 3371 members and during the year 34,193 prescriptions had been made up for them. To yield the profit and to pile up a reserve fund the medical officers, it will be seen by these figures, had to give prescrptions *at less than 3d. each.* This looks very like sweating. Not the working classes alone but all classes of the community have joined in the desire that the sweating system should be abolished and there is a strong *feeling that in this matter the State* and the municipalities should give a good example. It seems as if this has not been done in Manchester in so far at least as the interests of the medical profession are concerned.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Infantile Mortality in Liverpool: Artificial Foods and the Sterilised Milk supply.

IN a report on the work of the health committee's depôts for the preparation of humanised milk for the use of infants Dr. E W. Hope, the medical officer of health, refers at length to the high rate of mortality among infants below 12 months of age. Last year the death-rate of Liverpool was the lowest ever recorded, yet infantile mortality was 159 out of every 1000 born The average for the last three years was 178 out of every 1000 born. The most frequent causes contributing to this high infantile mortality were atrophy, diarrhœa, and convulsions, all pointing to the assumption that from some *reason or other* nutrition was interfered with and that the infants were unable to live upon the food given to them. The loss of life from diarrhœa and kindred ailments is greatest in the summer and autumn months and Dr. Hope's careful observations, extending over several years, showed that the deaths of infants wholly or partially fed during those seasons on artificial foods were 15 times as great as they were amongst an equal number of infants fed upon breast milk. As the age of the infants increased the death-rate among children fed on artificial foods diminished. The most discouraging feature was the want of maternal care and intelligence. The efforts of the health committee to insure a pure supply of cow's milk, the nearest approach to the infant's natural food, have been constant, but the problem of finding a complete substitute for the milk of a healthy mother has not been, and probably never will be, solved. The project of humanising the milk—that is to say, making it by the addition of milk-sugar, water, and cream as nearly as possible of the same chemical composition as the human milk and sterilising it—and adopting such methods as will enable the infant to receive this milk pure and without contamination was first introduced on a small scale at St. Helens and is now extensively carried out by means of distributing depôts in Liverpool. It was not claimed that the recent reduction in the rate of infantile mortality had been altogether brought about by the sterilised milk, yet it had undoubtedly played a part in the matter. From the date of the initiation of the scheme (early in 1901) to Dec. 31st, 1903, 6295 infants had been fed upon this milk, supplied either at the depôts or through dairies, the average age at the commencement of the feeding being three and a half months In the great majority of instances the infants thrived, increasing in weight and remaining healthy. Without attempting to draw too close deductions, the fact remains that out of 4453 infants coming very promiscuously to the depôts, at varied ages, and in conditions of health below the average, the mortality was 78 per 1000, as against 159 per 1000 for the whole city and from 88 to 118 for the best districts and from 212 to 215 for the worst. The figures are very remarkable and are clearly and strongly in favour of persevering with the supply of humanised milk. There are four depôts in the city where the milk is supplied—viz., Netherfield-road, Earle road, Cazneau-street, and Park-road, all situated at different quarters of the city. The milk is supplied in nine bottles in a basket, each bottle containing sufficient milk for one feed, according to the age of the child. When all the milk in one bottle is not used the remainder must not be warmed up again for the infant but a fresh bottle must be opened for the next meal. The milk will be found to be quite sufficient if given regularly. The person using the milk must guarantee to continue its use regularly during the needs of the child and to send for it at the stated hours. Should the milk not agree with the child the matter should be reported at once. Every person using the milk will be supplied with two teats which must be kept clean and taken to the depôt for inspection at least once a week. Extra teats will be charged for at the rate of 3*d.* each. Just before using each bottle should be placed unopened in a jug or basin of hot water and warmed to the proper temperature. The bottle should then be opened and the teat inserted. It is recommended that at first the infant should be fed every two hours during the day and every four hours during the night. After using the bottle should be thoroughly rinsed in cold water. If children are sent for the milk they must be warned not to tamper with the stoppers of the bottles. The cost of the full weekly supply is 1*s.* 6*d.*, payable in advance.

Health Students' Association.

At the opening meeting of the spring session of this association a lecture was delivered by Dr. Nathan Raw, physician to the Mill-road Infirmary, on the Prevention of Consumption in Large Cities. He drew special attention to the importance of diffusing knowledge on the subject among all classes of society and referred to the valuable teaching work done by the members of the association. One of the most important points touched on in the course of his interesting and instructive lecture was that tuberculosis was not by any means confined to the human race but that many domestic animals suffered from the disease and became centres of infection, the greatest harm resulting from the use of milk from infected cows. In this connexion he strongly supported the action of the Liverpool health committee in the establishment of sterilised milk depôts. Dr. Raw explained at some length the preventive measures which ought to be taken in nursing cases of phthisis in private houses and also alluded to the benefits of sanatoriums. He laid stress on the need of adequate provision for the treatment of advanced cases of the disease among the poor whose only refuge at present was the workhouse hospital. Dr. Raw was one of the pioneers in the movement for the establishment of the Liverpool sanatoriums. Questions were asked by several of those present to which the lecturer replied at length. The proceedings concluded with a cordial vote of thanks to Dr. Raw for his interesting address.

Royal Southern Hospital Nursing Institution.

At the annual meeting of the supporters of this institution held on April 20th, Dr. John Cameron, consulting physician to the Royal Southern Hospital, intimated his desire to retire from the position of chairman of the committee. Dr. Cameron has acted as chairman during the past 13 years and took a very active part in the inauguration of the nurses' home 24 years since; it is mainly due to him that so much useful work has been done in the past and that the institution has been so successful. The committee accepted Dr. Cameron's resignation with much regret and trusted that he would continue his connexion with the institution by accepting the office of president. Dr. Cameron is the doyen of the profession in Liverpool, his election as a member of the Liverpool Medical Institution dating so far back as the year 1839

New City Analyst.

Professor J. Campbell Brown, the professor of chemistry at the University of Liverpool, has resigned the post of public analyst of Liverpool and the health committee of the city council has recorded its best thanks for his valuable services during the past 31 years. Mr. Collingwood Williams is to be his successor, subject to the approval of the city council, at £850 per annum for salary and expenses. He will be required to analyse for the corporation 1800 samples taken for the purposes of the Sale of Food and Drugs Act; in excess of that number he will receive 8*s.* per sample.

April 26th.

WALES AND WESTERN COUNTIES NOTES.

(From our own Correspondents.)

Meeting of the Sanitary Institute at Cardiff.

When the Sanitary Institute met at Manchester in 1902 it was suggested that sessional meetings might with advantage be held in districts outside London. The council of the institute accordingly arranged for a meeting in Manchester in February, 1903, and it was so successful that other meetings have since been held in Birmingham, in Leicester, and on April 23rd last in Cardiff. There was an audience at Cardiff of about 80, presided over by Mr. W. Whitaker, F.R S., the chairman of the institute council, and a discussion upon School Hygiene was opened by Dr. Edward Walford with an address a summary of which will be found at p. 1219 of our present issue. In the course of the discussion which followed Dr. Walford's address Dr. J. Howard-Jones of Newport said that many sanitary defects in school buildings were left unremedied because of the expense involved, but he pointed out that £1,250,000 sterling were expended annually upon the education of children under five years of age and this sum would not only be sufficient for the provision of better schools but there would be something left for higher education. Dr. D. R. Paterson urged the importance of providing properly ventilated schools, not only for the children, but for the sake of the teachers who could not work properly under bad conditions. He also pleaded for those children who were partially deaf and where the defect was remediable but where if left unremedied the child often drifted into the class of those mentally unfit. Dr. H Meredith Richards expressed the hope that school committees would see that the cubic space in non-provided schools was brought up to the standard required in provided schools. Mr. Herbert Jones drew attention to the large number of schools which were in use where the windows were in an utterly wrong position, compelling the children to twist themselves into unnatural postures, and Dr. J. Tatham Thompson endorsed the desirability of providing for the light to fall on the left side. He also deprecated the sending of children under five years of age to school, for educationally it was of no value and physically it was full of dangers. Miss Hurlbatt, the principal of Aberdare Hall, the women's hostel of Cardiff College, considered that the physical condition of many middle-class girls was woefully neglected. They came to the college with bad teeth and therefore impaired digestion, with bad eyesight and therefore headaches, and were quite indifferent to the advantages of being out in the open air. There was a low standard of vitality among many young girls which she thought might be remedied if they had more time to do absolutely nothing—to be, in fact, lazy. The chairman of the Glamorgan county council education committee (Dr. T. H. Morris) placed upon the Board of Education the responsibility for a great deal of the deficient sanitary condition of schools. The Board, he said, was a distinct brake to progress.

Small-pox in Swansea.

Swansea has been exceptionally free from small-pox for many months but there is now one case in the isolation hospital. The patient who was a stowaway was landed from a coasting vessel trading between Glasgow, Liverpool, and Swansea. As he was obviously ill he was taken from the ship to the workhouse infirmary where he remained two days.

Dangers of Celluloid Collars.

The danger of using celluloid wearing apparel was once [illegible] last week. A youth after lighting [illegible] lighted match which fell upon the [illegible] boy whose neck and hair were burned, though fortunately without any serious result.

Fixity of Tenure for Medical Officers of Health.

Dr. Hugh Jones, the medical officer of health of the Dolgelly rural district, has been appointed by the district council for an indefinite period instead of as on previous occasions for three years only. This course was taken by the council in response to a communication from the Local Government Board stating that the Board had had under consideration generally the question of the tenure of office of medical officers of health and that it would be prepared to consider favourably an application for its sanction to Dr. Jones's re-appointment as medical officer of health without limit of time. The same fixity of tenure of office has also been secured in Wales by the medical officers of health of Cardiff, Rhondda, and Pontypridd urban districts and Llandaff and Dinas Powis rural district.

Bristol Royal Hospital for Women and Children.

The annual meeting of the subscribers to this institution was held on April 23rd under the presidency of the Lord Mayor. The medical report stated that 676 children and 65 women had been admitted as in-patients during 1903, as compared with 685 children and 64 women during 1902. 3534 children and 2046 women had been treated in the out-patient department. The financial statement showed that the total ordinary income amounted to £4449, the expenditure being £4904. The total adverse balance of the hospital now amounts to £1308. The Ladies' Auxiliary Association, under the presidency of the Duchess of Beaufort, had raised £523 for the funds of the institution. The committee in its report refers sympathetically to the death of Dr. J. G. Swayne of Clifton who for many years was the consulting obstetric physician.

Notification of Phthisis.

The annual report of the Exeter health department, which was issued on April 22nd, states that during 1903 the voluntary notification of phthisis has been practically useless, as not one case was notified although the city council offered to pay the usual fee for notification and 67 deaths were registered from the disease during the year.

April 25th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The University of Glasgow.

THE annual graduation ceremony at the University of Glasgow took place in the Bute Hall on April 18th. There was a very large attendance of students and the general public. Principal Story, the Vice-Chancellor, presided and performed the capping ceremony. The doctors of medicine (M.D.) numbered three and the bachelors of medicine and surgery (M.B, Ch.B) numbered six, including one lady. The following day (April 19th) was observed as Commemoration Day. This is a new feature of the academic life as far as Scotland is concerned, though not uncommon in England, the idea underlying the ceremony being to recall the names of great men associated with the past history of the University. The arrangements for the different functions were admirably carried out by a joint committee of the University Court, Senate, and General Council. The proceedings began in the morning with a short service in the Bute Hall conducted by Principal Story, assisted by the Rev. Professor Taylor, Edinburgh, and the Rev. Professor Herkless, St. Andrews. This was followed by an oration on "Joseph Black, M.D.," by Sir William Ramsay, K.C B., of University College, London. At the close of the address Principal Story, on behalf of the University, conferred the honorary degrees. Professor J. Glaister presented those receiving the degree of doctor of laws, among whom were the Hon. Joseph Hodges Choate, who at present fills the distinguished position of ambassador from the United States of America to the Court of St. James's; Sir Ludovic James Grant, Bart, Regius professor of public law in the University of Edinburgh; Mr. John Henry Muirhead, professor of philosophy in the University of Birmingham; Dr. William Stirling, Brackenbury professor of physiology in Victoria University in Manchester; and Sir William Taylor, K.C.B., Director-General of the Army Medical Service. With the conferring of the honorary degrees the interesting meeting terminated. Another interesting ceremony took place in the afternoon when there was presented to the University a memorial of the late Professor John Young, M.D., professor of natural history and keeper of the Hunterian Museum from 1866 to 1902. The memorial consisted of a medallion bearing in bas-relief a bust of the late professor. Mrs. Young and Queen Margaret College, in which Professor Young took a great interest, were presented with replicas of the medallion. In the evening a banquet was held at which over 200 gentlemen were present, including Principal Story, who presided, Sir William Ramsay, the Hon. the Lord Provost (Sir John Ure Primrose), the Hon. Joseph Choate, the Duke of Marlborough, the Earl of Stair, Sir Henry Craik, and Sir Ludovic Grant.—The medical classes in connexion with the University of Glasgow, Anderson's College Medical School, and St. Mungo's College opened on April 20th.

The Erection of the Deer Hospital: Interdict Craved.

Counsel were heard before Lord Pearson on April 16th in the Bill Chamber on an application for interdict at the instance of the trustees of Mr. George Alexander Baird of Strichen against the county council of Aberdeen and the Deer district committee of the council. The complainers sought to have the respondents interdicted from proceeding with the erection of an infectious diseases hospital on the estate of Strichen. They alleged that although negotiations for a site had taken place between the parties no concluded contract had been arrived at and that, as a matter of fact, a serious difficulty arose in connexion with the adjustment of a feu charter. Notwithstanding this they alleged that the respondents had commenced building operations and had refused to stop work pending the adjustment of the deed. The main question between the parties had reference to the adjustment of water rights between one of the complainers and the hospital. The respondents, who were heard upon a *caveat* against interim interdict, maintained that a contract of feu had been validly concluded and, therefore, had been followed by *rei interventus*, and in the circumstances they maintained that they were within their legal rights in proceeding with the works and they offered to meet with the complainers' agents and to adjust a clause in the charter to satisfy both parties. Lord Pearson said that he could not help regretting that matters here had come to be so acute. He would order answers in eight days and reserve as to interim interdict till the answers were advised. But he did entreat the parties—though he seldom said anything of the kind—to utilise the time even before answers were lodged, in the first place, to clear up their legal position, and, in the second place, to see if they could not find a *modus vivendi*, it might be as to the works being carried on under reservation but without the chance of the whole thing having to be undone, as it certainly would have to be if it proved in the end that there had been no concluded bargain.

April 26th

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Dublin Sanitary Association.

AT the last meeting of the council of the Dublin Sanitary Association held on April 21st the following motion was passed unanimously:—

> That the attention of the Local Government Board be drawn to the unsatisfactory manner in which the Infectious Disease Notification Act, 1889, is still being worked in the Dublin metropolitan district. For example, chicken pox is notifiable in all the townships but not in the city; whooping-cough (at present epidemic and very destructive to child life) is notifiable in Pembroke but in none of the other districts

nor in the city; and measles is not notifiable in some of the districts, whereas it is scheduled as notifiable in others. The effect of this uncertainty in practice is to throw a serious obstacle in the way of notification.

Irish Dispensary Medical Officers.

The annual report of the Local Government Board of Ireland, which has just been presented to Parliament, contains a full and important statement in reference to the dissatisfaction of the Poor-law medical officers which, it is admitted, has existed for years. The Board draws attention to the gradual increase in the cost of the medical service which seems proved by statistics to have continued ever since the medical dispensary districts were established under the Poor Relief (Ireland) Act, 1851. The following appears in tabular form:—

Decades.	Total number of new cases.	Salaries paid.
1853 to 1862	7,542 429	£618 838
1863 to 1872	7,935,133	£740,290
1873 to 1882	6,699,791	£874,409
1883 to 1892	5,856 355	£899,792
1893 to 1902	5,966,579	£949,880

Those figures, it is stated, show a decrease of 20 per cent. in the number of the medical relief cases attended during the decade 1893–1902; and, on the other hand, an increase in the remuneration paid for medical services of 53 per cent. Those who are responsible for the report say that the enormous diminution in the population of Ireland from 6,552,055 in 1851 to 4,458,725 in 1901 and the consequent falling off in the amount of work done by the dispensary medical officers tend to support the opinion which has been formed. But in many unions a reduction of the staff of medical officers is not only feasible but is called for by the altered local circumstances. It is not stated that the decrease in the population, as recently reported by the Registrar General, was peculiar in the fact that it was the strong, well-to-do people of less than 35 years of age who have emigrated, leaving behind the poor, the old, the feeble-minded, and the chronic invalid. It would seem to me, therefore, that a fallacy may underlie the statement as regards "new cases" in the above statistical table, which apparently assumes that the practitioner's work is accurately measured by the number of "new cases" which he sees. As regards the question of holidays to medical officers the report goes on to say that the latter difficulty has in a great measure been overcome by the Local Government Act of 1898 providing for the recoupment out of the local taxation (Ireland) account of one-half of the remuneration paid by boards of guardians to the locum-tenent. The medical officer will not, however, forget that the Local Government Act of 1898 gave him a vacation of one month in the year during which his substitute would be suitably paid. Owing to some legal defect the Act has proved inoperative and even now the guardians can change the four weeks' leave to two weeks, or, on the other hand, refuse to pay the sum of four guineas per week to a substitute, so that the unfortunate practitioner cannot obtain a substitute and loses his vacation altogether.

The Public Health Committee of the Corporation of Dublin.

The public health committee of the corporation has just completed the by-laws under the provision of the Employment of Children Act, 1903. They deal with the regulation of street trading by children in the city of Dublin.

Ulster Medical Society.

The ninth general meeting of the Ulster Medical Society was held in the Medical Institute, Belfast, on April 21st, Dr. John Campbell, the President, being in the chair. Dr. V. G. L Fielden read a short paper on Ethyl Chloride as a General Anæsthetic. Mr. A. Fullerton showed the Stomach from a case of Ruptured Ulcer in an Hour-glass Stomach treated by suture and gastro-gastrostomy. Dr. Cecil E. Shaw showed Microscopic Preparations from some Cases of Catarrhal Conjunctivitis. Dr. W. L. Storey read a paper entitled "Undergraduate Days: Random and (rather) Personal Reminiscences of Class-room and Ward."

County of Cork Joint Hospital District.

The Local Government Board for Ireland has announced that the 28 sanitary districts in the county of Cork will be formed into a united district for the purpose of the provision, maintenance, and management of a hospital to be used as a sanatorium for consumptives for the benefit of the inhabitants of the sanitary districts in question. The joint board, which will be the governing body of the said united district, will consist of 56 representatives elected by the sanitary authorities of the district. Of these 56 representatives the county borough of Cork has seven, Cork rural district has seven, and Fermoy and Mallow rural districts have four each.

April 26th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Graphic Method.

AT a recent meeting of the Academy of Sciences M. Lannelongue read a paper in which he explained that he described by the above name a method which had for its aim the giving both to the eyes and the understanding the power of appreciating with great exactitude the modifications in form and the change in relation of the various parts of the human body. Moreover, it was a method of portraying on the living body deformities, displacements, fractures, dislocations, increase or decrease in volume, differences of level, and the like, or shortly any alteration, both superficial and visible or deep-seated and invisible. The principle of the method lies in the comparison of the normal side of the body with that which is really or apparently deformed. The observer marks upon the two portions of the body which it is wished to compare the salient or re-entering portions, the contours and the relations, both deep and superficial, of the organs. Palpation and touch serve to mark them out. The method is not new in the sense that touch has never been previously employed to mark out individual regions of the body, but it has not hitherto been generalised or applied systematically. Its application to disturbances of the locomotive apparatus is new and very useful and is a helpful adjunct to radiography. It has been found specially serviceable in affections of the region of the hip, the elbow, the knee, the head the spine, and the instep. On the abdomen it is easy to mark out a pentagon which will show the situation of the organs. The method is applicable by all, even by the relatives of the patient. It is capable of at once offering a key to the diagnosis and of making it both easy and accurate. It is a lesson by facts which inscribe on the living body in their own place and without possibility of error the particularities of any region of the body so that their analysis is rendered easy.

The Pathological Agent of Human Trypanosomiasis.

At the same meeting of the Academy of Sciences M. Laveran recalled the fact that he had given the name trypanosoma Gambiense to a trypanosoma discovered by Ford and Dutton in the blood of a European who was suffering from irregular fever. This organism was first described by Dutton and later was found in a certain number of Europeans and in natives of the Gambia and Congo countries. Castellani still later notified that he had found in the cerebro-spinal fluid of certain negroes from Uganda who were suffering from sleeping sickness a trypanosoma which he described as of a totally distinct species and to which he gave the name of trypanosoma Ugandense. There seemed, however, to be some doubt as to whether these two organisms really were of different species and M. Laveran was given the opportunity of undertaking a research in order to set the question at rest. His researches led him to the conclusion that the two organisms were identical in species. Morphologically there was no difference between them, their pathogenic action on animals was identical, and an animal rendered immune against the trypanosoma Gambiense was also immune for the Ugandense variety and *vice versâ*. It has been fully proved that this trypanosoma is the cause of sleeping sickness but it must be remembered that it is often found in the blood of patients who die without ever having exhibited any symptom of sleeping sickness. M. Laveran is of opinion that the use of the name "sleeping sickness" should be abandoned. The term to use is "human trypanosomiasis," for this is applicable to all forms of the disease.

The Rouen Congress of Gynæcology, Obstetrics, and Pædiatrics.

The opening of the fourth session of the above national Congress took place recently at Rouen. The Mayor of Rouen was the president and there were also present the following nor in the city; and measles is not notifiable in some of the districts, whereas it is scheduled as notifiable in others. The effect of this uncertainty in practice is to throw a serious obstacle in the way of notification.

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The opening of the fourth session of the above national Congress took place recently at Rouen. The Mayor of Rouen was the president and there were also present the following primer is in use which is a move in the right direction, but in the mosque schools, which are not under the direct control of the Government, no such teaching exists and the cases of trachoma are found to vary from 80 to 90 per cent. The Egyptian can be taught anything by Englishmen and I venture to think that the time has come for him to learn that ophthalmia is preventable and in time he will learn to adopt the necessary measures for its prevention.

Cairo, April 17th.

Obituary.

FRANCIS JOSEPH LANDER, M.R.C.S. ENG., L.R.C.P. LOND.

CLOSE to his house in Stamford Mr. Lander met with a fatal accident on the afternoon of April 12th when out bicycling with his wife. Descending a rather steep lane which opened into a main road he lost control of his bicycle and dashed into a passing dray-horse. The base of his skull was fractured and he received other injuries. He was taken home and lingered until shortly after midnight when he died. Mr. Lander was a member of an old Leicestershire family. He received his medical education at the London Hospital and commenced his professional career as house surgeon to the Nottingham General Dispensary. He subsequently bought a practice in Nottingham, remaining there for about ten years, and was medical officer to the No. 1 Poor-law district. About a year ago, after a severe attack of pleurisy the state of his health gave rise to grave anxiety and he was strongly advised to leave Nottingham. This he did and after travelling for some time took a practice in Stamford four months ago. Here, completely recovered in health and in what he considered ideal surroundings, he looked forward to spending many happy years, but it was not to be. Mr. Lander was of a singularly gentle and loving disposition; he was not a pushing man and his interests were mostly centred in his profession. He had a sound knowledge of his work and succeeded in obtaining not only the confidence but also the esteem of his patients. He was 39 years of age. A widow and one young son lose a devoted husband and father.

JAMES FRANCIS TAPLIN, M.D., C.M. GLASG.

WE have to record the death of Dr. Taplin, the oldest medical practitioner in Small Heath, Birmingham, which took place suddenly at his residence in Coventry-road on April 14th. Dr. Taplin, who was 66 years of age, was born in Devonshire, his father being the Rev. James Taplin, a well-known Unitarian minister. When 16 years of age he was apprenticed for a term of six years to a firm of surgeons (Messrs. Pearse and Northey) at Tavistock and in 1860 he sailed in the *Windward* of Peterhead on a whaling expedition to the Arctic regions, in order to earn the requisite fees for completing his medical education. On his return he resumed his studies at Glasgow, acting for a time as dresser to Mr. (now Lord) Lister and finally graduated at that University, taking his M.D. in 1863 and C.M. in 1865. After obtaining his qualifications he went several voyages as a ship's surgeon to India, sailing *viâ* the Cape as the Suez Canal route was not then opened, and then settled down as assistant to a surgeon at Shaftesbury in Dorsetshire. His exceptional abilities and industry were at once recognised and he received an offer of partnership but his love of travel and adventure was not yet satiated and he accepted in preference an appointment on a tea plantation in Assam. Here he practised for a few years and before returning to England in 1872 he also practised for a short time in Calcutta where he was a member of a local lodge of Freemasons. Since he returned to England he has been engaged in general practice in Coventry-road, Small Heath, and his sudden death has come as a sad blow to his numerous friends and patients. Possessed of a genial and cheery manner and indefatigable energy he was greatly loved by all; whilst his wide experience and sound professional knowledge gained him a high reputation as a practitioner of medicine. Upright and conscientious in the highest degree he was a man of broad human sympathies, ever at the call of the sick and suffering, whether rich or poor.

For the last 32 years he devoted himself entirely to his practice and denied himself even much-needed rest and recreation in order to gratify the exacting demands of his oldest patients, many of whom owed their lives over and over again to his tireless devotion and attention. Until the very day of his death he had been in active work and his sad end has cast a gloom over the whole neighbourhood. If ever man was loved it was he, and now that he has laid down his arms his friends will treasure recollections of him as a kindly, honourable, and God-fearing gentleman. His son Mr. Julian Taplin has the sympathy of the profession in the irreparable loss which he has sustained.

GEORGE COCHÊT CHESNAYE, M.R.C.P., F.R.C.S. IREL., SURGEON-COLONEL, I.M.S.

Surgeon Colonel Chesnaye, whose death at his residence at Bournemouth on April 12th we announced in the Services column of THE LANCET of April 23rd, was born in 1838 and was educated in Dublin. In 1859 he received a commission in the Bengal Medical Service as assistant surgeon and was attached to the 3rd Bengal European Light Cavalry and two troops of Bengal Horse Artillery. At Mean Meer and at Amritsar during the cholera epidemic of 1861 he did some excellent work and received high praise from the Duke of Cambridge and from the Commander-in-Chief in India. He was in medical charge of the Lawrence Military Asylum at Sanawar from 1866 to 1868, Assistant-Field-Surgeon with the Hazara Field Force in 1868, and officiating residency surgeon at Khatmandu from 1869 to 1871, in which latter year he was appointed surgeon. He was in medical charge of the 4th Gurkha Rifles from 1871 to 1887 when he was appointed examiner of medical and fund accounts in Calcutta, having previously in 1873 reached the rank of surgeon-major. In 1889 he was promoted to deputy surgeon general, ranking as surgeon-colonel, and was appointed to the Lahore district, which post he held till 1894, when he retired. During the Afghan War of 1878–80 he took part in the capture of Ali Musjid, the expedition to Sherpore in December, 1879, the action of Zahidabad, the operations in Kohistan, the march from Kabul to Kandahar, and the battle of Sept. 1st. For his services in the Afghan War and in the Looshai Expedition of 1871–72 he was mentioned in despatches and received the thanks of the Government of India. In 1894 he was awarded a pension for distinguished and meritorious service. It is interesting to note that Surgeon Colonel Chesnaye's father, Captain J. C. Chesnaye, R.N., was a midshipman on board the *Orion* at Trafalgar.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Adolf Wertheimber of Munich, a voluminous writer on diseases of children, at the age of 72 years.—Dr. Stahr, surgeon-general of the Prussian army and until his retirement recently sub director of the Kaiser Wilhelms Academy in Berlin, at the age of 61 years.—Dr. Max von Strauch, *privat docent* of midwifery and gynæcology in the University of Moscow.—Dr. Lyot, surgeon to the Paris Hospitals.—Dr. V. I. Dobrovolsky, formerly professor of ophthalmology in the Military Medico-Chirurgical Academy of St. Petersburg.—Dr. Zarubin, formerly professor of clinical surgery in the University of Kharkoff.—Dr. V. Ratimoff, formerly professor of clinical surgery in the Military Medico-Chirurgical Academy of St. Petersburg.

MALARIA AND INFLUENZA IN RUSSIA.—The *Novosti* has a note from Voronesh as follows: "In our province malaria is increasing alarmingly and taking a very severe form. Round the town of Voronesh of late the epidemic has assumed such universal sway that scarcely a house or lodging has escaped. Thousands of otherwise healthy people are dying from it, whilst others remain very ill for months in spite of medical care. Its progress can be judged from the official figures as follows for 1901, 1902, and 1903—namely, 95,000, 130,000, and 160,000 cases respectively." The note adds that as the population can be with difficulty persuaded to call in medical aid and as the above figures are those of certified cases the totals may easily be called double those cited. Influenza, says the *Sviet*, is raging in Moscow in a special form, the malady being accompanied by a serious disturbance of the motor nerves.

Medical News.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—The following gentlemen passed the first examination of the Board at the quarterly meeting of the examiners in the subjects indicated :—

Chemistry.—Alexander Baxendale, Owens College, Manchester; Arthur Cecil Barker Biggs, University College Hospital; Herbert Vernon Bettley-Cooke, Arthur James Brown, Charles Clarke, and Roderick Ernest Clarke, London Hospital; Sidney Howard Browning, Guy's Hospital; John Peter Clarke, University College, Liverpool; Reginald Cock, Charing Cross Hospital; Francis John Craddock, St. Bartholomew's Hospital; Ernest Edgar Davies, University College, Bristol; Archibald Wallace Duncan and George Douglas Gordon Fergusson, St. Mary's Hospital; Howell Woodwell Gabe, Middlesex Hospital; Claude Percival Rivers Harvey, London Hospital; Herbert Wilks Heasman, Guy's Hospital; Harold Leslie Hughes, St. George's Hospital; Harold Garnett Janion, University College Hospital; Joseph Arthur Alexander Kernahan, St. Bartholomew's Hospital; Henry Goff Kilner, Middlesex Hospital; Charles Eric Lowe, Westminster Hospital; Guy Harvey Mead, St. Thomas's Hospital; Charles Anderson Meaden, Birkbeck Institute; Henry Rubert Mullins, Oxford University and Guy's Hospital; Albert Edgar Nicholls, University College, Cardiff; Thomas Francis O'Mahony, London Hospital; Richard Goodhart Oram, Guy's Hospital; Charles Edward Hewett Paley and William Norman Awdry Paley, Westminster Hospital; Richard Alfred Parsons, St. Mary's Hospital; Michael William Phipps, Queen's College, Cork, and London Hospital; Edward Spencer Pierrepont, Technical Institute, Wandsworth; Ernest Alfred Pywell, St. Thomas's Hospital; Richard Bancroft Nevil Reade, St. Mary's Hospital; Martin Remers and James Rowland Rigg, Owens College, Manchester; Frank Rendall, London Hospital; Arthur Rhodes, Birkbeck Institute; Reginald George Riches, St. Bartholomew's Hospital; William Sidney Simpson and Philip Edward Stibbe, Charing Cross Hospital; Charles Raymond Start, Felsted Schools; Donald Wainwright, Middlesex Hospital; William Hall Watson and Francis James Wheeler, Guy's Hospital; Cyril Howard Welch, King's College Hospital; Howel Meirig Williams, University College, Aberyswyth; and Henry Adrian Fitzroy Wilson, St. Thomas's Hospital.

Practical Pharmacy.—John Avery and Norman Huthnance Bye, London Hospital; Frederick Charles John Baker, King's College and St. Mary's Hospitals; Ernest James Chambers, Westminster Hospital; Richard Julius Cyriax, Edinburgh University; John William Dadd and Alfred William Eyles, Guy's Hospital; Edward Peter Joseph Dawes, Birmingham University; Lionel Cecil Ferguson, St. Bartholomew's Hospital; George Finch, Yorkshire College, Leeds, and St. Thomas's Hospital; William Henry Flint, Birmingham University; Bertram Maughan Footner, King's College Hospital; Reginald Franklin and Raymond Sydney Harper, Guy's Hospital; Leonard Austen Harwood, private study; Stanley Heathcote, Owens College, Manchester; Arthur Tease Jackson, L.D.S. Eng., University College, Sheffield; Henry Hollis Jenkins, Guy's Hospital; Thomas Lloyd Kenion, University College, Liverpool; Henry Andrew Lash, St. Mary's Hospital; John Daniel Stuart Lloyd, Birmingham University; Alfred Cecil Martin, London Hospital; Charles Anderson Meaden, private study; Leonard Myer, L.D.S. Eng., Guy's Hospital; Harry Williams Nicholls, Middlesex Hospital; Oswald Sinclair Norton, Guy's and Westminster Hospitals; Charles William O'Brien and Arthur O'Neill, St. Bartholomew's Hospital; William Stewart Orton, Guy's Hospital; Edward Symes Prior, University College, Bristol and Middlesex Hospital; Robert Montgomery Rendall, David Harold Richards, Gerald Charles Frederick Robinson, and Henry Warr Bennett Walling, Guy's Hospital; Charles Raymond Start, private study; Henry James Davey Walker, London Hospital; John Warburton, Owens College, Manchester; and Sydney Williams, University College, Cardiff.

Elementary Biology.—Stanley Denovan Adam, Rupert Blake Adams, and Frank Basford, St. Mary's Hospital; Edward Bruce Allnutt, John James Harkness Beckton, and Norman Barnett Benjafield, St. Bartholomew's Hospital; Alexander Baxendale and George Noel Braham, Owens College, Manchester; Hubert Vernon Bettley-Cooke, London Hospital; Sidney Howard Browning, Guy's Hospital; Cuthbert John Butler, Charing Cross Hospital; Charles Adolph Caufman, St. Thomas's Hospital; Ernest James Chambers, Westminster Hospital; John Peter Clarke, University College, Liverpool; Roderick Ernest Clarke, London Hospital; Reginald Charles Clifford, St. Bartholomew's Hospital; Reginald Cock, Charing Cross Hospital; Benjamin Dale, St. George's Hospital; David Davies, London Hospital; Sidney Alfred Day, St. Mary's Hospital; John William Doherty, Birkbeck Institute; Charles Stuart Douglas and Arthur Downes, St. Bartholomew's Hospital; John Griffiths Edwards, City of London College; Bernard Grainger Goodwin, University of Birmingham; Richard Sydney Graham, St. Mary's Hospital; Gilbert Clement Gray and Percy Hall, St. Bartholomew's Hospital; Eric John Durnford Haining, University College, Bristol; Martin Hallam, University College, Sheffield; Philip Thomas Harper, St. Thomas's Hospital; William Gladstone Harrop, Owens College, Manchester; Claude Percival Rivers Harvey, London Hospital; Leonard Austin Harwood, Birkbeck Institute; William Henry Stewart Hodge, St. Bartholomew's Hospital; Gilbert Percy Humphry, St. George's Hospital; Harold Garnett Janion, University College Hospital; Thomas William Jones, Charing Cross Hospital; Charles Eric Lowe, Westminster Hospital; Russell Hardy Sidney Marshall, St. Mary's Hospital; Francis Leslie Nash-Wortham and Tha Htoon Oo, St. Bartholomew's Hospital; Albert Edgar Nicholls, University College, Cardiff; Thomas Francis O'Mahony, London Hospital; Thomas Godfrey Percival and Clifford Crawshaw Pickles, Yorkshire College, Leeds; Archibald Bruce Pettigrew, University College, Sheffield; Michael William Phipps, London Hospital William Howard Pickup, Birmingham University; Cyril Macdonald Plumptree and Humphry Cooper Pugh, Guy's Hospital; Edward John Joseph Quirk, Charing Cross Hospital; George Frederick Randall, Middlesex Hospital; Martin Remers, Owens College, Manchester; Arthur Rhodes, Birkbeck Institute; James Freer Richardson, London Hospital; Arthur Bodley Scott, St. Bartholomew's Hospital; William Sidney Simpson, Charing Cross Hospital; Herman Spitz, St. Bartholomew's Hospital; John Startin, St. Thomas's Hospital; Phillip Edward Stibbe, Charing Cross Hospital; John Edgar Taylor, Yor[illegible]. Henry Hercules Skinner Templeton, [illegible]ol; Carl Rudolf Baltzar von Braun and C[illegible] St. Bartholomew's Hospital; Arthur Henry Leopo[illegible], Harold Eustace Wall, Jocelyn Langton Waller, and John Beazley Webb, St. Mary's Hospital; David Phillips Williams, Charing Cross Hospital; Sydney Williams, University College, Cardiff; Henry Adrian Fitzroy Wilson, St. Thomas's Hospital; and Pelham Vansittart Wynn-Wernnick, Merchant Venturers' Technical College, Bristol.

SOCIETY OF APOTHECARIES OF LONDON.—At the examination held in April the following candidates passed in the subjects indicated :—

Surgery.—G. Dewick (Sections I. and II.), St. Thomas's Hospital; W. S. Gibson (Sections I. and II.), Manchester and Charing Cross Hospital; C. Kellgren (Section I.), Royal Free Hospital; L. H. Lewis, Middlesex Hospital; H. J. May (Sections I. and II.), London Hospital; F. H. Hand (Section II.), St. Mary's Hospital; A. B. S. Todd (Sections I. and II.), Leeds; and T. R. Waltenberg (Section II.), Manchester.

Medicine.—A. Anderson (Sections I. and II.), Leeds; G. J. Eady (Section I.), St. Bartholomew's Hospital; J. H. Harrison (Section I.), Sheffield; J. A. Kilpatrick (Section II.), King's College Hospital; C. S. Scott (Section I.), St. Bartholomew's Hospital; and R. W. L. Wood (Sections I. and II.), Leeds.

Forensic Medicine.—M. O. Dollie, University College Hospital; G. J. Eady, St. Bartholomew's Hospital; H. R. Grellet, Guy's Hospital; H. G. Peel, Leeds; L. S. Veale, Royal Free Hospital; F. J. Waldmeier, London Hospital; and R. W. L. Wood, Leeds.

Midwifery.—A. Anderson, Leeds; H. H. R. Bayley, Charing cross Hospital; A. G. C. Findlay, University College Hospital; W. A. T. Lloyd, London Hospital; W. S. Mitchell and E. D. Richardson, St. Mary's Hospital; A. B. S. Todd, Leeds; L. S. Veale, Royal Free Hospital; J. S. Ward, Sheffield; and J. A. R. Wells, St. Thomas's Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery: G. Dewick, F. H. Hand, L. H. Lewis, H. G. Peel, and F. J. Waldmeier.

UNIVERSITY OF CAMBRIDGE.—The following have been appointed members of the State Medicine Syndicate which will conduct the examination for the diploma in Tropical Medicine and Hygiene: Mr. H. E. Durham, Dr. J. W. W. Stephens, and Dr. F. H. H. Guillemard.—Mr. D'Arcy Power has been appointed an additional examiner in surgery and Dr. J. R. Bradford an additional examiner in medicine for the M.B. degree.—The first, second, and third (Part I.) examinations for M.B. will begin on June 13th. Names have to be sent to the tutors of Colleges by May 26th.—The following candidates have satisfied the examiners in both parts of the sanitary science examination for the Diploma in Public Health :—

Edward Baines, Gonville and Caius; Wilfred William Ogilvy Beveridge, Basanta Kumar Chatterjee, Thomas Aldous Clinch, Myer Coplans, Ernest King Gawn, Edward Samuel Gorman, Arthur Edward Horsfall, Henry Louis Powell Hulbert, Trinity; Arthur Charles Ingram, St. John's; James Conway Jameson, Ramsay Millar, Thomas Rhind, and Eliot Swainston.

UNIVERSITY OF DURHAM.—At examinations for the degree of Bachelor in Medicine held recently the following candidates satisfied the examiners :—

FIRST EXAMINATION.

Elementary Anatomy and Biology, Chemistry and Physics.—*First-class Honours:* Frank Rawlinson Dudderidge, College of Medicine, Newcastle-upon-Tyne. *Second-class Honours:* Charlotte Purnell, London School of Medicine for Women. *Pass List:* Frederick William Cheese, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; Helen Mary Gurney, Gertrude Ethel O'Brien, Hubert Shield, and Joseph Albert Sacco, College of Medicine, Newcastle-upon-Tyne; Herbert James Slade, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; and Charles Sim Thompson, College of Medicine, Newcastle-upon-Tyne.

Elementary Anatomy and Biology.—Kenneth Bruce Allan, College of Medicine, Newcastle-upon-Tyne; Harold Ernst Bloxsome, St. Bartholomew's Hospital; Leonar[illegible] Browne, College of Medicine, [illegible]ospital; Newcastle-upon-Tyne; Lione[illegible] [illegible]llege of Elizabeth Niel Havelock and [illegible] King, Medicine, Newcastle-upon-T[illegible] School St. Bartholomew's Hospital; [illegible] Robert of Medicine for Women; Francis Aidan [illegible] Henry Smallwood, M.A., and Basil Taylor, College of Medicine, Newcastle-upon-Tyne; and John Franklin Young, Guy's Hospital.

Chemistry and Physics.—Hubert Cyril Willoughby Allott, Guy's Hospital; Herbert Ridley Crisp, William Harold Edgar, and Frank Widowfield Melvin, College of Medicine, Newcastle-upon-Tyne; Theresa de Gournay Miller, London School of Medicine for Women; and Frank Walter White, College of Medicine, Newcastle-upon-Tyne.

SECOND EXAMINATION.

Anatomy, Physiology, and Materia Medica.—*Second-class Honours.*—David Ranken, College of Medicine, Newcastle-upon-Tyne.—*Pass*

THIRD EXAMINATION.

First class Honours.—James Glenny Gibb, St. Bartholomew's Hos-

and James Leslie Wilson, M P., College of Medicine, Newcastle-upon Tyne.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF ıe Conjoint Board helc passed the respective :—

First Examination.—Owen Thomas Jones, Bangor, North Wales (with distinction), and Fred. Garnet Allan, Whaley Bridge,

Rigby, Pontefract.

CONJOINT EXAMINATIONS IN IRELAND BY THE ROYAL COLLEGE OF PHYSICIANS AND THE ROYAL COLLEGE OF SURGEONS.—At the second professional examination held recently candidates have passed as undernoted :—

Honours, in order of merit.—George Sheppard, Thomas T. O'Farrell, and R. M. Bronté

Passed in all subjects—Miss H O. D Beamish, T. A. Buchanan, T. Crowley, H. J. Raverty, and R. O. Kelly.

Completed the examination.—P. M Carroll, J. Daniell, M. I. Kelly, B C. A. Leeper, I. H. Lyne, I. G McGreal, H. V. McKeogh, James O'Brien, W. B. Soady, and M. Walters.

In the list of honours at the first professional examination recently published Mr. A. E. S. Martin's name was inadvertently omitted.

FOREIGN UNIVERSITY INTELLIGENCE—*Bologna:* Dr. U. Gardini of Modena has been recognised as *privat docent* of Operative Medicine.—*Gottingen:* Dr. Paul Stolper, *privat-docent* of Forensic Medicine, has been promoted to an Extraordinary Professorship.—*Padua:* Dr. Luigi Lucatello, Extraordinary Professor of Internal Pathology, has been promoted to the Ordinary Professorship. Dr. Riccardo Avanzi has been recognised as *privat-docent* of Psychiatry.—*Pavia:* Dr. Innocente Olivio, Extraordinary Professor of Midwifery and Gynæcology, has been promoted to an Ordinary Professorship. Dr. M. Albanese has been appointed Professor of Materia Medica and Experimental Pharmacology.—*Prague (German University):* Dr. Ferdinand Schenk has been recognised as *privat docent* of Midwifery and Gynæcology; Dr. Oskar Bail, *privat-docent* of Hygiene, has been promoted to an Extraordinary Professorship.—*Rome:* Dr. Giuseppe Vannini has been recognised as *privat-docent* of Internal Pathology, and Dr. Ernesto Guarnaccio as *privat-docent* of Oto Rhino-Laryngology.—*St. Petersburg (Military Medico Chirurgical Academy):* Dr. Boris Sloutzoff has been recognised as *privat-docent* of Physiological Chemistry and Dr. Alexander Lasurski as *privat docent* of Neurology and Psychiatry.—*Strasburg:* Dr. Paul Ascher has been recognised as *privat-docent* of Children's Diseases.—*Tubingen:* Dr. Hugo Lüthje has been recognised as *privat-docent* of Internal Medicine and Dr. Bernhard Honsell as *privat docent* of Surgery.—*Vienna:* The chair of Dermatology, vacated by the retirement of Dr. Neumann, has been filled by the appointment of Dr. Ernst Finger. Dr. Siegmund von Schumacher has been recognised as *privat-docent* of Anatomy.

CALLS TO THE BAR.—Among those gentlemen called to the Bar on Wednesday, April 27th, we note the names of Mr. Digby Cotes-Preedy, M.A. Cantab., L S A. Lond, of the Inner Temple and late house physician at St. George's Hospital; Mr. E. F. Goodhart, B.A. Oxon., of the Inner Temple, son of Dr. J. F. Goodhart of London; and Mr. H. S. Maurice, B A. Oxon., of Lincoln's Inn, son of Dr. J. B. Maurice of Marlborough.

DONATIONS AND BEQUESTS.—The treasurer of the London Hospital has received from Mr. Edward Davis, of Cheltenham, a donation of £1000 and from the Clothworkers' Company a donation of £200, being the second instalment of the contribution of £1000 voted by its court. —The late Mr. William Sutton, M.D St. And., M.R C.S. Eng., has by his will bequeathed £1000 to the Dover Hospital and Dispensary and a like sum to the Royal Medical Benevolent College at Epsom and to the British Medical Benevolent Fund, £500 to St. Thomas's Hospital, £300 to the Institution of Trained Nurses at Dover, £250 to the London Hospital, and similar sums to Guy's Hospital, Charing Cross Hospital, and the Royal Free Hospital.

PLUMBERS' EXAMINATION AT KING'S COLLEGE.—23 plumbers applying for registration under the National Registration of Plumbers attended at King's College on April 23rd for examination by the Worshipful Company of Plumbers. The candidates were from various parts of London and also from Cambridge, Dorking, Egham, Esher, Hemel Hempstead, Sevenoaks, Walton-on-the-Naze, and Windsor. The practical test included lead bossing and the making of plumbers' joints, &c. The examination questions included the subjects of contamination of drinking water from faulty connexions, roof covering, arrangement of bath, sink, and closet wastes, drainage of town houses, and disconnexion with sewers. The examiners were: Mr. Joseph Johnson and Mr. Charles Thomerson, master plumbers; and Mr. W. Smeaton and Mr. F. Wyatt, representing the United Operative Plumbers Association of Great Britain and Ireland. Five candidates succeeded in passing the examination.

STATE REGISTRATION OF NURSES.—On April 22nd a meeting was held at the Chelsea Infirmary to discuss the question of State registration for nurses. Miss Isla Stewart, the matron of St. Bartholomew's Hospital, occupied the chair, and the speakers included Lady Helen Munro Ferguson, Mr. James Cantlie, Mr. Richard Rigg, M.P., Miss Mollett, matron of the South Hants General Hospital, and Mrs. Bedford Fenwick. Miss Stewart told the meeting that to her knowledge many of those women who had been dismissed from St. Bartholomew's Hospital as incompetent were now earning two guineas a week as private nurses. Mr. Cantlie argued that it was unfair to the general body of nurses that the metropolitan hospitals' certificates should acquire a value superior to that of equally well organised hospitals in the provinces and that if the training of nurses was properly organised in all hospitals under a central council it would be of advantage to the great body of nurses. He said that there were just as good surgeons and training schools in Birmingham, Edinburgh, or Glasgow as there were in London and the certificate of nurses trained in any such approved training school should be recognised as equal to those of their London trained sisters. Miss Mollett showed from her own experience how many nurses left the general hospitals totally unable to assist surgeons at operations because such work was undertaken by the students in the larger training schools. She instanced her own sense of incompetency on first leaving her training school and being asked to assist at a major operation. Mr. Rigg dwelt on the Parliamentary aspect of the question and advocated a select committee to inquire into the whole subject. He undertook to give all the assistance in his power. The following motion was put to the meeting and unanimously carried: "That this meeting warmly supports the principles of State registration for nurses."

FOOTBALL ACCIDENT. — A football fatality occurred at Weston-super-Mare on April 23rd, a young man fracturing his skull by colliding with another player.

PRESENTATION TO A MEDICAL PRACTITIONER.— Mr. Richard Julyan George, M.D., C.M. Edin., of Port Isaac, Cornwall, has been presented by the committee of management of the Royal National Lifeboat Institution with a Ross binocular glass in recognition of his valuable and generous efforts in behalf of the institution during the past 11 years whilst holding the office of honorary secretary to the Port Isaac branch.

SMALL-POX IN LONDON.—The report of the Public Health Committee presented to the London County Council shows that in the two days of the week ending April 9th, the first week in which chicken-pox was notified in London, 200 cases of this disease were certified and that in the subsequent week this number amounted to 704, while in the week ending April 23rd 574 cases were notified. The services of Mr. Samuel Bingham and Mr. W. McC. Wanklyn for the diagnosis of doubtful cases of small-pox in London had up to April 21st been utilised in 33 instances, 16 of these cases proving to be small-pox, seven to be chicken-pox, and the remaining 10 to be other diseases. The large experience which these gentlemen have had of small-pox whilst in the service of the Metropolitan Asylums Board will prove of especial value in the present prevalence.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL.—The following prizes for the winter session 1903–04 have been awarded:—First year students: J. A. Clark, the William Tite scholarship, £25; R. W. Rix, College prize, £20. Second year students: H. J. Nightingale, the Peacock scholarship, £35; A C. F. Turner, College prize, £20; H. G. Bennett, College prize, £10. Fifth year students: A G. Gibson (medicine), £10; H. A. Kisch (surgery), £10; C. E Palmer (midwifery and diseases of women), £10; A G. Gibson (pathology), the Haddon prize, £10; K. Takaki (pharmacology and therapeutics) and F. A. Broadribb and E. W. Parry (forensic medicine and insanity) £5 each The Mead medal for proficiency in medicine, pathology, and hygiene was awarded to K. Takaki; the Wainwright prize £10, and the Seymour Graves Toller prize were awarded to A. G. Gibson, of Christ Church, Oxford; and the Cheselden medal for proficiency in surgery and surgical anatomy was awarded to H. A. Kisch.

AMBIDEXTRAL CULTURE SOCIETY.—A lecture on Ambidexterity and Primitive Man was delivered before the above society on April 20th by the Rev. H. Dukinfield Astley. Mr. Noble Smith was in the chair. The following is an abstract of the lecture. "Primitive man" here means early or prehistoric man. The analogy of the quadrumana, apes and monkeys, makes it probable that man in his beginnings was ambidextrous. The evidences that he was so are few but sufficient. These consist of:—1. Flint implements from the plateaux of Kent, near Ightham, which date from man's earliest appearance in Britain and have been called "eolithic," though I would prefer to call them "proto-palæolithic." At any rate they go back to the first inter-glacial period and are probably contemporary with the Tilloux-Taubach deposit in France. Among these, rude and rough though they are, scrapers, hammers, and pounders have been found clearly adapted for use in the left hand, and these as numerous as those adapted for use in the right 2. As time went on palæolithic man learnt to heft his implements and weapons, hence it is difficult to say anything definite as to these. But he was an artist—on the fact that his representations of the mammoth, the reindeer, horses' heads, &c., were drawn with equal facility from right
left as from left to right, we have evidence that
Hodge, with both hands impartially. 3. Neolithic
St. Georgcourse, hefted most of his weapons and
pital; yet certain articles of domestic use were
Lowe, We
Mary's Hosp. a handle, such as pounders, meat crushers,
St. Bartholomcrapers, awls, and borers, and it has been
ege, Cardiff; the flakings that those adapted for use
mas Godfrey
kshire College, nearly as numerous as those intended
College, Sheffielthis time man was losing his primitive
William How.

ambidexterity and the right hand was becoming more and more the active member in the economy of the body and the left hand the passive. This was due to the fact that in hunting and in warfare the right hand was used for offence, the left for defence. In spite of this the evidence of early Greek and Roman inscriptions, written in what is called the "boustrophedon" style—i.e., alternately from left to right and from right to left—goes to show that ambidexterity was still practised in writing. Babies are naturally ambidextrous and children, who commence conscious life at the neolithic stage of culture, are so also and would continue so were they not taught otherwise. It is said that "idiots" show a marked tendency to revert to this type and also "persons of genius."

THE MEDICAL GOLF TOURNAMENT.—The medical golf tournament for 1904 is to be held on Thursday, June 9th, at Northwood by the courtesy of the Northwood Golf Club. This annual fixture has become very popular and a successful meeting in point of numbers is already assured, so that if the competitors are favoured with a fine day the attendance will probably be a record one. It is fortunate that the Northwood golf links have been again secured for the tournament because the club is a well-known rendezvous for medical golfers, has the advantage of a frequent service of trains from Baker-street station, and the club-house is connected with the telephone. The details of the programme are as follows. In the morning 18 holes will be played, match play *v.* Bogey, and no match may start later than 3 P.M. Players will be divided into two classes: Class 1, handicaps of 12 and under; Class 2, handicaps of more than 12 (24 limit); and members of the Northwood Golf Club will have two deducted from their handicap. There will be a first and second prize and a prize for the best score for the last nine holes *v.* Bogey in each class. There will be a foursome sweepstake competition *v.* Bogey in the afternoon. Players are to arrange their own matches or they can apply to the honorary secretary of the tournament, stating the time that they wish to play. Entries, mentioning lowest handicap and inclosing a 5*s.* entry fee, should be made on or before June 8th, to the honorary secretary, Mr. Rolf Creasy, Windlesham, Surrey.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Nourishment of School Children.

IT had been hoped that the whole of the evening sitting on April 20th would be devoted to the discussion of Mr. CLAUDE HAY's motion in regard to the nourishment of school children but, unfortunately, at the last moment another matter obtained precedence and Mr. HAY was unable to speak before 11 o'clock. No division was possible in these circumstances. There was evidence, however, in the brief debate that arose that the matter was viewed with general sympathy. The motion put to the House read as follows:—"That the Board of Education should require arrangements to be made by the local education authorities whereby every child compelled by law to attend a public elementary school shall have received proper nourishment before being subjected to mental or physical instruction and that in cases in which proper food has not been provided for the child by its parents it should be first supplied by the local education authority and subsequently suitable action taken to recover the cost."

HOUSE OF COMMONS.

WEDNESDAY, APRIL 20TH.

Alleged Evasion of the Factory Acts.

Mr. FORDE RIDLEY asked the Home Secretary whether his attention had been called to a statement lately made by one of the sanitary inspectors of the borough of Bethnal Green as to the evasion of the Factory Acts in consequence of workrooms being part of tenement houses, thus avoiding inspection by the authorities as to the sanitary conditions, overcrowding, and other circumstances in which the work was done; and, if so, whether he could give any hope of these evils being remedied by the issuing of an Order in Council or other method.—Mr. AKERS-DOUGLAS replied: I do not clearly understand the question and I think there may be some misconception. So far as I can gather from inquiries, the statement referred to did not attribute any difficulty in enforcing the Factory Acts in workrooms to the fact that they form part of tenement houses, and, as a fact, the provisions of that Act are enforceable equally in tenement houses as elsewhere. I understand that it is a rule in Bethnal Green that these houses should be visited once a month. On the information before me no question appears to have arisen which calls for further action on my part.

Soldiers and Sailors in Lunatic Asylums.

Mr. JAMES O'CONNOR asked the Chief Secretary to the Lord Lieutenant of Ireland whether he could state the number of British sailors

There is no Treasury contribution in aid of the maintenance of discharged sailors and soldiers while so confined, but the ordinary capitation grant is payable in such cases out of the local taxation account.

Candidates for Dental Appointments.

Mr. SHACKLETON asked the Secretary of State for War whether his attention had been called to the fact that the expenses of the candidates for dental ap
War Office for an interv
posed to reconsider this
not the practice to give
would not appear to be
of the practice for the case in question.

Rats and the Plague.

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by
nat
ord
of
ish
of
Good Hope and Natal. In the case of the Transvaal I see no reason to interfere with the discretion of the local government and its medical advisers, in whose competence to deal with the plague epidemic Lord Milner has full confidence.

THURSDAY, APRIL 21ST.

The Treatment of Epileptics.

councils power to make provision for sane epileptics which they did
ght hon.
inquiry
man has

Experiments on Dogs.

Mr. LOGAN asked the Home Secretary whether his attention had been directed to Professor Schafer's experiments on dogs, and whether, seeing that 109 medical men entered a protest against the experiments as being cruel and useless, he proposed to take any action in the matter.—Mr. AKERS-DOUGLAS replied: Yes, Sir, the
received my most
ances of the case,
stions last year I

Nursing in Workhouses.

f the Local Government Board
e delay in issuing the new order
. LONG replied: Since the report
on this subject was made I have
representations on points relating to
esentations have now been considered
ortly to be in a position to deal with
the matter by a general order.

An Irish Asylum Incident.

Mr. SLOAN asked the Chief Secretary to the Lord Lieutenant of Ireland whether he was aware that an attendant named Kenny of the
pon an inmate under
at the acting medical

which it administered
the committee insist o
ment will consider how
upon which the capitation grant in aid of the maintenance of the insane is payable under Section 58 (2) of the Local Government Act, 1898.

A Medical Appointment Questioned.

Mr. SLOAN asked the Chief Secretary to the Lord Lieutenant of Ireland whether he
mittee of the Ballina
junior medical assist
refused the appoint
whether he could sa
junior medical assist
not possess; and whe
be not sanctio ed ur
sidered.—Mr. WYNDH
superintendent of the asylum is vested by law in the asylum committee but subject to the concurrence of the Lord Lieutenant. The papers connected with the appointment in the present case are now before the Lord Lieutenant.

Public Vaccinators.

Mr. LONG, answering Mr. CALDWELL, said: The Greenwich board of guardians appears to have resolved at its meeting on April 7th to enter into contracts with two members of its own body as public

MONDAY, APRIL 25TH.

Education of Epileptic Children.

for Scotland whether, having regard
52 appeared in the Public Education
nd deaf children, he would state what

sums paid under that article are charged against sub head E of the vote (annual grants for day scholars). During the inspection year ending August 31st, 1903, the sum of £409 5*s.* 8*d.* was paid under the article named.

Fees of Medical Witnesses in Scotland.

Mr. W. F. LAWRENCE asked the Lord Advocate whether in sheriff courts the fee of one guinea per diem to a medical witness was a fixed sum or was liable to be reduced if the case was unimportant or took less than four hours' attendance.—Mr. SCOTT DICKSON replied: The

Public Health Acts Amendment Bill.

Sir ALFRED HICKMAN asked the President of the Local Government
Boar
thro
men
repli
but

A Vaccination Case.

produced did not relate to that period and no exemption had been asked for. The father did not appear in answer to the charge. The
of the case in accordance
received any assurance of
comply with the require-
that the offence had been

Cost of Small pox in London.

referred to in the question.

Schools and Epidemics.

BOOKS, ETC., RECEIVED.

APPLETON,
Social
Morr
Disea
New York. Price 15*s.* net.
The Care and Feeding of Children. A Catechism for the Use of Mothers and Children's Nurses. By L. Emmett Holt, M.D., LL.D., Professor of Diseases of Children in the College of Physicians and Surgeons (Columbia University). With an Introduction by Eric Pritchard, M.A., M.D. Oxon., M.R.C.P. Lond. Third edition, revised and enlarged. Price 2*s.* net.

The Refraction and Motility of the Eye. For Students and Practitioners. By William Norwood Suter, M.D., Assistant Surgeon, Episcopal Eye, Ear, and Throat Hospital, Washington, D.C. Price 9*s.* net.

Ash and Co., Limited, 42, Southwark-street, S.E.

Nursing Guide, Handbook of Nurses' League, and Register of Nurses Trained at Guy's Hospital. 1904. Price 1*s.* 6*d.*

Baillière, Tindall, and Cox, 8, Henrietta-street, Covent-garden, W.C.

The Dental Annual and Directory, 1904. Price 7*s.* 6*d.* net.

Breitkopf und Hartel, Leipzig.

Die Cystoskopie des Gynakologen. Von Privatdozent Dr. Walter Stoeckel, Oberarzt an der Universitats-Frauenklinik zu Erlangen. Price M.8.

Cassell and Company, Limited, London, Paris, New York, and Melbourne.

The Therapeutics of Mineral Springs and Climates. By I. Burney Yeo, M.D., F.R.C.P., Emeritus Professor of Medicine in King's College, London, Consulting Physician to King's College Hospital. Price 12*s.* 6*d.* net.

Churchill, J. and A., 7, Great Marlborough-street, W.

Saint Thomas's Hospital Reports. New Series. Volume XXXI. Edited by Dr. H. P. Hawkins and Mr. W. H. Battle. Price 8*s.* 6*d.*

Constable, Archibald, and Company, Limited, 2, Whitehall-gardens, S.W.

The Clinical Causes of Cancer of the Breast and its Prevention. With Analyses of a Hundred Cases. By Cecil H. Leaf, M.A., M.B. Cantab., F.R.C.S. Eng., Assistant Surgeon to the Cancer Hospital and the Gordon Hospital for Rectal Diseases. Price 2*s.* net.

Electricity and Matter. By J. J. Thomson, D.Sc., LL.D., Ph.D., F.R.S., Fellow of Trinity College, Cambridge; Cavendish Professor of Experimental Physics, Cambridge. With Diagrams. Price 5*s.* net.

Cox, Harry W., Limited, 9, 10, and 11, Cursitor-street, Chancery-lane, E.C.

X Rays and High Frequency. Practical Hints to Beginners. Gratis and post free to Practitioners.

Dental Manufacturing Co., Limited, 6–10, Lexington-street, Golden-square, W.

Notes on the Treatment and Filling of Teeth. By Wm. Cass Grayston, L.D.S. Second edition. Price 5*s.* net.

Engel-Krins, J., Spa, Belgium.

Notes on the Chalybeate Springs of Spa (Belgium). By R. Wybauw, M.D., Reader (Agrégé) in the University of Brussels, Resident Physician at Spa. Preceded by an Historical Introduction on the Influence of English Visitors upon the Development of the Town of Spa. By M. Albin Body, Archivist. Price not stated.

Fischer, Gustav, Jena.

Lehrbuch der Experimentalphysik in Elementarer Darstellung. Von Dr. Arnold Berliner. Price, broschirt, M.14; gebunden, M.16 50.

Mitteilungen aus der Augenklinik des Carolinischen Medico-Chirurgischen Instituts zu Stockholm. Herausgegeben von Dr. J. Widmark, Professor der Augenheilkunde am Carolinischen Medico Chirurgischen Institut zu Stockholm. Funftes Heft. Price M.3.60.

Free Press Association, Burlington.

Transactions of the Vermont State Medical Society for the Year 1903. Price not stated.

Gay and Bird, 22, Bedford-street, Strand, W.C.

On Passing Off or Illegal Substitution of the Goods of one Trader for the Goods of another Trader. By John Cutler, M.A., one of His Majesty's Counsel, Professor of Law at King's College, London, and Editor of the Official Reports of Patent Design and Trade-mark Cases. Price 1*s.* net.

Hoepli, Ulrico, Milano.

Elettricità Medica. Del Dr. A. D. Bocciardo, Assistente ordinario all'Istituto di Clinica Medica della R. Università di Pisa. Price L.2.50.

Le Malattie dei Paesi Caldi, loro Profilassi ed Igiene. Con un'Appendice: La Vita nel Brasile. Del Dott. Carlo Muzio, Medico di la 1a. Classe nella Regia Marina. Price L.7.50.

La Rachitide e le Deformità da essa Prodotte. Del Dr. Paolo Mancini. Price L.4.

Imprimerie de Libanio da Silva, 29, Rua das Gaveas, 31, Lisbon.

La Maladie du Sommeil. Rapport présenté au Ministère de la Marine et des Colonies par la Mission envoyée en Afrique Occidentale Portugaise constituée par Annibal Bettencourt, Ayres Kopke, Gomes de Rezende, et Corrêa Mendes. Price not stated.

Kimpton, Henry, 13, Furnival-street, Holborn, E.C.

A Treatise on Orthopedic Surgery. By Royal Whitman, M.D., Instructor in Orthopedic Surgery in the College of Physicians and Surgeons of Columbia University, New York. Second edition, revised and enlarged. Price 28*s.* net.

Lane, John, The Bodley Head, Vigo-street, London, W.

New Letters of Thomas Carlyle. Edited and annotated by Alexander Carlyle. Volumes I. and II. Price 25*s.* net.

Longmans, Green, and Co., 39, Paternoster-row, E.C.; and The Charity Organisation Society, 15, Buckingham-street, Adelphi, W.C.

The Annual Charities Register and Digest. Thirteenth edition. 1904. With an Introduction by C. S. Loch, Secretary to the Council of the Charity Organisation Society, London. Price 5*s.* net.

Materia Medica, Pharmacology, and Therapeutics. Inorganic Substances. By Charles D. F. Phillips, M.D., LL.D. Aberd. and Edin., F.R.S., and F.R.C.S. Edin. Third edition. Price 21*s.*

Maloine, A., 25-27, Rue de l'École-de-Médecine, Paris.

Le [illegible] Ozône, Végétations Adénoïdes, Appen- [illegible] le Dr. Joseph Delacour. Price Fr.4.

[illegible] M. le Dr. Coste de Lagrave, Médecin de [illegible] Price Fr.1.

[illegible] es aux Tuberculeux. Par M. le Dr. Coste de Lagrave, Médecin de Sanatorium. Deuxième impression. Price Fr.1.

Masson et Cie, Paris.

Carte de la Savoie et du Dauphiné. Géologie et Eaux Minérales. Par le Dr. Dardel. Price not stated.

Naud, C., 3, Rue Racine, Paris.

L'Origine du Diabète et ses Rapports avec les États Morbides des Glandes Vasculaires Sanguines. Par M. le Dr. A. Lorand, Médecin Consultant aux Eaux de Carlsbad. Price Fr.2.

Office of the Superintendent of Government Printing, Calcutta, India.

The Countess of Dufferin's Fund. Nineteenth Annual Report of the National Association for Supplying Female Medical Aid to the Women of India. For the year 1903. Price Rs.1 or 1*s.* 4*d.*

Schlesier and Schweikhardt, Strassburg i.E.

Befruchtung und Geschlechtsbildung. Von Dr. Heinrich Bayer, a.o. Professor an der Kaiser-Wilhelms-Universitat Strassburg. Price M.1.50

Whittaker and Co., 2, White Hart-street, Paternoster-square, E.C.

Radium and All About It. By S. R. Bottone, author of "Radiography," "Wireless Telegraphy," "Electrical Instrument Making," &c. Price 1*s.* net.

Williams and Norgate, 14, Henrietta-street, Covent-garden, W.C.

Atlas zur Vergleichenden Histologie der Wirbeltiere nebst erlauterndem Texte. Auf Grund eigener Untersuchungen und Originalpraparate bearbeitet und gezeichnet von N. Loewenthal, Professor der Histologie an der Universitat Lausanne. Price £1 16*s.*

University Press, Royal University of Ireland, Dublin.

The Royal University of Ireland. Examination Papers. 1903. A Supplement to the University Calendar for the year 1904. Price not stated.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Adams, Alfred, M.B., B.Ch. Oxon., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer for the Polperro District by the Liskeard (Cornwall) Board of Guardians.

Bond, Francis, M.D. Lond., M.R.C.S., F.R.S. Edin., has been re-appointed Medical Officer of Health for the Cirencester Division of the Gloucestershire Combined Sanitary District.

Butler, Gamaliel H., M.R.C.S., L.R.C.P. Lond., has been appointed a Member of the Board of Examiners in Dental Surgery and Dentistry in Tasmania.

Clarke, Arthur H., M.R.C.S., L.R.C.P. Lond., has been appointed a Member of the Board of Examiners in Dental Surgery and Dentistry in Tasmania.

Craig, Robert Gordon, M.B., Ch.M. Syd., has been appointed Honorary Demonstrator in Anatomy at the University of Sydney, New South Wales, Australia, for the year 1904.

Crowther, Edward L., M.D. Aberd., has been appointed a Member of the Board of Examiners in Dental Surgery and Dentistry in Tasmania.

Dey, R., M.B. Syd., has been appointed Medical Officer at the Hospital at Bourke, New South Wales, Australia.

Ellis, L. Erasmus, M.D. Brux., M.R.C.S., L.R.C.P. Lond., L.S.A., has been appointed Clinical Assistant to the East London Hospital for Children, Shadwell, E.

Hichens, William, L.R.C.P. Lond., M.R.C.S., has been appointed Public Vaccinator for Redruth by the Redruth (Cornwall) Board of Guardians.

Kirkland, T. S., M.D. Glasg., F.R.C.S.E., has been appointed a Member of the Dental Board of New South Wales, Australia.

MacLaurin, Charles, M.B., C.M. Edin., has been appointed Honorary Assistant Surgeon at the Royal Prince Alfred Hospital, Sydney, New South Wales, Australia.

Roberts, Edward J., M.B., Ch.B. Univ. N. Z., has been appointed House Surgeon to the Hobart Hospital, Tasmania.

Spencer, A. R., M.B. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed Resident Medical Officer at the Hospital for Epilepsy and Paralysis, Maida-vale.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Belgrave Hospital for Children, Clapham road, S.W.—Resident Medical Officer for six months. Salary at rate of £40 per annum, with board and lodging.

Brighton, Sussex County Hospital.—Pathologist. Salary £300 a year.

[illegible] 17, [illegible]

[illegible] O.—[illegible] um, [illegible]

Liverpool, Royal Southern Hospital.—Honorary Anæsthetist.

Monkwearmouth and Southwick Hospital, Sunderland.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

Nor[illegible] unmarried. [illegible]

Nor[illegible] 3.—House [illegible] s Salary at rate of £60 per annum, with board, residence, and laundry allowance.

[illegible] Salary [illegible] annum, [illegible]

[illegible] KHOUSE, [illegible] um, with [illegible]

[illegible] Salary [illegible]

[illegible] terrace, [illegible] Assistant [illegible] sidential allowances.

Samaritan Free Hospital for Women, Marylebone-road, N.W.—Clinical Assistants.

Settlement of Women Workers (Canning Town) Medical Mission Hospital.—Senior Resident Medical Officer (female). Salary £100 [illegible]

[illegible] n, unmarried. [illegible] ing. [illegible] dicine. [illegible] sistants. [illegible] geon. Salary [illegible] Salary £80 per [illegible] Salary £120 [illegible]

Births, Marriages, and Deaths.

BIRTHS.

Blakeney.—O[illegible] Lond., &c. [illegible]

Marshall.—O[illegible] of Willi[illegible] h, the wife of [illegible] daughter.

Tulk-Hart.—On April 23rd, the wife of T. J. A. Tulk-Hart, M.D., B.S., of 4, Gloucester-place, Brighton, of a daughter.

MARRIAGES.

Kelynack—McLaren.—On the 27th inst., at St. Stephen's, East Putney, by the Rev. Innes B. Wane, M.A., rector of Castle Ashby, Northampton, assisted by the Rev. Canon Barker, M.A., vicar of St. Marylebone, and the Rev. A. Rouse, M.A., vicar of St. Stephen's, T. N. Kelynack, M.D., M.R.C.P., of 120, Harley-street, Cavendish-square, W., eldest son of the Rev. Nicholas Kelynack, to Clara [illegible] only daughter of the late [illegible] Mrs. Cooper, Ilston House, Ilston.

DEATHS.

MacDonald.—At 18, Castle-street, Dumfries, on April 19th, Alexander Dall MacDonald, M.D., &c., in his 59th year.

Palmer.—On April 23rd, at Newbury, Berks, Montagu Humphrey Courtenay Palmer, M.R.C.S., L.R.C.P., aged 32 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

WHAT IS THE TRICK?

A medical man has sent to us the circular which follows. It is evidently a variant of the circular upon which we commented in The Lancet of April 13th, 1901, p. 1117. But the high aristocrat grows no older, for he was forty years of age in 1901. Our correspondent says "I fail to see how the advertiser is going to make it pay," and we are in the like situation, though we have a feeling that there is a swindle somewhere. Possibly some of our readers may have more *flair* for that swindle than we have. This is the circular:—

> "Dear Sir,
>
> "Philantropist of high aristocracy, 40 years old, millionaire, wishes for special motives to get married to a distinguished lady——"

A gap here follows which we presume is to be filled by the words upon a separate slip of paper which are—

> "*who is in the (interesting) situation of hopefulness.*"
>
> "Splendid pecuniary compensation is assured. Any intelligence-office in Vienna will give you informations about me.
>
> Yours respectfully, ——."

The circular is sent out in German, English, and French. Yet another slip of paper bears the name of the sender who claims to be a baron and a captain in the navy and gives as his address Lovrana. [illegible] also distinguished. That the story is rubbish is certain, but what we want to know is wherein does the swindle lie? If no money is to be made by the dissemination of the circulars, for what purpose are they distributed?

A NEW DISEASE.

The following paragraph which we reproduce from a contemporary will be of special interest to those concerned with tropical diseases.

> "TYMPANOSOMA."
>
> Colonel David Bruce, who lectured on "the sleeping sickness in Uganda," stated that on the examination of blood taken from a patient a little wormlike parasite was found.
>
> This was called a "tympanosoma," and was only found in sufferers from the disease.

TO MEDICAL FREEMASONS.

To the Editors of The Lancet.

Sirs,—May I through the medium of The Lancet thank those who sent me votes for the medical candidates in the recent elections for the Royal Masonic Educational Institutions for their response to the appeal which was published in your issue of March 19th? The boy, Patrick Trevor Webster, was successful with 4041 votes, being twenty-first out of the 30 candidates elected. The girl, Irene Mabel Sewart, was unfortunately not successful and only polled 398 votes. But we hope that a unanimous response from medical Freemasons at the October elections will insure her success. The election for the Royal Masonic Benevolent Institution for Aged Freemasons and the Widows of Freemasons will take place on Friday, May 20th. Mrs. Georgina Skinner, widow of the late W. Bro. David Skinner, M.D., late medical officer of health of Willesden (P.M. 665, 1974; P.Z. 890) is the candidate whose claims were advocated in a previous issue of The Lancet. May I once more appeal for votes on behalf of this most deserving case which will especially appeal to medical Freemasons. Votes will be thankfully received by myself or our treasurer, Dr. J. Eyre, Wandle House, Wandle-road, Upper Tooting, S.W.

I am, Sirs, yours faithfully,

Harold S. Sington,

Secretary, St. Luke's Medical Lodge of Instruction.

44, St. Mary's Mansions, W., April 23rd, 1904.

RED GLASSES IN THE TREATMENT OF BLEPHARITIS.

A correspondent who writes from Bangkok, Siam, states that he has long suffered from sore eyes and has been wearing dark glasses as a relief from the glare. On reading Finsen's experiments he became convinced that "although the dark glasses were a protection to the eye as the organ of vision they were causing the soreness of the eyelids." He therefore discarded the dark glasses and wore colourless ones and "in a single day the soreness of the eyelids disappeared." He proceeds to ask whether the use of red glasses for a short period might not be equally efficacious. Our correspondent does not say whether he has used lenses for the correction of his probable errors of refraction, nor does he give any particulars in regard to the amount or kind of his work or the conditions under which it is performed, so that no conclusions can be drawn from his particular case, but the suggestion that the wearing of close-fitting goggles with red glasses for a short period daily where the ordinary methods of treatment fail might be serviceable is perhaps worthy of consideration, the more so as it is of easy application.

SPITTING ON THE GROUND.

To the Editors of THE LANCET.

SIRS,—A recent contributor to your paper expressed regret that spitting on the ground was not a penal offence. But were it so, how does he think we who are subject to bronchial colds should meet the difficulty? My doctor tells me to walk about. He also forbids me to swallow what my cough brings up. He would hardly suggest the handkerchief, recourse to it being often not feasible.

I am, Sirs, yours faithfully,
ANTI-SYBARITE.

⁂ Surely if spitting on the ground is feasible spitting into a handkerchief is equally so. But the handkerchief should be of paper, so that it may be burned without loss. Pocket spittoons are also made. —ED. L.

HOLMAN TESTIMONIAL FUND.

THE following further list of contributions has been forwarded to us by the honorary treasurer of this fund, Dr. John H. Galton, Chunam, Sylvan-road, Norwood, S.E., by whom or by the secretary, Mr. W. A. Berridge, Oakfield, Redhill, Surrey, subscriptions will be received:—

	£	*s.*	*d.*		£	*s.*	*d.*
Mr. Ethelbert Hosking	1	1	0	Mr. Edward East	0	10	6
Dr. W. Ward Leadam...	1	1	0	Mr. Clayton East	0	10	6
Mr. H. Silverlock... ...	1	1	0	Dr. W. R. Dakin	1	1	0
Mr. T. Gray	1	1	0	Dr. Thomas Buzzard ...	2	2	0
Mrs. Campion	1	1	0	Dr. W. Collier...	2	2	0
Dr. Herbert Taylor ...	1	1	0	Mr. N. P. Blaker	1	1	0
Mr. W. D. Cropley ...	2	2	0	Deputy-Surgeon-General E. McKellar, J.P....	1	1	0
Mr. T. Edward Pearse	1	1	0	Dr. P. W. Latham... ...	2	2	0
Dr. Stamford G. Felce	0	10	6	Mr. A. H. Tubby	1	1	0
Dr. M Prickett	1	1	0	Dr. E. A. Saunders ...	1	1	0
Dr. Robert Boxall ...	2	2	0	Dr. H. A. Martin	1	1	0
Mr. C. Mortimer and Mrs. Mortimer... ...	2	2	0	Mr. P. Maury Deas ...	2	2	0
Mr. W. Gandy	1	1	0				

THE USE OF HOT BOTTLES AFTER SURGICAL OPERATIONS.

To the Editors of THE LANCET.

SIRS,—I read with interest and regret Mr. H. P. Symonds's letter on the above subject. I have worked in a good many hospitals and have been struck with the fact that few teach nurses the most essential things: too much is taken for granted; common sense is not largely developed in everyone. Sisters should take care that the nurses they are training do know the many little but important things that go to make a good nurse. Nowadays, nurses are taught so much theory that the practical work is apt to slip. I can never be thankful enough for the excellent training I received in one of the four large London hospitals, and in no hospital that I have worked since have I found a nurse who had received so much teaching in detail as I have; the great thing seems to be to "get through," no matter how. If sisters would only show nurses *how* to do things instead of telling them to do them there would not be so many regrettable accidents.

I am, Sirs, yours faithfully,
April 26th, 1904. A NURSE OF FOURTEEN YEARS' STANDING.

AN ORIENTAL FIBRE TOOTH BRUSH.

THE Oriental Fibre Tooth Brush Company has submitted to us a form of tooth brush which presents many advantages over those made with bristles. The material of the brush itself is a wood fibre, the wood being stated to come from a tree known as Al-Arak. The brush, which is detachable, is set into the handle by means of a clip ring so that it can easily be taken out and a new one substituted. From a personal trial we can say that it is a good cleanser and, moreover, the lingual surfaces of the teeth can be as easily cleansed as the buccal surfaces, an act which is almost impossible with the ordinary tooth brush. A quotation is given in an accompanying pamphlet from a paper by Dr. Harry Campbell which appeared in our columns on August 8th, 1903, regarding the merits of a tooth brush of similar material. The quotation is headed, "Extract from the London Lancet." This is true so far as it goes but it implies that the extract is from editorial matter which is not the case. This, however, does not detract from the value of the tooth brush, the manufacturers of which are the above-mentioned company, of Farnham, Surrey. The price of the holder is 1*s.* and a box containing 12 brush heads costs another 1*s.*

◆

Tight Corner (Africa).—The case as described by our correspondent is a most difficult, delicate, and embarrassing one which fully justifies the choice of his pseudonym. The details furnished are in the circumstances insufficient to enable us to offer an opinion. Only a complete knowledge of all the minutiæ of the case would justify us in recommending to our correspondent, who has our sympathy, the course of action which he should pursue. We trust that his own good judgment and sense of responsibility together with his acquaintance with the persons and the surroundings of the case will enable him to arrive at a wise conclusion. A consultation, if obtainable, with some other practitioner whose opinion would have weight with him, we think desirable.

K. A. N.—There are practically two institutions granting certificates of the kind mentioned by our correspondent. One is the Royal Institute of Public Health, 18, Bloomsbury-square, London, W.C., which grants certificates of "having passed an examination as sanitary inspector," and the other the Sanitary Institute, Margaret-street, Regent-street, London, W., which holds examinations and grants certificates of competency in sanitary knowledge. Examinations for inspectors of nuisances and for meat inspectors are also held.

Sceptic.—The regulations for admission to the examination for the diploma of F.R.C S. England vary according to the time at which the would-be candidate has commenced professional study. They will be found in Section 20 of the By-laws of the Royal College of Surgeons of England which are published in the Calendar of the College.

Medico.—Our correspondent must obey the subpœna but is at liberty to ask, before he is sworn, for payment of his fees which probably would be £1 1*s.* per diem and second-class railway expenses. As to question (2) that must be a matter of arrangement between our correspondent and his principal.

E. S. W.—We do not think that there is any objection to our correspondent putting up a plate with an intimation that he attends at the house in question on certain days of the week at certain hours.

H. V. (Paisley).—We see no objection to a practitioner stating on his door-plate the hours during which he will be found at home. The style is a matter of indifference but possibly "At Home" is the more usual.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (2nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M., St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.); Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.).

WEDNESDAY (4th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9 30 A.M.), Cancer (2 P.M.), Throat, Golden square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (5th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9 30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (7th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (3rd).—PATHOLOGICAL SOCIETY OF LONDON (Guy's Medical School).—8.30 P.M. Dr. J. Fawcett: Sarcoma of Pancreas associated with Pseudo-lipæmia.—Mr. A E. Boycott: Experiments on Ankylostoma Larvæ. Mr. C. Price-Jones: Method of Preparing Microscopic Films of Bone Marrow.—Dr. J. W. H. Eyre: Intestinal Bacteria on Nutrose Plates.

WEDNESDAY (4th).—OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Dr. Horrocks, Dr. F. E. Taylor, Dr. Lockyer, Dr. Fairbairn, and Mrs. Boyd, M.D. Short Communications:—Dr. H. C. Bartlett (introduced by Dr.

arotomy,
Vandering
Doran;
arly Tubal
Pregnancy.

THI

O

xtraction; (4) Peculiar
W. B. Cant: Trichiasis
and Operations for Trichiasis.

-CHIRURGICAL SOCIETY (Royal
S.E.).—8.45 P.M. Presidential
Some Considerations on the
Followed by a Smoking Concert

Lessons from a Year's Fatalities.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—

lantern demonstration).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (2nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.)—4 P.M. Dr. T. C. Fox: Clinique. (Skin). 5.15 P.M. Mr. B. G. A. Moynihan: Gall-stones and their Surgical Treatment.

TUESDAY (3rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. H. Campbell: Clinique. (Medical.) 5.15 P.M. Dr. L. Williams: Personal Hygiene.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Beevor: Functional Tremors.

WEDNESDAY (4th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. M. Collier: Clinique. (Surgical.) 5.15 P.M. Dr. G. H. Savage: The Relationship of Syphilis to Insanity.

THURSDAY

Ormond street, W.C.).—
nt of Empyema
AND DISEASES OF THE
ntroductory Address.—
Anatomy of Pulmonary
History of the Disease.
(Post-Graduate Course.)

FRIDAY (6th).—MEDICAL GRADUA
(22, Chenies street, W.C.)—4 P.M.
NATIONAL HOSPITAL FOR THE PAR
square, Bloomsbury).—3.30 P.M. Sir Victor Horsley: Surgery of the Nervous System.

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Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 28th, 1904.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
April 22	30·30	S.W.	...	87	54	40	42	46	Overcast
" 23	29·73	NNE	0·41	96	60	46	47	48	Overcast
" 24	30·14	W.	...	106	61	47	48	50	Overcast
" 25	30·12	N.W.	...	113	58	45	45	50	Fine
" 26	30·19	N.W.	..	90	54	40	42	47	Fine
" 27	30·08	NNW	0·01	107	58	43	45	49	Cloudy
" 28	30·03	W.	...	68	55	47	49	52	Cloudy

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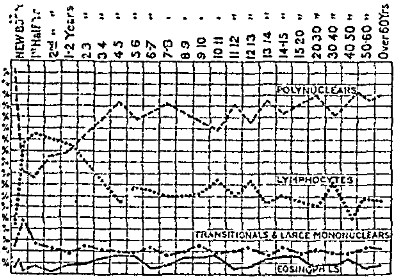
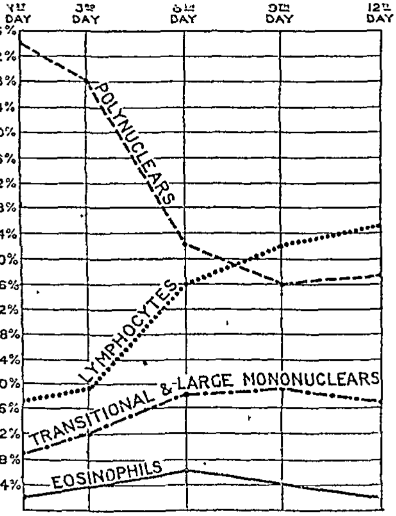
one is then apt to get a totally erroneous idea of the true state of affairs. A high percentage of any one kind of cell due to an absolute increase of its numbers in the blood makes all the other cells appear relatively diminished, although in reality their absolute number may be unaffected. What we want, then, is the absolute numbers of the different kinds of white cell in the blood at different ages. In Chart 2 these numbers are graphically represented. It will be observed that in the newly born infant the total number of leucocytes is greatly increased compared with that in the adult and amounts to about 20,000 per cubic millimetre. Further examination shows that this pronounced leucocytosis is due to a high absolute number of polynuclear cells. During the first week of life, however, this number rapidly declines, with the result that the total number of white cells falls to about one-half what it was just after birth. A second rise then sets in which persists till the sixth month but this rise is due to the appearance in the blood stream of an increased number of mononuclear cells, chiefly lymphocytes. After the sixth month the number of lymphocytes slowly declines, and with them the total number of white cells, until about the sixth year the figures characteristic of adult life are reached. Differential percentage counts bring out the same facts. (See Charts 3 and 4.)

CHART 3.



Differential percentage counts throughout life. (After Carstanjen.)

CHART 4.



Differential percentage counts during the first fortnight. (After Carstanjen.)

To summarise, then, we have to deal with a polynuclear leucocytosis most marked just after birth and gradually falling off during the first week followed by a slow rise in the non-granular cells which reaches its maximum about the sixth month but which persists in a less pronounced form throughout the whole period of infancy. The granular cells reach by the end of the first week an absolute number (about 5000 per cubic millimetre) which they maintain unaltered throughout the whole of life, whilst the non-granular cells exhibit a gradual rise up to the sixth month and have declined by the end of the third year to a number equal to that of the granular cells and not till the sixth year have they reached a stationary point—viz., about 2000 per cubic millimetre—which persists into adult life. The broad and striking conclusions to be drawn from these figures is that the blood in infancy contains an absolute excess of white cells as compared with that of the adult but that this excess (after the first week) is due entirely to a surplus of one kind of cell only—viz., the non-granular cells (chiefly lymphocytes). The significance of the initial polynuclear leucocytosis is not understood. It is a phenomenon directly associated with birth, for the blood of the fœtus during the last month of gestation contains an absolutely smaller number of white cells than that of the mother and may perhaps be due in some obscure way to the total change in metabolic conditions which birth entails. It coincides, too, with the period of active destruction of red cells already referred to and the polynuclears may perhaps be partly concerned in the removal of the débris of the latter from the circulation but that is a mere suggestion far removed from proof. The significance of the lymphocytic excess during infancy we shall be better able to appreciate when we have looked at the mode of production of the white cells as a class.

SITE OF FORMATION AND MUTUAL RELATIONS OF WHITE CELLS.

Ehrlich, whose teaching on this matter has until recently been generally accepted, drew, as is well known, a sharp line of distinction between the granular and non-granular cells of the blood. He maintained the view that the former of these are derived entirely from the bone marrow and the latter from adenoid tissue, and that the two classes of cells were absolutely distinct and never passed into one another. Recently, however, a tendency has been shown, especially by Pappenheim, Wolff, Uskoff, and others, to deny the absolutely specific nature of the granular and non-granular cells and to trace them all back to one common parent cell from which even the red corpuscles are derived. This parent type—called by Wolff a "lymphoid" cell—is almost identical in character with the large lymphocyte and is the first to appear in the fœtal blood. From it in the opinion of Wolff, all the other cells of the blood are derived according to the following scheme:—

Lymphoid cell.
Large lymphocyte. Erythrocytes. Myelocytes:
Small " (a) Basophile.
(b) Neutrophile.
Polynuclear leucocytes.
(α) With basophile granulation.
(β) " neutrophile "

In process of development a gradual differentiation of function takes place on the part of the blood forming organs in consequence of which the lymphoid cells of the marrow confine themselves to the production of granular cells, whilst those of the adenoid tissue become exclusively concerned in the production of non-granular cells (lymphocytes). The specialisation, however, is never so complete but that when a demand for a greater number of cells of one type occurs the lymphoid cells in *any* blood-forming organ are able to produce that type. We shall recur to this point, however, when we come to study the leukæmias of childhood.

A study of the development of the marrow tends on the whole to confirm the above views. Up to the fourth month of intra-uterine life the marrow, according to the researches of Hammar, has merely the characters of a very vascular embryonic tissue full of branched spindle or star shaped anastomosing cells imbedded in a homogeneous ground-work. About the beginning of the fourth month an infiltration of mononuclear leucocytes begins to appear about the middle of the diaphysis and gradually extends throughout condition of the blood in infancy is a fact of the greatest importance in the study of the blood disorders of this period of life, for as we shall see later this physiological condition may readily become exaggerated in states of disease.

The histology of the red cells in childhood need not detain us long. It is stated by many writers that they differ from those of the adult in exhibiting a tendency to inequality of size, which need not surprise us when we remember that they are probably being "minted" at enormously high speed, but such inequalities are probably of little significance. More striking is the appearance of nucleated corpuscles in the blood of the infant during the first few days of life. These are no doubt survivors of corpuscles which have been born in utero, but their complete disappearance within the first three days of life—after which they are usually no longer present—testifies to the extremely rapid blood destruction which is going on at this time.

One quality of the red cells remains to be discussed and that is their power of resistance to unfavourable conditions: in a word, are the red cells of the child more vulnerable than those of the adult? This is a question of which so far as I am aware no experimental solution has yet been attempted but it is well worthy of consideration. When we come to the study of the secondary anæmias of infancy I shall have occasion to bring forward pathological evidence in favour of the view that this greater vulnerability has an existence in fact, and if it be so it is probably to be explained by the more rapid formation of red cells in the child, a rapidity of formation which leads to their being turned out into the blood half fledged, as it were, and less capable of resisting destructive influences.

PLACE OF ORIGIN OF THE RED CELLS.

There are two stages of red blood formation during intra-uterine life: (1) an embryonic stage in which the blood-vessels and perhaps also the liver are the sites of formation; and (2) the fœtal stage proper in which red cells are formed in the liver, spleen, and bone marrow. These two stages pass into one another about the fourth month of intra-uterine life but as development goes on a process of specialisation of function takes place in which the bone marrow gradually becomes the sole site of formation. This stage is reached by the time birth takes place and I have certainly not been able to find any evidence either from my own observations or those of others that the liver and spleen take any active share in blood formation after extra-uterine existence has begun. This specialisation of function, however, is, in the case of the child, an arrangement of such recent establishment that it is easy, whenever a greatly increased demand for red cells occurs, for the monopoly of the marrow to be overthrown and for the liver and spleen again to take an active share in blood formation. Many writers believe, as a matter of fact, that this is a frequent occurrence in cases of profound anæmia in childhood. In the adult, as is well known, the territory of marrow given up to the formation of red cells is strictly limited and occupies besides the whole of the flat or spongy bones only the ends of the long bones. In the child, however, the area of the red marrow is much more extensive. Appearing at the centre of the diaphysis of the long bones about the end of the sixth month of intra-uterine life the red marrow spreads throughout the whole bone and for the whole period of infancy the entire shaft is filled with it. Gradually as growth goes on and as the primary cancellous tissue gives place to the permanent medullary cavity fat begins to make its appearance, but up to the period of puberty—in fact, until the growth of the bones is nearly completed—a considerable amount of red marrow is still present.

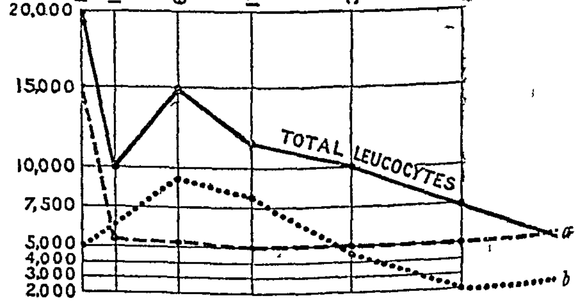
The wide extent of the red marrow in childhood is noteworthy for more reasons than one. In the first place it has a practical bearing on the morbid anatomy of the diseases of the blood at this time of life. For if one finds the whole shaft of a long bone occupied by red marrow one must not conclude, as one would be justified in doing in the case of an adult, that there has been during life an increased formation of red cells going on. That is so obvious as perhaps hardly to need to be pointed out. In the second place, it has an important physiological meaning, for if the whole of the marrow of the long bones in childhood is already occupied in the manufacture of red corpuscles there can be no reserve power of formation as there is in the adult. In the mature bones there is a large space normally filled with fat upon which the red marrow can encroach when there is any demand for a more rapid formation of red corpuscles. This takes place conspicuously in pernicious anæmia in which, as is well known, the whole of the shafts of the long bones may become filled with red marrow. But this cannot happen in the young child who, in consequence, must live more up to the limits of his blood-forming capacity. This may perhaps explain why children stand hæmorrhage badly and why it is that they are very apt to become anæmic on slight provocation. To this point we shall return in considering the secondary anæmias.

THE LEUCOCYTES.

In considering the number and variety of white cells met with in the blood of infancy it will be necessary for the sake of clearness to begin with their histological classification. Following the plan first introduced by Ehrlich and now generally adopted we can divide the white cells into the two great divisions of granular and non-granular. The first of these divisions includes the polynuclear neutrophile and eosinophile leucocytes, the characteristics of which in the child are exactly the same as in the adult and are too well known to need any description here. It is when we come to the second division that complications begin to creep in. There is no greater desideratum in hæmatology at the present moment than for some common agreement to be arrived at in the nomenclature of the non-granular white cells. One gets hopelessly confused in reading the literature of the subject to find the same cell described under several different names or the same name applied to several different cells. We badly need more light here and to have our ideas clarified as to the mutual relations of the different cells belonging to this class. Meanwhile it is the duty of everyone who writes on the subject to define clearly the meaning of the terms which he intends to employ. I propose throughout these lectures to adopt the following classification of the non-granular cells of the blood:—

1. *Lymphocytes*, meaning cells about the size of, or rather smaller than, a red corpuscle with a deeply staining nucleus which occupies nearly the whole of the cell and only a small margin of feebly basophile non-granular protoplasm.
2. *Large lymphocytes*, being cells larger in size than a red corpuscle, with a nucleus which stains more diffusely than in the ordinary lymphocyte and a small ring of basophile protoplasm. These cells are not found normally in the blood of the adult but I believe that they are always present though in small number in infancy. All stages can be recognised between small and large lymphocytes. The large lymphocyte is probably a less mature form than the small.
3. *Large mononuclears*, cells varying from 8 to 12μ in diameter with a large round or oval nucleus which stains rather faintly and a relatively broad margin of clear protoplasm which stains only "greyish" with methylene blue.
4. *Transitionals*, which resemble the above except that the nucleus is deeply indented.

CHART 2.



Absolute number of leucocytes per cubic millimetre at different ages. *a*, Polynuclears. *b*, Lymphocytes.

As regards their *character* it will be noticed that these cells are, with the exception of the large lymphocytes, identical with the white cells commonly met with in the blood of the adult. It is when we come to consider their numbers, however, that striking differences become manifest and here I should like to point out, as has already been done by Phear, that it is not sufficient to make merely a differential percentage count of the white cells in the blood, for cent. of other cells; and in a third (age nine years) 79 per cent. of polynuclears and 20 per cent. of non-granular forms. There is here, except in one instance (the second), no marked departure from the normal and in that case there was probably simple secondary anæmia present such as is met with in rickets. I know of no observations on the blood in Mongolism although the widespread malformation met with in that interesting condition might have been expected to draw attention to it. In a few well-marked cases which I have examined I found, however, no striking or characteristic change.

Turning to the third of the congenital malformations mentioned above—infantilism—one asks one's self: Does the blood in this condition preserve, like the body generally, its infantile condition? I am aware that the term infantilism is one of rather indefinite significance and that it is difficult in particular to mark it off sharply from dwarfism on one hand and infantile myxœdema on the other. All the more on that account, however, is a study of the blood likely to prove of interest and seeing that it possesses throughout the infantile period of life such marked characteristics—characteristics already fully described—we possess in it a criterion for the maintenance or otherwise of a truly infantile state of body not easily to be found elsewhere. I have examined the blood in four cases which were believed to be examples of this condition in none of which was any general anæmia present and which had all reached an age far beyond that at which the blood normally assumes the adult characters.

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growing." Her height
2 stones 10½ pounds and
child aged about five y
hair was rather coarse and dry, and her voice was deep and harsh but there were no signs of cretinism. She was childish and backward mentally but not in any sense imbecile. A blood film showed the presence of 60·4 per cent. of uninuclear, non granular cells, and 39·6 per cent. of polynuclears.

It will be observed that in the first two and in the last of these cases the blood exhibited the marked excess of non-granular cells characteristic of infancy. In the third it was of the normal adult type. It may be that in the condition of the blood in these four cases we possess a means of classification and that whereas three of them should be regarded as purely infantile—i.e., in a state in which there is still the potentiality of growth—the third must be regarded as an example of development which is not so much arrested as proceeding on abnormal lines. We certainly want more information regarding possible delays in the assumption of the adult type of blood and their significance. Normally, as we have seen, this should happen somewhere between the third and sixth years but there is every reason to believe that the change is sometimes postponed until after that period. Roughly speaking, and so far as I have been able to observe, the feebler and more delicate the child the longer is the infantile type of blood maintained. On the side of the blood-forming organs this must correspond to a prolongation of the usual period of maximum activity of the adenoid tissue and there is reason to believe that such an occurrence is always an indication of delicate health and a feeble power of resistance but I shall return to this point when I come to speak of the condition known as "lymphatism."

2. *Congenital anæmias.*—Clinically, one meets from time to time with infants who have been markedly anæmic from birth. Putting aside those cases in which injudicious feed-

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experience, of everyo
ren to meet with then

CASE 1.—A boy, aged 15 months—an eight months child-
family history, had been markedly pale since birth. The
health during her pregnancy was good and she never suffered from anæmia. The child was bottle-fed. He was well nourished but

of iron.

CASE 2
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was "deeply jaundiced" and on recovering from that was noticed to

globin. He finally recovered under the persistent use of iron and laxatives.

CASE 4.—A girl, aged two years, born at full time. The family history and mother's health were good. For six weeks after birth she was "orange coloured"
was fed on the breast for
had never had diarrhœa.
a slightly yellowish tint.
be felt. There were loud
1,920,000, the white cells 1
A differential count show
of mononuclears (mainly l
per cent. of myelocytes, and 1 per cent. of mast cells. There were five normoblasts to every 100 white cells. The child subsequently developed some enlargement of the spleen.

It seems natural in such cases to try to connect the anæmia of the child with defective health on the part of the mother. Such an explanation, however, cannot always or indeed often be advanced. I have not found that the health of the mother during her pregnancy has been specially bad in such cases nor that she has herself suffered from anæmia. One has to remember, too, that the blood-forming functions of the fœtus are quite independent of those of the mother. This is certainly true at all events of the formation of blood cells. A striking illustration of it is found in the case of women suffering from myelogenous leukæmia who yet give birth to perfectly healthy infants. Of such an occurrence many cases are now on record and I have seen at least one well-marked instance of it myself. As regards the chemical constituents of the blood, however, it is by no means certain that such independence exists. Bunge has shown that the child comes into the world with a store of iron in the liver which is derived from the blood of the mother and serves as a supply of that metal throughout the earlier months of life. In some of the cases of congenital anæmia it would seem that this store is insufficient. This seems particularly apt to happen in the case of twins in which there is as it were not enough iron to go round and one twin or both suffers from a deficiency in consequence. In such a case the anæmia takes the form of a deficiency of hæmoglobin rather than of the red cells as a whole.

It is interesting to note that in two of the above cases the mother volunteered the statement that the appearance of the anæmia had been preceded by severe and prolonged jaundice, evidently an exaggerated degree of the ordinary icterus neonatorum. It may be that in such cases there has been an unusual amount of blood destruction, an amount which it has been beyond the power of the blood-forming organs fully to compensate or which has exhausted the available reserve of iron in the liver. When a defective supply of iron to the blood forming organs is the cause of the anæmia steady improvement follows the administration of iron by the mouth, but in other cases of anæmia dating from birth even the most persistent treatment with iron fails to effect any improvement. In such cases it is possible, though in the absence of more post-mortem evidence one does not wish to be too dogmatic about it, that there is a congenital defect in the red marrow and in consequence an insufficient formation of red cells. Muir[1] has recorded such deficiency of marrow coming on in a boy, aged 14

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[1] A Case of Purpura and Intense Anæmia with Marked Deficiency in the Red Bone Marrow, Brit. Med. Jour., Sept. 29th, 1900.

resist the conclusion that the provision for the manufacture of red cells was defective.

Of an exactly opposite nature to such cases are those in which there is an excess of red corpuscles and of hæmoglobin in the blood, as is seen in *congenital cyanosis.* I do not propose to discuss the supposed reasons for the presence of a surplus of red cells in these cases but would merely point out that examination of them after death has shown an undue degree of activity on the part of the blood-forming organs and a persistence of the fœtal method of intra-capillary blood formation, especially in the thymus.[2]

PRIMARY ANÆMIAS.

1. *Chlorosis.*—If we define chlorosis as most authors seem inclined to do as a condition of anæmia exhibiting a marked relative deficiency of hæmoglobin but occurring only in young women then such a condition can have no place amongst the anæmias of infancy. There can be no doubt, however, that cases are met with in childhood which show at least a markedly chlorotic type of blood along with many of the other signs characteristic of the classical type of the disease. The following are two typical examples.

CASE 1.—A girl, aged one year and seven months. She was a fat rickety child who got little animal food owing to the poverty of the parents. Her complexion was waxy. The spleen was just palpable; hæmic murmurs were present. The blood contained 4,000,000 red cells and only 20 per cent. of hæmoglobin. There was some poikilocytosis and a few normoblasts were present. Under treatment with iron the hæmoglobin rose in a month to 60 per cent.

CASE 2.—A girl, aged three years. She had been fed on the breast till 18 months old. Since then she had been rickety. Her complexion was chlorotic. Her spleen was palpable; hæmic murmurs were present. Red cells numbered 5,000,000, white 13,000, and hæmoglobin 31 per cent. The red cells were regular in size and shape. Under full diet and iron in large doses the hæmoglobin rose in six weeks to 62 per cent. and the child was discharged in good health.

It may be objected that these are simply examples of secondary anæmia associated with rickets. Such an objection I should not care to dispute. What I wish to emphasise, however, is that one does meet in infancy with anæmias characterised by blood of markedly chlorotic type associated with the greenish complexion, hæmic murmurs, and other well-recognised symptoms of the disease as it occurs in young women. Nor need such an occurrence surprise us. The blood of infancy is, as we have seen, normally poor in hæmoglobin compared with that of the adult and the presence of any factor which renders the formation of hæmoglobin still more difficult may readily lead to the appearance of a chlorotic form of anæmia. Such a factor is to be found, I believe, in a deficient supply of iron in the food. Human milk is at best but poor in iron, containing only from 3·5 to 7 milligrammes of the metal per litre (Friedjung[3]) and bad health in the mother may lower this proportion still further. The balance of iron required for purposes of blood formation is made up, as we have seen, from the store of it normally contained in the liver, but if the period of nursing—or of purely milk feeding—is unduly prolonged this reserve becomes exhausted and a deficiency in hæmoglobin results. Cases such as have been described seem specially apt to occur, therefore, amongst children who have been fed at the breast for a protracted period or who after weaning have been supplied with a diet in which animal food is but poorly represented. Such a diet is, of course, just such as is also apt to produce rickets and the correct view to take of such cases is, I believe, that the anæmia is not secondary to the rickets but that both the rickets and the anæmia are the common consequence of unsuitable food. For proof of this one would point to the striking improvements which such patients exhibit when put upon a diet rich in iron and especially when salts of iron are simultaneously given by the mouth.

2. *Pernicious anæmia.*—When we come to consider the question of pernicious anæmia in childhood we are again met by the difficulty of definition. I need not remind you how divided authorities are in this matter, some regarding the absence of any discoverable cause as the criterion of the disease, others basing its diagnosis upon the characters of the blood. These difficulties in the way of recognition of the disease, great as they are in the adult, are greater still in the child. For at this time of life any secondary anæmia may take on a grave form marked by pronounced poverty of red cells, great variability in their size and shape, and the presence of numerous nucleated forms. The relative lymphocytosis, too, which is generally agreed to be a characteristic of the blood in pernicious anæmia is of little assistance in the diagnosis in infancy, during which, as we have seen, such a condition is of normal occurrence. Nor is it easy to recognise pernicious anæmia in infancy from its morbid anatomy, for one of its most striking pathological features—the replacement of the yellow marrow by blood-forming tissue—is found in the normal child. Evidences of increased blood destruction, such as the accumulation of iron in the liver, would be of more value, for, so far as I have seen, it is not found even in the severe secondary anæmias of childhood, but unfortunately this has not always been sought for in the reported cases. Whatever criterion we accept as identifying the disease it is generally admitted to be extremely rare in childhood. Rotch states that out of more than 2000 cases below the age of two admitted to the Infants' Hospital in Boston there was not one of true pernicious anæmia and I have searched the records of the Hospital for Sick Children, Great Ormond-street, for one in vain. In Table I. I have collected from all the available literature cases which have been published as examples of pernicious anæmia occurring in childhood.

It will be observed that they amount to not more than 11 in all, of which only five are at all probably genuine, and of these but one falls within the period of infancy. As in the adult, males appear to be much more frequently affected than females.

The rarity of pernicious anæmia in childhood is a surprising fact. Recollecting the vulnerability of the blood at this time of life and the ease with which injurious influences seem to affect it one would have expected, if pernicious anæmia be really due to the excessive destruction of blood by a poison, as most authorities seem to think, that it is at this time of life above all others that it would be most apt to occur. If, again, we have to deal in this disease with a resumption of the fœtal mode of blood formation with the appearance of megaloblasts in the blood or, at all events, in the marrow, as Ehrlich teaches, surely it is in the child who is but so little removed in time from the fœtal state that such a retrograde metamorphosis would be most prone to manifest itself. Nor are children exempt from those special destructive influences which have sometimes been invoked to explain the disease. Oral sepsis is a frequent and familiar condition in them and is believed by many to be a common cause of secondary anæmia; the parasitic anæmias also which may so closely simulate the genuine disease find striking illustration even in the earliest years of life (see cases of bothriocephalus anæmia published by Schapiro[4] and by Podwissotzky[5]). Whatever the explanation of the comparative immunity of young children to pernicious anæmia may be it is a striking fact in the natural history of the disease which must always be reckoned with in any attempt to account for its etiology.

SECONDARY ANÆMIAS.

The characters of the blood and blood-forming organs in infancy are such as to render the young child peculiarly apt to become anæmic under the action of deleterious influences of various sorts. To this form of anæmia the term secondary or symptomatic anæmia may conveniently be applied. Such deleterious influences may act either upon the blood-forming organs, rendering them less capable of forming blood, or upon the blood itself leading to its increased destruction, or both modes of action may coexist. However produced, secondary anæmia in early childhood is apt to assume a severity rarely met with in adult life and in the most pronounced forms may present a blood picture which in the adult would justify a diagnosis of pernicious anæmia. One can distinguish, however, several grades of symptomatic anæmia The hæmoglobin seems always to suffer first and in the mildest cases the blood has simply a slightly chlorotic character. This is not surprising when one remembers the fact, already insisted upon, that the infant's blood is normally poor in hæmoglobin and that the marrow seems only capable of forming it in limited amount. When the injurious influences are such as actually to destroy the red cells or seriously to impair the power of the marrow to form them the blood exhibits a poverty of red corpuscles in addition to a low percentage of hæmoglobin. In such

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[2] Weil: Note sur les Organes Hématopoiétiques et l'Hématopoièse dans la Cyanose Congénitale, Société de Biologie, June 29th, 1901.

[3] Archiv fur Kinderheilkunde, xxxii., p. 58, 1901. See also Furst, Therapeutische Monatshefte, 9, 1900.

[4] Wratsch, 1887.

[5] Jahrbuch fur Kinderheilkunde, xxix., p. 223. See also abstract of another case (due to tænia) in Pediatrics, April 15th, 1896.

TABLE I.—RECORDED CASES OF PERNICIOUS ANÆMIA IN CHILDHOOD.

No.	Author and reference.	Sex and age.	General clinical characters.	Condition of the blood.	Result.
1*	Kjellberg (Archiv für Kinderheilkunde, v., p. 181; 1884).	M., 5 years.	Marked debility, lemon-yellow tint, hæmic murmurs, retinal hæmorrhages, and all the classical symptoms	Red cells, 767,000, falling to 571,000, no further description.	Death in 16 weeks. Post-mortem examination was negative.
2	Steffen (Jahrbuch für Kinderheilkunde, xxviii., p. 444; 1888). Gives references to other cases of doubtful authenticity.	F., 16 months.	A rickety child, with general anæmia, but no splenic enlargement.	Red cells one third of normal, pale but with no alteration of shape, white cells diminished.	Death. Post-mortem examination.
3	Escherich (Wiener Klinische Wochenschrift, 13 and 14, 1892. Contains references to previous alleged cases).	M., 4 years.	Extreme pallor, the spleen was not enlarged, there was some enlargement of the glands in the left side of the neck and left axilla.	Lowest red count 575,000; slight poikilocytosis, megalocytes, but no normoblasts, hæmoglobin from 12 to 15 per cent; white cells diminished, lymphocytes predominating.	Death. *No post mortem* examination.
4*	Mott (Practitioner, August, 1890).	M., 11 years.	Ill eight months, frequent vomiting, lemon yellow tint, retinal hæmorrhages, &c.	Red cells, 800,000; hæmoglobin, 20 per cent.; marked poikilocytosis, micro and macro-cytes, few normoblasts	Death. Post-mortem examination showed typical appearances of pernicious anæmia.
5	Monti and Berggrün (Die Chronische Anämie im Kindesalter, Leipsic, 1892).	M., 6½ months.	A pale, rickety child, with a history of congenital syphilis; the spleen was much enlarged.	[illegible]	Death. No post mortem examination.
6	Demme (quoted by Monti and Berggrün, op. cit.).	M., 3 months.	Very anæmic since six weeks old; the spleen was not enlarged.	Red cells, 800,000, hæmoglobin from 28 to 30 per cent, poikilocytosis, several megaloblasts	Death. Post mortem examination.
7	D'Espine and Picot (Revue de Médecine, 1890, p. 859).	F., 2 years.	Pronounced pallor and tendency to hæmorrhages coming on after previous good health, there was no enlargement of the glands or spleen.	Not examined	Death after a month. No post-mortem examination, but the authors think that leukæmia could be excluded.
8	Ibid.	M., 13 years.	Gastro intestinal symptoms (vomiting, diarrhœa, and colic) predominated, œdema of the limbs; the liver and spleen were not enlarged; there was frequent epistaxis.	" "	Death. Post mortem examination was negative.
9*	Theodor (Archiv für Kinderheilkunde xxviii., p. 321, 1901).	M., 11 years.	Ill for one year with all the typical symptoms and appearances.	Red cells very pale, marked poikilocytosis, many megalocytes, 24 rising to 93 per cent. of normoblasts	Death.
10*	Rotch and Ladd (Archives of Pediatrics, September, 1901).	F., 9 months.	Great pallor and some general œdema; there was no enlargement of the spleen.	Red cells, 1,088,000; hæmoglobin, 20 per cent, white cells, 18,800, "microscopical characters typical of pernicious anæmia" (Cabot).	Doubtful.
11*	Goodell (Scottish Medical and Surgical Journal, February, 1902).	M., 11 years.	Anæmia with hæmorrhages from the mucous membranes but none in the fundi; the spleen was not enlarged.	Red cells, 295 000, hæmoglobin, 5 per cent, white cells 20,000, four megaloblasts and 25 normoblasts to 1000 white cells	Death. No post-mortem examination.

* The cases marked with an asterisk are probably genuine.

TABLE II.—CASES OF INFANTILE SCURVY TREATED WITHOUT ALTERATION OF DIET.

No.	Sex and age	Symptoms.	Diet.	Treatment and result.
1	M., 9 months.	Sponginess of the gums and general tenderness of the bones.	Condensed milk and a tinned food.	Half an ounce of fresh orange juice daily. After a week the tenderness was diminished, the gums were as before, the diet was then changed
2	F., 6 months	Sponginess of the gums, thickening and tenderness of the lower end of the left femur and tibia.	Boiled milk, with a tinned farinaceous food.	Half an ounce of sterilised fruit juice daily. After a week all the symptoms were greatly improved, the diet was changed.
3	F., 10 months.	Sponginess of the gums, tenderness of the lower end of the left femur.	Condensed milk and Mellin's food.	Half an ounce of dialysed fruit juice daily. After a week the tenderness was very much less. There was still some sponginess of the gums, the diet was then changed
4	M., 7 months	Sponginess of the gums, thickening and tenderness of both femora.	Condensed milk and a tinned farinaceous food.	I [illegible] improvement in every [illegible]
5	F., 8 months.	Moderate sponginess of the gums, the legs were tender but there was no thickening.	Condensed milk and a tinned food.	40 grains of calcium citrate daily produced no improvement in a week After ten days' treatment with malate of potash the tenderness had almost gone and the sponginess was much less. The diet was then changed.
6	M., 8 months.	Sponginess of the gums, thickening and tenderness round the right knee.	Condensed milk and a malted food.	Citrate of potash in small doses produced no change after four days. The diet was then altered.
7	F., 12 months.	Sponginess of the gums and general tenderness,	Boiled milk.	Malate and tartrate of potash (10 grains of each daily) After a week all the symptoms had greatly improved. Raw milk was then given.
8	M., 11 months.	Considerable sponginess of the gums, tenderness but no swelling of the legs.	Condensed milk and nursery biscuits.	Malate of potash 40 grains daily As there was no improvement after four days ordinary treatment was begun.

circumstances irregular varieties of red cells (poikilocytosis) and nucleated forms very often make their appearance. It is the pronounced tendency for these abnormalities to develop which indeed specially distinguishes the secondary anæmias of infancy from those of adult life. Acting as it does even in normal conditions close up to the limit of its functional capacity and being unable, for reasons already mentioned, to increase its power of blood formation by a process of hyperplasia, the red marrow of the child when increased demands are made upon it for a greater production of red cells can only meet that demand by a more rapid division of its constituents instead of by extending the area of production over a wider territory. Such rapid production is apt to lead to imperfect formation of corpuscles and to their being turned into the blood stream in a "half-fledged" condition as it were, with their nuclei still present and with a feeble power of resistance. Hence it is that the presence of normoblasts and of poikilocytosis are such striking features in the secondary anæmias of childhood and the younger the child—i.e., the less the power of hyperplasia the marrow possesses—the more readily do such features make their appearance.

In the severest forms of secondary anæmia leucocytosis is apt to develop in addition to diminution of hæmoglobin and red cells. *In many cases this is due to the presence of some* complicating disease, of which perhaps broncho-pneumonia is in practice the most common. In such a case the leucocytosis assumes the ordinary polynuclear type. In some instances, on the other hand, and these especially in young infants, secondary anæmia is accompanied by an exaggeration of the normal excess of lymphocytes. I think, however, that the frequency with which this occurs has been overstated. Putting aside cases of severe rickets with splenic enlargement, to which we shall return in another lecture, it seems to be chiefly in anæmias associated with chronic gastro-intestinal disturbance that lymphocytosis is most apt to occur. One is tempted to suppose that there is here an overproduction on the part of the adenoid tissue scattered throughout the abdominal tract, an exaggeration as it were of the normal digestive leucocytosis. If the lymphocytes in this situation are really normally concerned—as many people believe—in the absorption of food from the intestine it is not straining the imagination too far to suppose that any condition which renders difficult the process of absorption may be compensated by an over-production of these cells. Their increased numbers may enable as much as possible to be saved from the wreckage of food which is being swept on too fast into the lower bowel. The excess of lymphocytes in the blood in such a case would exactly correspond to the excess of red corpuscles met with in cases of cyanosis. In both instances over-production of the cell concerned is nature's way of overcoming obstacles in the way of its fulfilling its normal functions. But this, of course, is pure speculation.

It would be impossible to deal in any detail with the numerous injurious influences which may lead to the development of symptomatic anæmia, nor indeed would anything be gained by attempting to do so, but one or two typical illustrations may be selected. Of influences which probably act chiefly on the blood-forming organs malnutrition is one of the commonest and best marked. The most striking examples of the action of this influence which have come under my observation have been in the case of children who have been fed too long at the breast or who have been kept on a purely milk diet far beyond the time at which mixed feeding should be adopted. The following is a pronounced example of such a case.

A boy, aged two years and three months, a twin, born at the full time, had been feeble since birth. He had always been bottle fed and when he came under observation was getting two quarts of milk a day without any other food. He exhibited extreme pallor without any sign of rickets and no enlargement of the spleen. There was a loud systolic murmur over the præcordia, the blood was very watery and contained 1,692,000 red cells, 4000 leucocytes, and 17½ per cent. of hæmoglobin. There were 60 normoblasts per cubic millimetre but no poikilocytosis. Under treatment with ordinary mixed diet and full doses of iron the number of red cells rapidly rose to 3,500,000 and the hæmoglobin to 43 per cent.

The special defects of the diet which are doubtless responsible for the production of the anæmia in these cases are: (1) poverty in iron; and (2) deficiency in proteid. The raw material for the production both of hæmoglobin and of red cells being thus lacking poverty of blood results. As both these defects are specially marked in a purely milk diet it is not to be wondered at that children who have been fed on such a diet too long should exhibit secondary anæmia in a striking form. To this point I have already referred in the discussion of chlorosis. There can be no doubt, too, that a similar cause is a potent factor in the production of milder degrees of anæmia in later childhood. Here is an illustration.

A girl, aged five years, had always been a pale child, but owing to the death of her mother had for some time been badly cared for and insufficiently fed. She was very chlorotic looking, had a just palpable spleen, and also loud hæmic murmurs. The blood contained 2,400,000 red cells, 15,000 white cells, and 40 per cent. of hæmoglobin. There was marked poikilocytosis but there were no nucleated red cells and of the white cells polynuclears predominated. She was put on a diet rich in animal constituents and full doses of iron and left hospital entirely cured.

I have selected here a pronounced example but such cases in a minor degree are met with every day. They are the peculiar product of poverty which necessitates the consumption of a diet which is not so much deficient in quantity as defective in quality, lacking especially those more expensive animal constituents which can alone insure a sufficient supply of proteid which is so essential in the building up of blood as of all tissues. Slight anæmia from this cause is a potent factor in the chronic ill health so often seen in the children of the working classes, particularly in large towns where the blood-forming functions are still further depressed by the absence of sunlight and fresh air. Nor should such slight degrees of anæmia be neglected, for although they may be, and usually are, fully recovered from later when a more generous diet is obtainable yet their effects may be irreparable. For it must not be forgotten that it is not a matter of indifference when the tissues and organs during the susceptible years of growth have been bathed with a poor and watery fluid instead of with rich and fruitful blood. Impairment of growth and development, shrinking of body and backwardness of mind, cannot fail to be the consequences and those to whom the present state of the national physique is a source of anxiety would do well, I believe, to look to this as a potent source of possible deterioration.

Of influences which lead to secondary anæmia by causing an increased destruction of blood the best examples are to be found amongst the acute infective diseases. The vulnerability of the blood in childhood so often referred to renders it peculiarly liable to suffer from the influence of the toxins of such diseases. Though almost all the acute specific fevers show their influence upon the blood in children by a fall in hæmoglobin which sets in just after the temperature has fallen and is only restored during later convalescence,[6] yet the destructive power of some toxins appears to be much greater than that of others. The rheumatic poison seems to be peculiarly potent in this respect. Children rarely fail to exhibit a marked degree of anæmia after an attack of acute rheumatism especially, I think, when accompanied by peri- or endo-carditis. Every fresh outbreak of the disease during convalescence is apt to signalise itself by a deterioration of the blood. This rheumatic form of anæmia which must be familiar to every clinical observer has been specially studied by Dr. A. E. Garrod who has shown that the fall in the red corpuscles in these cases is usually very rapid and may easily amount to 1,000,000 in the course of four or five days. It is interesting, too, to note that sudden and marked falls in the hæmoglobin may occur independently of those in the red cells. The destruction of blood in these cases bears no necessary relation to the height of the fever nor is it influenced by the administration of salicylates. The destruction of red cells is usually speedily made good after the temperature has fallen, but in some cases the diminution of hæmoglobin persists far into convalescence and long after the patient's condition has improved in every other respect. Diphtheria is another of the acute infectious diseases which is apt to be attended by severe blood destruction. It is also characterised by a tendency for myelocytes to appear in the blood—a sign always of bad prognostic omen. The influence of the toxins of the pyogenic organisms is seen in the anæmia associated with oral sepsis in childhood to which Hollopeter[7] has specially drawn attention and in the pronounced anæmia which results from long-standing suppuration. Of mixed causes of secondary anæmia in childhood the syphilitic cachexia, tuberculosis, and chronic diarrhœa may be taken as examples. These probably act both by increasing blood destruction and by interfering with its formation. In these and in all secondary anæmias there is no characteristic type of blood and the extent and degree of destruction are of more value in gauging the intensity of the disease and in forming a prognosis than in making a diagnosis.

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[6] Widowitz: *Jahresbericht für Kinderheilkunde*, Band xxvii., p. 380, 1888.

[7] Medical News, August 30th, 1902.

INFANTILE SCURVY.

The condition of the blood in cases of infantile scurvy raises questions of great interest and importance. The general pathological [illegible] worked out by those [illegible] Dr. W. B. Cheadle and [illegible] nothing of importance to be added from that side. It will be admitted, however, that we are still very much in the dark as to the actual change in the blood which is present in this disease. Now, in the first place it may be remarked that the microscope affords us no help here. An examination of the blood in cases of scurvy shows that it exhibits merely a varying degree of that secondary anæmia of rather chlorotic type which is so frequent in rickets and other conditions of impaired nutrition. Nor does histological examination of the marrow which I have been able to carry out in two cases reveal any characteristic changes. We are driven, then, to study the question from the chemical point of view. It will be obvious that this is an investigation attended by great difficulties. One cannot obtain a sufficient quantity of blood to subject it to accurate chemical analysis and accordingly one is compelled to study the subject indirectly. In the course of the last few years I have tried, at the suggestion of Dr. Garrod and as opportunity offered, to arrive, by a process of therapeutic experiment, at an idea of what the chemical fault in the blood of these cases is. My progress towards a solution of the problem has been slow, for cases of infantile scurvy are not numerous and not all of them are suitable subjects for such observations as I am about to describe, but it may be worth while to put before you the results so far as I have gone in the hope that they may lead to more extended observations on the same lines by others.

It will be generally conceded in the first place that infantile scurvy is the result of a faulty diet. The first question that arises then is this: Is the fault a positive or a negative one? That is to say, is there present in the food some constituent which it should *not* contain, or is there absent from it or present in insufficient amount one of its normal ingredients? To this question the general study of the etiology of the disease has not afforded any satisfactory reply. It has shown only that the vast majority of cases develop when the child is being fed upon a diet which is deficient in fresh constituents, particularly in fresh milk. As to how it is that such a diet produces the disease no explanation is forthcoming. It has been referred by some to the presence of poisonous constituents (ptomaines) in tinned foods, a view which as regards adult scurvy, at all events, [illegible] e experiments [illegible] referred the [illegible] ce in them of some mysterious ferment. The first step, then, must be to see whether, leaving the diet under which the disease developed alone, one can, by the mere addition of certain constituents to it, effect a removal of the symptoms. Fruit juice is the material which one naturally thinks of adding and in order to elimininate the ferment theory I have given it in a sterilised form. In Case 2 of Table II. this was added to the diet, no other change being made, and the result showed that it had a distinctly curative influence.

The inference to be drawn from this observation and from that on Case 1 is that the fault in the diet of scurvy is one of omission and not of commission, in that fruit juice contains something which the blood in this disease lacks and that this ingredient is of an "unorganised" nature. The next step was to administer the constituents of fruit juice separately and so to arrive by a process of exclusion at the particular ingredient concerned. By means of dialysis the crystallisable were separated from the uncrystallisable constituents of the juice and the dialysate was evaporated [illegible] iginal quantity of [illegible] not included in [illegible] uncrystallisable or [illegible] ative effect. The [illegible] d proved to have a distinct [illegible] tion seeme [illegible] contained [illegible] proof of th [illegible] administration of an artificial mixture of the vegetable salts found in fruit juice is also followed by cure. Here, however, [illegible] citrate, [illegible] anything like such good results as with the natural juice (see Cases 5, 6, 7, and 8). That these salts, however, have, even in their artificial form, a power of restraining the disease I think there can be no doubt; and my friend Dr. John Thomson tells me that he has seen a case in which scurvy was kept in check so long as citrate of potassium was being administered for other reasons.[8] It may be that these salts are less active in their artificial form than in that in which they occur in the natural juice, just as it is well known that a natural mineral water is often more active than any artificial imitation of it. At all events, I think the conclusion is provisionally justified that the defect in the blood which causes the symptoms of scurvy is a poverty in vegetable salts, a conclusion which I need not point out is in no way a novel one, though it has never, so far as I know, been put to any systematic test.

A priori reasoning would lead to the conclusion that the citrates are the vegetable salts chiefly concerned. It must never be forgotten that fresh milk is surprisingly rich in citric acid. It has been calculated, indeed, that three pints of it contain from 50 to 60 grains of citrate, or about as much as is contained in an ounce of lime juice. In milk the citric acid is combined with calcium as citrate of lime. Corlette, in an interesting paper read before the British Medical Association in 1900, has shown that the calcium citrate of milk occurs in the amorphous and more soluble form, its solution being aided by the presence of phosphates. When milk is boiled the amorphous is converted into the crystallisable form of the salt which is less soluble and separates out. The mere boiling, and *a fortiori* the sterilisation, of milk therefore causes it to become poorer in citrates than it ought to be, and to this he attributes the development of scurvy when such milk is exclusively used. Ingenious and simple though this explanation is, it cannot yet be regarded as proved. I have certainly found that the artificial administration of calcium citrate is of even less therapeutic power in scurvy than are the artificial salts of potash (Case 5). In any case it must be admitted that the hypothesis of a deficiency of vegetable salts in the blood does not bring us much nearer an understanding of how it is that the hæmorrhages and other characteristic symptoms of the disease are brought about. [illegible] coagulability of the blood [illegible] nd. Whatever may be the [illegible] of the blood in scurvy of [illegible] any way lessened in the infantile form of the disease. I have tested this point in five well-marked cases, using Wright's coagulometer, with the following results:—

Age	Coagulation time.
Eight months	3¾ minutes.
Eleven „	4½ „
?	4¼ „
One year	5¼ „
One „	4 „

This gives an average coagulation time of about four and one-third minutes which closely corresponds with the normal. One effect, however, which one would certainly expect to ensue upon a [illegible] the blood is a [illegible] diminished alkal [illegible] I have not mys [illegible] informs me tha [illegible] cases with the [illegible] the reaction of [illegible] alkalinity actually exists. Such an occurrence would not be at all at variance with the results of general clinical observation on the etiology of the disease. Everyone must have seen cases of scurvy in which the mere stoppage of the use of a tinned food without anything being substituted for it or other change made in the diet has been followed by the happiest results. Now the cereal foods, as Wright has shown,[9] certainly yield a more acid ash than milk and what happens probably in such cases is that there is a disturbance of the proper balance of acid and alkaline constituents in the blood, a balance which is readjusted when the supply of the more acid salts is withdrawn. Wright has established this in the case of adult scurvy by an examination of the blood of soldiers who suffered in the siege of Ladysmith[10] and has, as already stated, found a similar condition of the blood in cases of infantile scurvy. It seems likely, therefore, that it is upon such lines as those indicated above that the explanation of the ultimate cause of the disease must be sought.

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[8] Dr. Thomson writes that the case alluded to was that called "Baby B." in his paper on Acute Pyelitis in Infants (Scottish Medical and Surgical Journal, July, 1902). She had been brought up mainly on sterilised milk and cream mixture; but to this two meals of gruel and one of Nestle's food had been added for a short time. She had [illegible] thriven well enough till nine and a half months old [illegible] movement of [illegible] her symptoms [illegible] red and swollen. [illegible] sed milk was continued and citrate of potash was [illegible] the pyelitis which soon disappeared. A few days after it was stopped, however, distinct scorbutic symptoms appeared—viz., marked sponginess of the gums and large bruises on both shins. Under the usual dietetic treatment she recovered rapidly.

The Oliver-Sharpey Lectures

ON

RECENT STUDIES ON THE TISSUE-LYMPH CIRCULATION.

Delivered before the Royal College of Physicians of London on April 12th and 14th, 1904,

BY GEORGE OLIVER, M.D., F.R.C.P. LOND.

LECTURE II.[1]

Delivered on April 14th.

MR. PRESIDENT, FELLOWS OF THE COLLEGE, AND GENTLEMEN,—The last lecture was almost entirely devoted to the study of the effects of digestion on the tissue-lymph circulation. We have now to consider the influence of exercise, fatigue, rest, sleep, respiration of gases, internal secretion, temperature, and gravitation.

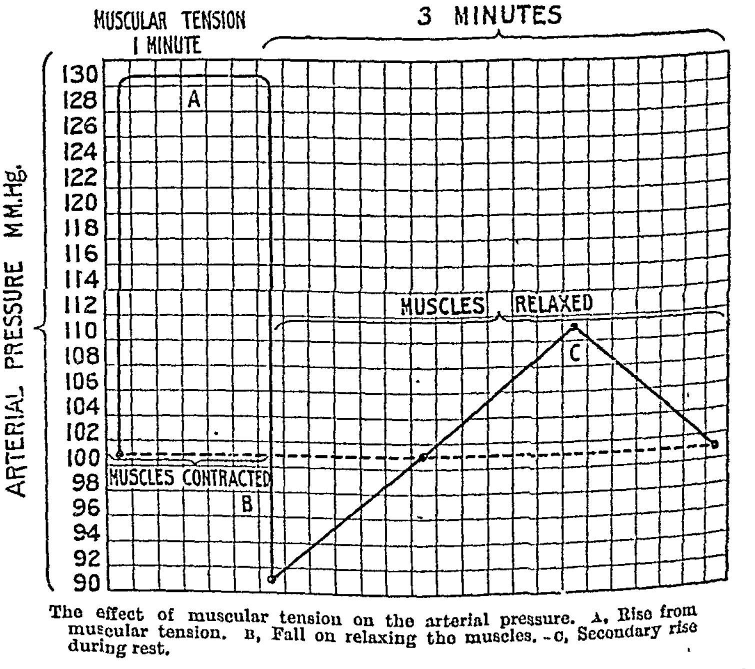
THE EFFECTS OF EXERCISE.

The effects of muscular action have been studied, first, during its continuance; secondly, immediately on its cessation; and thirdly, for some time after the termination of the exercise. Each of these three sets of observations has yielded distinctive facts which, when observed collectively, have invariably followed the same order. It is therefore obvious that observation made during any one of these stages only must furnish an incomplete picture of all the effects of exercise. Most observers, because of the difficulty of recording the blood pressure accurately while exercise is in progress, have made their observations only when muscular action ceases. The fundamental effects of exercise on the blood pressure may be readily studied in an epitomised form by placing the pad of the hæmodynamometer over a small *superficial artery, like the superficialis volæ* and then throwing all the muscles into a state of tension for 60 seconds (the arm on which the observation is made being excluded from the contraction). In Fig. 6 you observe that the complete blood pressure curve of muscular contraction is made up of two elevations (A) and (C), separated by a fall (B), which is just as decidedly below the normal pressure as the second rise is above it. The first elevation (A) is synchronous with the tension, the second (C) appears after the muscles are relaxed. Now these oscillations of the arterial pressure are all seen on a larger scale in ordinary exercise, each stage being, of course, prolonged in proportion to the duration of the exercise. The primary rise is invariably followed by a gradual fall, even during the continuance of the exercise, and by a rapid and decisive fall on its cessation; and that fall is succeeded during rest by a second rise. Sir Lauder Brunton and Dr. J. W. Tunnicliffe, some of whose experiments were made in Professor Mosse's laboratory, are, I believe, the only observers who have furnished trustworthy data on the *arterial pressure in man both during* muscular movement and immediately after its cessation, and their data accord with my own.[2] The secondary rise of blood pressure which I have invariably found to supervene during rest after exercise does not, however, seem to have been recognised by other observers unless we conclude that Marey recorded it when he found that the pressure in the carotid artery of the horse after falling six millimetres of mercury immediately following a run of ten minutes subsequently rose seven millimetres of mercury above its original height.

Exercise increases the exudation of tissue lymph. This fact is indicated by the differential readings of the blood taken either during a sustained muscular contraction or immediately after exercise. Inasmuch as lymph is rapidly removed, being absorbed on the cessation of exercise, the observation should be made without delay, for in from five to 15 minutes after walking or other forms of exercise the samples of blood taken before and after compression will generally read alike, showing that the lymph has disappeared.

How are these effects of exercise produced? According to Ludwig and Gaskell[3] during a short tetanus (such as a sustained contraction of 60 seconds) the flow from the efferent vein of the muscle after the first spurt of blood may fall to practically *nil.* It would seem that muscular contraction causes partial or temporary occlusion of the intramuscular arteries and arterioles and that this increase of peripheral resistance, along with reflex cardiac stimulation, will go far to explain the rise in the arterial pressure. At the same time the capillary pressure within the muscle will fall and lymph will not be exuded. But the state of the circulation is different in the non-muscular parts, for all the blood pressures (arterial, venous, and capillary) are markedly raised during the sustained tension of the muscles. Hence the effusion of lymph in the finger. On the other hand, when the contraction ceases the intramuscular capillary pressure at once rises and lymph will be effused into the muscles in the intervals between successive contractions. That the muscles when relaxed after contraction become full of blood is shown by the work of Ludwig and his pupils, by Chauveau and Kaufmann, and also by Sir Lauder Brunton

FIG. 6.



The effect of muscular tension on the arterial pressure. A, Rise from muscular tension. B, Fall on relaxing the muscles. C, Secondary rise during rest.

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[9] Army Medical Reports, 1895.

[10] THE LANCET, August 25th, 1900, p. 565.

[1] Lecture I. was published in THE LANCET of April 30th, 1904, p. 1175.

[2] Remarks on the *Effect of Resistance Exercises* upon the Circulation in Man, Local and General, by Sir Lauder Brunton and Dr. J. W. Tunnicliffe, Brit. Med. Jour., Oct. 16th, 1897.

[3] Ludwig's "Arbeiter," 1877.

and Dr. Tunnicliffe, who have furnished graphic evidence of the dilatation of the intramuscular arteries which follows muscular contraction.[4]

In the first lecture I demonstrated by the effect of muscular tension on the arterial pressure that when the lymph is being effused the contractibility of the muscles diminishes progressively after food. Now the same thing happens after exercise. The degrees of contractibility vary inversely to the amount of lymph effused. Exercise likewise provides [illegible] s to how tissue fluid is removed [illegible]. a short muscular contraction [illegible] two effusions, one during the contraction, which is entirely absorbed in 60 seconds, and another immediately afterwards, which disappears just as quickly, so that in four minutes we have two successive effusions which entirely clear up. The rapidity with which lymph disappears from the tissues in a state of rest favours the notion of absorption rather than that of transmission along the lymphatics. Now, experimentation on animals shows that muscular action of some kind is necessary to insure a flow of lymph along the lymphatics; so we may conclude that during exercise itself the muscular action will more particularly favour that passage for the lymph. If we admit the probability of these two routes being adopted—namely, the short circuit by absorption and the longer circuit by the lymphatics—we may gain some notion of the share which each takes in the removal of lymph from the tissues by resting one arm in a sling during exercise and immediately afterwards ascertaining the amount of lymph on the passive and on the active side. This I have repeatedly done, with the result that the finger on the passive side contains from 30 to 50 per cent. more lymph than that on the active side. Therefore, it is clear that the lymphatic route is largely adopted during exercise. It has been observed that the vaso-motor effects of exercise are hastened and increased by warmth and are delayed and diminished by cold. The effect of exercise on the digestive effusion of lymph is in the direction of increase inasmuch as during exercise a high level of lymph exudation is maintained.

Time fails me to touch on the practical bearing of the foregoing data on the importance of regularly maintaining the flushing effect of the fluid transfers between the blood and the tissue spaces, but I regret this the less as I cannot improve on the wise teaching of Sir Hermann Weber who so graphically and forcibly brought before us this aspect of the subject last December.[5]

FATIGUE.

Observation has shown that the rise in the arterial pressure produced during the continuance of exercise becomes less and less pronounced in proportion to the duration of the exercise; for example, the initial increase of from 15 to 20 millimetres of mercury gradually subsides until, after the lapse of a certain time (which varies with the tone of the individual and with the external temperature), the arterial pressure will not exceed 100 millimetres of mercury, and if the exercise is further continued, it will even fall lower, to 95, 90, or 85 millimetres of mercury. This point was also observed by Sir Lauder Brunton and Dr. Tunnicliffe who found that during a continuous series of leg movements (slow flexing of the legs on the thighs and the thighs on the trunk with shot-weighted ankles) extending over 30 minutes the arterial pressure rose during the first half of the time but fell to normal, or even below normal, during the second half.[6]

Why should the rise of pressure, normally induced by exercise, be effaced, or even be replaced by a fall, when exercised is prolonged? Inasmuch as the lymph exuded during exercise obstructs the contractile pressure of the muscular fibres on the intramuscular arteries and arterioles, the peripheral resistance caused by exercise will be reduced and the arterial pressure will gradually fall. In fatigue no amount of will exerted over the muscles can raise the arterial pressure at all; the muscles, though capable of ordinary contraction, become, as it were, lymph-logged. But massage quickly disperses the lymph and the contractibility is restored. Human instinct, without knowing the "why," practised what is now taught by physiological inquiry. We read in the Odyssey how the women rubbed and kneaded their weary heroes and thus invigorated them and we know that from time immemorial rubbing was the sovereign remedy for fatigue. Whilst doubting if massage can re-invigorate muscular fibres we admit that it can remove the lymph which obstructs their contraction and may thus produce a feeling of relief and restoration.

The physiology of fatigue includes another important factor—namely, diminished gravity control over the blood pressure. The outcome of exercise is the production of hypotonia in the vaso-motor mechanism, which is the central fact, as it were, of fatigue. You know, of course, that this condition implies the downward drain of blood through the toneless splanchnic arterioles into the capacious abdominal veins and the diminution of the blood-supply to the systemic and locomotive organs and to the brain. The splanchnic stasis is easily demonstrated in man. If a weight (e.g., a bag of shot, 14 pounds) is placed on the abdomen of a healthy subject, with normal arterial tone, that pressure will remain unaltered. Should, however, the arterial tone and pressure be reduced, the shot bag will raise it. This downward drain will doubtless raise the capillary pressure in the splanchnic area and thus increase the lymph flow from the abdominal organs; in a word, in fatigue the fluid transfer will become more splanchnic than systemic.

REST.

I have mentioned that during rest after exercise there is developed a steady and persistent rise of all the blood pressures (arterial, capillary, and venous) and a corresponding effusion of tissue lymph. Observation has shown that the volume and duration of this secondary outflow of lymph are always proportionate to the vaso-dilator or reducing effect of exercise and it is produced like the digestive exudation by cardiac stimulation. When it has subsided and the blood pressure has again become normal the tension test shows that the muscles have gained in contractility. Therefore the physiological intent of this lymph flow is to repair and to recharge the muscular fibres. How does nature thus automatically restore without the ingestion of food? In the first lecture I adduced some evidence to show that during digestion the important office of distributing pabulum to the tissues is relegated by nature to certain small quantities of waste products which, though themselves devoid of food value, accompany the food elements and by causing a reaction in the circulatory mechanism raise the capillary blood pressure and thus induce an exudation of lymph. Now we generate such materials in ourselves just as animals and plants create them for our benefit. Whenever we contract our muscles we initiate a series of chemical changes which produce such residua and the amount of these autogenous waste products will be proportionate to the duration and intensity of muscular action. There are two substances which produce, according to my observation, the characteristic double curve of arterial pressure induced by exercise and rest: these are creatin and ammonium lactate. It has been suspected that these substances form stages in the passage of proteid towards urea in muscle metabolism[7] and the physiological evidence I have obtained seems to me to support this view.

SLEEP.

According to my observations a large volume of lymph (not less than 20 per cent.) is exuded into the somatic tissues during sleep. The presence of this effusion is not only shown by the differential readings of the blood but is suggested by the tension test, for on first waking muscular tension, though strong, will not raise the arterial pressure more than a few millimetres if at all, whereas in five minutes or so it may elevate the pressure 40 or 50 millimetres. In sleep the arterial pressure falls very low (from 78 to 82 millimetres of mercury) and the venous pressure rises to a high point (from 40 to 50 millimetres of mercury) to a little over a half of the arterial pressure, whereas in the waking state it is only as a rule one-fifth of that pressure. The swollen state of the veins in sleep was recorded by Andreas Cæsalpinus over 300 years ago[8] and must have been the subject of observation even before that date (1593). In sleep there is complete vaso-motor relaxation, consequently the veins not only of the somatic but of the splanchnic area are filled with blood. The splanchnic stasis is shown by the fact that when the shot bag (14 pounds) is applied to the abdomen the arterial pressure is raised at once from 80 to 100 millimetres of mercury.

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[4] Op. cit.

[5] A lecture on Means for the Prolongation of Life, by Sir Hermann Weber, Brit. Med. Jour., vol. ii, 1903.

[6] Op. cit.

[7] Schäfer's Text-book of Physiology, vol. i., pp. 904-5.

[8] Quæstiones Medicæ, 1593.

In a few minutes, however, when the subject is fully awake the arterial pressure rises to 95 millimetres of mercury or so, the venous pressure falls to 15 or 20 millimetres of mercury, the shot bag no longer raises the arterial pressure, and the effused lymph of sleep, having become absorbed, is no longer apparent. Mosso[9] demonstrated by his plethysmograph that during sleep the volume of the extremities increases and he naturally inferred that this fact was due to an accession of blood, though I think it may in part be ascribed also to the large exudation of lymph which irrigates the tissues during sleep.

What is nature's intent in thus supplying the tissues so liberally with lymph during our sleeping hours? The answer admits of no doubt—restoration—and how true to fact is the old proverb "He who sleeps dines." For during sleep nature provides the maximum amount of tissue lymph which we only obtain intermittently after meals. This fact suggests why sleep tends to plethora and obesity. Can the restorative power of sleep be demonstrated? The tension test furnishes the answer. I have for some time kept a night and morning record of the reading of muscle contractility, no tissue lymph being then apparent from the readings of the blood before and after compression, and I will here epitomise the results. In the morning before breakfast and after a good night the effect of muscular tension on the arterial pressure is nearly always greater than it is in the evening. This morning rise depends on the amount of exertion undergone during the previous day; when the day is spent quietly the rise may not exceed 10 or 15 millimetres of mercury but when much walking or cycling is done it may amount to 20 or even over 30 millimetres of mercury. The quality of the sleep is important, for if it be broken or much disturbed by dreams the morning rise is lessened. When in the morning I am in the best condition the tension rise will amount to 50 millimetres of mercury (half the normal pressure), when I am a little below par it will not exceed 35 or 40, and when slack it will not rise about 30 millimetres of mercury. This new application of the hæmodynamometer undoubtedly affords correct readings of the tone of the muscles. It suggests that the muscles are like accumulators, in that they are charged by every effusion of tissue lymph and are discharged by contraction and that certain physiological products, such as glycogen and adrenalin, are specially valuable in restoring contractility.

How does mere rest differ from sleep? During rest the vaso-motor mechanism is not relaxed as in sleep and lymph is then only exuded under the influence of lymph-pressor agents, whether exogenous (as during digestion) or endogenous (as after exercise). If there exist chemical causes for these lymph exudations may we not suspect that some product may be generated for the effusion during sleep? Retraction of the neurons is now the favoured theory of sleep, but if there be a chemical cause (perhaps, however, not probable) may it not be some substance which, relaxing the vaso-motor mechanism, raises the peripheral blood pressure and thus perfuses a large portion of the plasma into the tissues? Even after a meal the vaso-relaxant effect of sleep predominates and the blood pressure curves are vaso-dilatation, but on awaking they quickly resume the ordinary digestive form.

RESPIRATION OF GASES.

I have found that various gases and volatile bodies produce a marked effect on the blood pressure and lymph circulation. I have experimented with oxygen, carbonic acid, sulphurous acid, sulphuretted hydrogen, and a large number of volatile emanations. As I am at present prosecuting this part of the inquiry with Dr. Samuel Rideal, and as our results will appear later, I will confine my remarks to a general statement of the effects of oxygen, carbonic acid, sulphurous acid, sulphuretted hydrogen, and the atmosphere of sewers.

Oxygen.—When oxygen is inhaled for three minutes from Martindale's oxygenator the arterial pressure rises, for example, at once to 120 millimetres of mercury, and after ceasing to inhale the gas it remains at that height for fully five minutes, when it falls at the rate of one millimetre per minute, reaching 100 millimetres of mercury in 20 minutes, 80 millimetres of mercury in 40 minutes, and returning to normal in 20 minutes more. Two exudations of lymph of 20 per cent. each take place corresponding with two elevations of the venous pressure which indicate simultaneous augmentations of the capillary pressure. Oxygen differs from all other gases experimented with, in that its effects continue for some time after it has been inhaled (suggesting the initiation of chemical changes in the organism), whereas the effects of other gases cease at once. Besides this, the oxygen blood-pressure curves differ from those produced by any other product with which I have so far experimented.

Carbonic acid.—Having observed that the arterial pressure rises in a room with closed windows and doors in which a lamp or gas has been kept burning for some time, and will at once fall on opening a window or the door, I was led to make a number of observations with the blood-pressure gauge. This work has shown that the instrument affords a ready and practical test of the ventilation of rooms, workshops, places of public resort, railway carriages, &c. For example, while sitting in one of the "Tube" stations the other day I found my arterial pressure 125 millimetres of mercury, whereas before entering and on leaving the station it was 100 millimetres of mercury. Such an observation is easily made and the results obtained are definite. The observer selects a time when his arterial pressure registers 100 millimetres of mercury. He then enters the room or place to be tested; if the ventilation is bad the pressure at once rises 10, 15, 20, or even 30 millimetres of mercury, and if a window be opened or the observer retires from the room the pressure falls at once to the normal figure. There is a quantitative relation between the amount of carbonic acid and the increased pressure recorded. Carbonic acid shuts off tissue lymph like adrenalin (*vide seq.*).

Sulphurous acid, on the other hand, lowers the arterial pressure and when present in the atmosphere along with an excess of carbonic acid it checks or annuls the pressure rise of the latter.

Sulphuretted hydrogen.—When some of the Harrogate Old Sulphur Well water is poured into a basin and the emanations are inhaled the arterial pressure falls (e.g., in three minutes) from 100 to 90 millimetres of mercury and the venous pressure rises from 20 to 35 or 40 millimetres of mercury. This physiological effect is maintained so long as the sulphide gas is given off (an hour or more), and I am disposed to think that the element sulphur is the cause of it, for when this is taken at bedtime (as the compound sulphur tabloid of Sir Alfred Baring Garrod) the arterial pressure is lowered during the following day. Moreover, when half a pint of Harrogate water is swallowed the arterial pressure also falls, but when the sulphide is dissipated (the saline constituents only being left) the water raises that pressure (e.g., in 20 minutes) from 100 to 110 millimetres of mercury. I therefore conclude that the association of the sulphide with the salines is important in regard to the treatment of gouty states by the Harrogate sulphur waters.

The atmosphere of sewers affords some instructive facts in regard to the effect of gases on the blood pressure and the lymph circulation. I have made some preliminary observations on this subject. 12 men employed in the London sewers were selected—fine, healthy-looking fellows, as such men usually are. A shed about 15 yards from the entrance to the sewers was used, at noon, when the blood pressure is normal, for making the observations. Seven of the men had not been in the sewers that morning and their arterial pressure was 100 millimetres of mercury in every case. They were ordered merely to walk quietly about the sewers without working and after stated intervals to return, one at a time, every five minutes. The arterial pressure was found to have increased in every case, that of the first man (15 minutes in sewer) being 108, the second man (20 minutes) 110, and all the others 115 millimetres of mercury. Three men had been working in the sewers all the morning and in their cases the pressure was also 115 Two, without previous observation of the pressure, had been walking about in the sewers for half an hour and in them the pressure was also 115. All the men were ordered to walk about for 30 minutes in the open air after coming out of the sewers and in every case the arterial pressure was then found to be normal (100 millimetres of mercury). The whole of this evidence was consistent in showing that something in the atmosphere of the sewers caused the arterial pressure to rise. That rise was obviously not due to work, for the three workers had no higher pressure than the others, nor was it due to the heated atmosphere of the sewers, for heat lowers the arterial pressure. I do not think it was caused by carbonic acid, for the effect of this gas passes off almost instantaneously on leaving an ill-ventilated atmosphere. Whether the rise be due to marsh gas (methane) or to some other gas can only be settled by an analysis of the sewer atmosphere.

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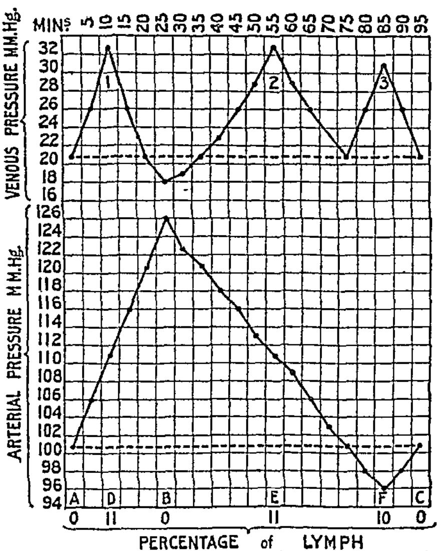
[9] Ueber den Kreislauf des Blutes im Menschlichen Gehirn. Leipsic, 1881.

In making these observations I gleaned a point of medical interest. Though these men who spend eight hours a day in the sewers are strong and healthy, they nevertheless, I am told, become in comparatively early life rheumatic or quasi gouty. The atmosphere of the sewers is apparently a stimulant of the circulation, for it raises the blood pressure, increases the pulse-rate very considerably, and flushes the skin; so that these men who spend a third part of their day in it have their tissues continuously charged with a large quantity of tissue lymph which signifies an excessive supply of pabulum for the maintenance of a high level of nutrition, the unknown emanation in the sewer atmosphere acting as their lymph factor. Hence, probably, the ultimate development of a chronic gouty disposition, just as with others, alcohol or an excess of meat may lead to the same goal. So even from the sewers we may gather a lesson in the pathogeny of gout.

INTERNAL SECRETION.

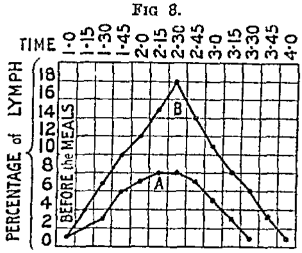
A doubt has been expressed as to whether the physiological effects of thyroid, suprarenal, and other extracts derived from ductless glands—effects established by experiments on animals—are demonstrable in man. That is a view which seems to me to be only accounted for by an unrecognised defect of technique, for ten years ago my first observations on the effects of suprarenal and thyroid were made on man and the results obtained prompted me to a conjoint inquiry with Professor Schafer which satisfactorily established them. Besides this, in the course of the present inquiry I have confirmed in man all the leading results which have been obtained by experimentation on animals with thyroid, suprarenal, pituitary, and testicular extracts. I purpose to do further work in this department and as time presses I will just now merely illustrate the effects of adrenalin and thyroid extract on the blood pressure and the lymph circulation. Fig. 7 shows the pressure curves and lymph exudation from a dose of adrenalin (one and a half tabloids hemisin = 0·00045 gramme adrenalin) and illustrates some of the leading conclusions of this inquiry. The powerful cardiac stimulant effect of adrenalin is indicated by the cardiometric rise of from 20 to 30 millimetres of mercury. As the arterial pressure rises and falls the cardiac excitation expresses itself in two elevations of the venous pressure (1 and 2) which indicate temporary rises in the capillary pressure producing modified exudations of lymph. These effusions, however, are soon absorbed by the rapid fall in capillary pressure (as shown by that of the venous pressure) produced by arteriolar contraction; and at the acme of the effect no lymph is found. An additional fact comes out in man. The rise in arterial pressure is followed invariably by a temporary fall, during which the capillary and venous pressures rise (3) and fresh lymph is exuded which is absorbed as the pressures become normal. The tension test confirms the absence of lymph at A B C and the limited effusions at D E F and shows a large net gain in contractility. You observe that the venous pressure throughout is (relatively to the arterial) reduced. By raising the dose the areas of lowered venous pressure and of the negative reading of lymph increase, and by reducing it the constricting action on the arterioles is subordinated to the cardio-stimulant effect and the capillary and venous pressures do not fall. May not nature adopt the latter course, using this wonderful molecule of adrenalin very sparingly? Should we not take the hint and prescribe it only in such small doses as half a hemisin tabloid (= $\frac{1}{430}$th part of a grain) in the tumbler of water with meals when we wish to secure its restorative effects as a lymph factor? This fact disposes me to think that adrenalin fundamentally

FIG. 7.



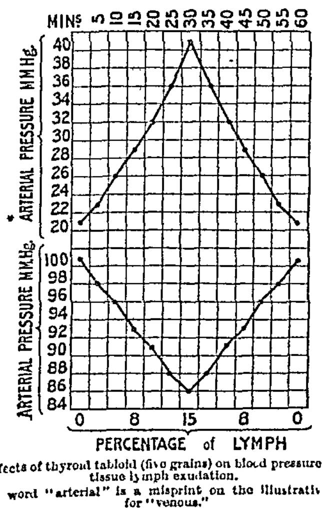
Arterial and venous pressure curves and lymph exudation from hemisin tabloids, Burroughs, Wellcome, and Co. (= 0 00045 gramme adrenalin).

FIG 8.



Lymph curve. A, After ordinary meal with a thyroid tabloid (five grains). B, After ordinary meal only.

FIG. 9.

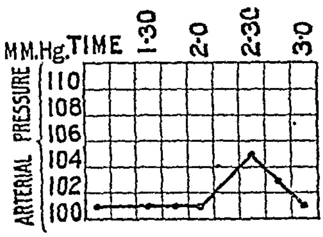


Effects of thyroid tabloid (five grains) on blood pressure and tissue lymph exudation.

* The word "arterial" is a misprint on the illustrative block for "venous."

stimulates the heart muscle more than the peripheral muscular fibres. Fig. 8 shows the effect of a tabloid of thyroid extract, five grains (Burroughs, Wellcome, and Co.), taken with an ordinary mixed meal. B is the lymph exudation produced by the meal without the tabloid and A with it. This limiting effect on the digestive lymph flow suggests why thyroid extract is often useful in reducing weight in obesity. In *Fig. 9* are recorded the arterial and venous pressure curves produced by thyroid extract. The cardiometric use of the pulse gauge shows that it is a cardiac depressant. Adrenal and thyroid extracts, taken together, neutralise each other's effects. In the example given in Fig. 10 the vaso-contraction of the adrenalin towards the end of the observation just overbalances the vaso-relaxant effect of the thyroid.

FIG. 10.



Purin- and salt-free meal, with hemisin (= 0 00045 adrenalin) and thyroid tabloid (five grains).

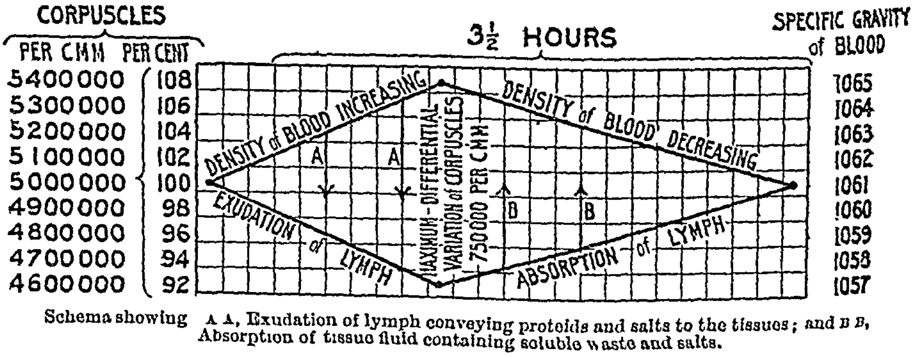
TEMPERATURE.

Warmth reduces vaso-motor and cardiac tone; it lowers the arterial pressure and the capillary and venous pressures rise. Its effects resemble those of sleep and thyroid. Cold increases vaso-motor and cardiac tone; it raises the arterial pressure and the capillary and venous pressures fall relatively to the arterial and then absolutely. It therefore acts on the lines of adrenalin. The amount of lymph is proportionate to the rise of capillary pressure.

GRAVITATION.

Is the lymph circulation, like the blood pressure, affected by gravity? If it were a certain amount of œdema would be normal and we know that this is not so. Although the toe does not lend itself to compression so satisfactorily as the finger I have succeeded in making several reliable observations which show that samples of blood derived from the toe before and after compression yield exactly the same differences as those furnished by the finger, proving thus that there is no such thing as physiological œdema.[10] How is this? It is obvious that we must take into consideration some other factor in lymph production besides the blood pressure. Professor E. H. Starling of University College has shown that that factor is the difference of permeability in the capillary wall. He has demonstrated that the permeability of the capillaries of the liver and intestines is much greater than that of the limbs, and of the former the hepatic capillaries are more permeable than the intestinal. In like manner my observations suggest that there is a difference between the permeability of different districts of the systemic capillary area, so that the effect of the blood pressure on the lymph flow is made uniform by differences in the permeability of the capillary wall.

FIG. 11.



Schema showing A A, Exudation of lymph conveying proteids and salts to the tissues; and B B, Absorption of tissue fluid containing soluble waste and salts.

IS TISSUE LYMPH A SECRETION OR AN EXUDATION?

Many physiologists believe that lymph is a secretion product and I should like to refer you to a *résumé* in favour of that view in the recently issued excellent translation of the work of Poirier, Ciméo, and Delamere on the lymphatics by Mr. Cecil Leaf. On the other hand, the old pressure theory of Ludwig still survives and no one has done more valuable work in support of it than Professor Starling whose results,[11] with those of Baylis,[12] Lazarus-Barlow,[12] Leathe,[12] and Tubby,[12] should be thoroughly studied by every one who aspires to a sound view on this question. All my observations support the conclusion that tissue lymph is a filtrate or pressure product. But I can fancy someone asking, "Is not the digestive lymph effusion, concurring as it does with the flow of gastric juice, an evidence of the secretion theory?" I will therefore try to answer this question.

Pawlow has shown most clearly in his experiments on sham feeding in œsophagotomised dogs that the secretory activity of the gastric glands mainly and primarily depends on the psychical influence of appetite, and that contact between the food and the stomach wall only indirectly brings that activity into play by awakening or increasing a desire for food. Now, all my observations on the digestive lymph differences clearly show that the rôle of the psychical element is subordinated to that of the ingestion of food, for I have never found that an appetite, with food in sight, is of itself sufficient to cause the slightest flow of lymph. Moreover, my observations clearly indicate that the only substances which excite that flow are those food elements and foodstuffs containing them which raise the capillary blood pressure, whether these materials be pleasant to the palate or otherwise. Furthermore, many investigators have injected strong meat extracts per rectum into animals without detecting the least sign of gastric gland activity,[13] whereas I have found that rectal injections in man of beef extracts and of other physiological products which raise the blood pressure cause the same flow of tissue lymph as when the extractives are swallowed. From this fact we may conclude that the chemical excitants of the gastric glands act, as Pawlow believes, on the peripheral afferent nerve endings in the stomach and thus reflexly stimulate the glands; and that, on the other hand, the active principles which produce the lymph flow must first be absorbed into the blood so as to raise the blood pressure before they can create that flow. I think that this position is of practical interest in showing how rectal feeding may nourish the body by inducing a flow of tissue lymph, even though gastric digestion be for the time in complete abeyance. We may therefore conclude that though these two events (the gastric secretion and the lymph effusion) are associated when digestion is going on they are nevertheless distinct processes, one being a secretion primarily under psychical control, though amenable to special stimuli acting on the gastric nerve centres; and the other an outflow into the interstitial spaces induced, not only by digestion, but by exercise, sleep, or any of the physiological products submitted to observation in this inquiry.

IS THERE AN INTERMEDIARY CIRCULATION?

The rapid removal of lymph from the tissues when the muscles are at rest, for example, after exercise and on awaking from sleep, suggests absorption rather than transmission by the lymphatics. Therefore, I think, there is evidence in support of a circulation of fluid independent of the lymphatic circulation, though controlled by the capillary circulation, of which it may be said to be an extension.

There is not time to discuss the forces involved. The best account of them as at present known is that given by

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[10] At one time I thought that physiological œdema was not improbable. See Croonian Lectures, 1896.

[11] Text-book of Physiology, by Professor Schafer, F.R.S., &c., vol. I.

[12] Journal of Physiology (Cambridge and London), vols. xvi. and xix.

[13] Pawlow: Op. cit., p. 103.

Professor Starling.[14] Ludwig pointed out that the prime factors in the effusion of lymph are filtration and diffusion. My observations refer only to filtration and they a[illegible] such a schema of the intermediary circulation as is [illegible] sented in Fig. 11, which shows the mechanism, [illegible] were, for the supply of pabulum to the tissues (A A) and for the removal of soluble waste from them (B B). The view there represented explains why the ingestion of food restores the tissues at once and long before the food itself can be assimilated into the blood. The exhausted tissues have not, therefore, to remain unsupplied until the food becomes part of the common store of pabulum which the blood keeps ready for distribution. Each supply of food may be viewed as a deposit paid to our banking account; but it is not merely a deposit, for nature combines with it a cheque for payment; the banker, therefore, is compelled to reimburse at the same time that he receives, so that the balance is kept fairly uniform. But nowadays in our strenuous preoccupation we too often rely solely on the seductive cheque, forgetting the necessary deposit, and so living on the blood itself the balance dwindles.

In normal subjects each effusion of tissue lymph is intermittent, rising out of, and subsiding into, an apparently lymph-free state of the tissues when the capillary blood pressure (as indicated by the venous pressure) touches its minimum point. Probably at such times some trace of tissue fluid is actually present but insufficient to be made apparent by the ordinary use of the differential test. Extended observation has demonstrated that this intermittent discharge and absorption of tissue lymph become remittent in a large number of cases in which the capillary blood pressure is persistently raised; when, in fact, the intermediary circulation is thrown out of gear.

SOME PRACTICAL DEDUCTIONS.

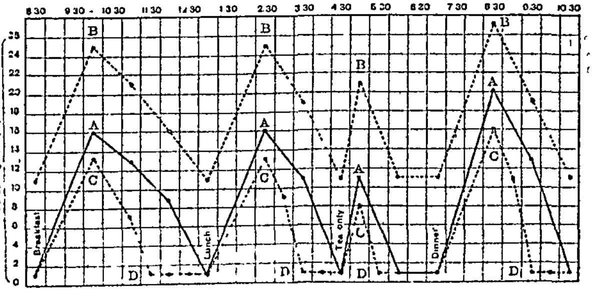
I am fain to hope that this inquiry enables us to recognise some order in the normal reactions of the blood pressure and lymph circulation to the leading physiological conditions, and that it provides us with a somewhat clearer notion when the normal blood pressure can be relied on as a good base line remaining uniform for experimental and comparative clinical determination. Extended observation has shown that at such times the blood pressure is much more uniform than is usually supposed, and that disregarding physiological variation greatly impairs the precision and accuracy of the clinical determination of it. In the ordinary course of work, where observation cannot be made at the most reliable time (within an hour before a meal), I have found the following rule useful as a correction to the disturbing effect of digestion on the arterial pressure: to deduct from a pressure observed in the first hour 15 millimetres of mercury, in the second hour ten millimetres of mercury, and in the third hour five millimetres of mercury.

Clinical work has shown that we meet with two great departures from the normal condition of the circulation—one in which there is a hypotonic and the other a hypertonic state of the vaso-motor mechanism. The former is characterised by splanchnic stasis, which, in the active postures of the body, diminishes the systemic blood pressure and the flow of tissue lymph dependent on it. You know, of course, that as physicians we speak of the blood pressure as synonymous with the arterial pressure, for this pressure is the most important from the clinical standpoint; but the capillary is the working physiological blood pressure, for the arteries and the veins are but conduits for the passage of the blood to and from the seat of the metabolic traffic—the capillaries. Now this functioning pressure in the systemic districts of the body is lowered (relatively to the arterial pressure or absolutely) in all hypotonic states and the obvious indication is to raise it, as by the ingestion of those foodstuffs richly endowed with lymph factors and to guard against further splanchnic vaso-dilatation by limiting exercise and prolonging the intervals of rest.

The hypertonic state of the circulation is found in many acute and chronic ailments. When persistent it includes [illegible]es, some (such as chronic [illegible]) the outcome of organic [illegible] the product of toxæmia. The last section embraces the majority of cases belonging to that large class of ailments which we call gout, a term regarded by some as a convenient label for a sort of rubbish-heap of nondescript ailments. Having, however, devoted many years to the study of the circulatory facts presented by gouty subjects (some hypotonic but the majority hypertonic), I am satisfied that we have in these facts faithful indications of the operation of a common cause which links these cases together; chronic goutiness has, therefore, grown more and more real to me as inquiry proceeded. There is not time to discuss the causation of gout, but I should like to ask you to imagine what would happen to the normal alternations of the circulation of blood and lymph which I have described were the digestive exudations made to overlap by an excess of the exogenous lymph factors. Would not the blood pressure gradually rise until at last the intermittent subsidences to normal before each meal ceased to recur; and would not consequently the absorption of tissue fluid be checked and the tissues become continuously charged with it? This is, indeed, the position which has been demonstrated by ample clinical observation (Fig. 12, B). In the hypotonic states (e.g., neurasthenia, phthisis, &c.) the effusions of tissue lymph are diminished (Fig. 12, C). Hence the value of forced feeding, and especially meat feeding, which charges the tissues highly with lymph, as in goutiness. Many clinicians (Dr. J. E. Pollock, Sir Dyce Duckworth, Sir Hermann Weber, and Dr. F. Parkes Weber[15]) believe that gout is antagonistic to phthisis. For long I have held that view.

This inquiry, I think, affords a few suggestions on the dietary of gout, with the view of controlling and limiting the excess of exogenous lymph factors. This excess, we must remember, will be determined by the eliminative power of the individual and by the activity of his endogenous production of lymph factors. Dr. I. Walker Hall[16] has published estimations of the purins contained in the various meats which he has analysed and I calculate from his data the following averages: for white meats or fish (rabbit, veal, chicken, turkey, cod, plaice, and halibut), 0·1012; for mutton, 0·1025; and for beef, 0·1502. So it seems that we are wise in preferring mutton to beef, but I doubt if we gain much by selecting roast white meats only. Boiling the meat and excluding the broth are far more effectual in limiting the digestive lymph wave than taking roast white meats, and in this way even beef may be made less harmful for the gouty than roast chicken or fried white fish. Patients will often say, "I have faithfully carried out my doctor's orders. I have lived on white meats, never touching beef or mutton, and here I am as gouty as ever. Is

FIG. 12.



Typical digestive waves of tissue lymph. A, Blood pressure normal. B, Blood pressure super normal. C, Blood pressure sub normal. D, Zero points of lymph.

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[14] Schäfer's Text-book of Physiology, vol. i.

[15] Remarks on the Relations of Pulmonary Tuberculosis to other Diseases by F. Parkes Weber, M.D., F.R.C.P., THE LANCET, April 2nd, 1904, p. 924.

[16] The Purin Bodies of Foodstuffs and the Rôle of Uric Acid in Health and Disease, by I. Walker Hall, M.D., pp. 39-49.

it not clear that diet does not control gout?" One then goes into particulars and soon finds an explanation of the enigma. It is discovered that the proportion of the foodstuffs more highly charged with purin bodies, as compared with those containing smaller quantities of these bodies, has not only not been reduced but has actually been increased, this result having been attained by withdrawing the carbohydrate foodstuffs, such as potatoes, rice, tapioca, fruits, and sugar, which (except perhaps sweet fruits containing lævulose) have yet to be proved to be injurious in the gouty state. Dr. Walker Hall shows[17] that the following are free from purins: eggs, white bread, rice, tapioca, and green vegetables (cabbage, lettuce, cauliflower), and that potatoes, butter, and cheese are practically free. These are all valuable constituents of the somewhat limited dietary of gout, and I have moreover proved that they cause no reaction in the circulation. On the other hand, gravies and the meat extracts (so frequently used in cooking) produce large exudations and should be prohibited or should be greatly limited.

My experience shows that an excess of sodium chloride makes all forms of dietary in gout futile. I have often been struck with the great liking for salt which gouty subjects develop, especially when over 60 years of age, and as often have I been gratified by the favourable results obtained by prohibiting unboiled salt meats and limiting the supply of salt, or combining it with potassium chloride, or substituting potassium chloride for it. I have found that all alcoholic beverages (except gin) increase the amplitude and duration of the digestive lymph waves—brandy, wines, and malt liquors being the most active of these lymph-pressor agents. This greater activity is apparently due to alcohol and its congeners and not so much to the purins—for wines are free from these bodies, and lager beer, pale ale, and porter do not contain very much of them.[18] Whisky is much less lymph pressor, and gin when taken with food actually reduces the lymph exudation (e.g., from 20 per cent. to 12 per cent.) and should therefore prove useful in most forms of hypertonia.[19] The methyl purins of tea, coffee, and cocoa, so valuable in health, probably play their part in increasing the continuous charge of tissue lymph in gout; but I think they are much less active than alcohol and its congeners in spirits, wines, and malt liquors.

According to my experience, when in a case of gout the diet has been properly adjusted the normal intermissions in the tissue lymph circulation are restored; there is then no longer need for further restrictions and it is rarely necessary to make the dietary irksome—if only the rules imposed are faithfully observed.

NEW REMEDIES SUGGESTED BY THIS INQUIRY.

This inquiry has suggested the use of some of the organic products I have experimented with as remedies. Though I have only so employed them in a tentative way the results encourage me to prescribe them and perhaps others may also like to do so. They are all prepared as tabloids by Messrs. Burroughs, Wellcome, and Co. Two are vaso-dilators—ammonium hippurate and lichenin; the last body is a polysaccharide obtained from Iceland moss and certain algæ, and must be a sugar of a remarkable chemical constitution. After the immediate effects of a dose (two grains) of the hippurate, lasting about an hour, have passed away, the vaso-motor mechanism is impressed by it for fully 24 hours; in normal subjects the arterial pressure during that time falling five millimetres with a corresponding rise in the venous pressure. Witte's peptone is the only other agent I know which produces a similar lasting effect on the circulation. So far I have prescribed the hippurate only once a day, and the results in reducing the arterial pressure and in improving the general health and well-being have been excellent.

The other products, glycogen and lævulose, exert a contrary effect. Glycogen is made up in one-grain tabloids. At present it is somewhat expensive but its physiological effect is so decided as a vaso-tonic and renovator of muscular contractility that I anticipate it will prove a useful restorative in hypotonic conditions (neurasthenia, phthisis, &c.). The saccharide lævulose is also promising in the same direction. Hugo Weber[20] last year published some striking curative results in the treatment of phthisis in which lævulose produced a very pronounced gain in weight. It is made up in ten-grain tabloids, of which two or three can be taken with food.

I have also made observations (physiological and clinical) on the effect of Witte's peptone. Knowing the work that has been done showing the backward conversion of peptone by the alimentary mucosa I did not expect to find any alteration of the blood pressure from the ingestion of this product. Though observation contradicts this anticipation I do not, however, think that the results are due to peptone at all, for they are not produced by commercial peptone. I suspect that they arise from the presence of amido acids, for I find that leucine and tyrosine, and especially leucine, are much more active vaso-dilators than Witte's peptone. Moreover, these ultimate products of proteid cleavage would not be intercepted or transformed by the gastric mucosa.

The physiological action of peptones and proteoses on the vaso-motor system and the urine has been well worked out by Professor W. H. Thompson.[21] Witte's peptone contains very active constituents and the tabloids which I have used are in grades of one-quarter, one half, and one grain. No disturbing effects of any kind have been observed to follow the one grain dose, but as the effect on the vaso-motor mechanism seems rather to increase than to diminish with the continuance of the remedy smaller doses suffice to maintain it. Hitherto I have prescribed it only once a day and when the arterial pressure tends to fall to 100 millimetres of mercury I have given it every other day or substituted a smaller dose of it or of ammonium hippurate for continuance. In one case the arterial pressure which was 148 millimetres of mercury (and had been for some years from 140 to 150 millimetres of mercury) gradually subsided under the daily dose and at the end of a week it was normal, and remained normal with the same dose three times a week. The improvement in the patient's general health was marked. I have obtained similar results with half a grain and even quarter of a grain doses in cases in which the rise of the arterial pressure was somewhat less than this. I am hoping that we may find in this substance or in ammonium hippurate or in the amido acids a long-felt clinical want supplied—namely, a remedy possessing a vaso-dilator action less fleeting than that of the nitrites which are so valuable for emergencies.

Want of time prevents me from bringing before you several other branches of this subject, such as the effects of tobacco smoking, of the important physiological products choline and neurin, and of various drugs on the tissue-lymph circulation. Moreover, I have been unable to touch on the obvious bearing of this study on our knowledge of œdema simple and inflammatory. There is much more work to be done, but meanwhile let me briefly summarise a few provisional conclusions.

1. Tissue lymph is intermittently effused, for example, after the ingestion of food, during exercise, rest after exercise, and during sleep.
2. The rapid effusion and removal of it in states of rest suggest the probability of a circulation between the blood and the tissue spaces—a circulation independent of the lymphatic circulation.
3. The apparent physiological intent of the effusion is reparative and that of its absorption is the removal of tissue waste.
4. The normal intermittency of the fluid exchange becomes in many pathological conditions less and less complete.
5. By studying the conditions which increase or decrease lymph effusion we ought to gain a clearer insight how to control derangements of nutrition and metabolism.

CORRIGENDA.—In Lecture I., p. 1176, first column, ninth line from top, read "between two pressures higher than the normal capillary pressure." P. 1177, second column, twenty-sixth line from top, read "very often go together."

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[17] Op. cit.

[18] Dr. Walker Hall: op. cit.

[19] Since this lecture was delivered I have ascertained that gin owes this exceptional property to the juniper it contains.

[20] Zeitschrift fur Tuberculose und Heilstattenwesen, Band iv., No. 6.

[21] Journal of Physiology, Cambridge and London, 1896, 1899, and 1900

CROWNHILL CONVALESCENT HOME.—The annual meeting of the subscribers to the Crownhill Convalescent Home, near Plymouth, was held on April 29th under the presidency of Mr. W. Bastard. The report stated that 268 patients had been admitted during 1903. The financial statement showed that there was an adverse balance of £29. The home has now been established 20 years. Sir Massey Lopes has recently given £500 towards the endowment of the institution.

ABNORMAL MUSCULAR CONTRACTIONS.[1]

BY E. NOBLE SMITH, F.R.C.S. EDIN.,
SENIOR SURGEON TO THE CITY ORTHOPÆDIC HOSPITAL, LONDON.

I DO not propose to trouble you with a dissertation on the whole pathology of abnormal muscular contractions but I would introduce my subject by referring to the various heads under which these contractions may be ranged. We may divide the whole subject into two classes of causes: (1) causes originating in the nervous system; and (2) causes originating in the muscles themselves. In the first class we may make the following divisions:—A. Conditions inducing active spasms of muscles. These may be congenital or acquired. Of the acquired class we have: (*a*) permanent spasm resulting from disease of the brain (as in the "late rigidity" of hemiplegia); (*b*) permanent spasm arising from disease of the spinal cord (as in spastic paraplegia or as in lateral sclerosis, or temporarily and of a spurious character, as in Pott's disease); (*c*) permanent spasm due to lesions of the trunks of nerves (as sometimes occurs after facial paralysis); (*d*) hysterical spasm (spastic club-foot may occur); (*e*) tetanic contraction; (*f*) permanent spasm arising from reflex causes; and (*g*) permanent tonic spasm arising from causes of nervous origin but not included in the above (as in spasmodic torticollis). B. Conditions leading to passive contraction of muscles without spasm. These also may be congenital or acquired. To the former it is supposed by some that ordinary club-foot belongs, although it is quite possible that these congenital cases may have commenced as spasmodic nerve contractions. Of the latter we have (*a*) those cases due to unbalanced action of groups of muscles where the antagonistic groups are paralysed (as in infantile paralysis); and (*b*) those due to the maintenance of a paralysed limb in a shortened position for a considerable time by spasm (this is the most frequent condition in acquired club-foot). I will now deal briefly with the several examples which I have referred to in the foregoing outline of causes.

Pott's disease.—It will probably suffice if I quote the remarks which I have made upon this subject on p. 28 of my small work "Paralytic Deformities of the Lower Extremities": "Spastic contraction of the flexors of the lower extremities in patients affected with caries of the spine denotes an extension of inflammatory mischief, pressure upon the spinal cord and consequent myelitis. However severe the contraction may be, tenotomy is inappropriate so long as spasm, denoting an active condition of caries, remains. Pressure on the cord from an abscess may sometimes necessitate the performance of laminectomy, but as a rule the spasmodic contractions resulting will subside under efficient fixation and general treatment. When, however, the active caries has been subdued and consolidation of the bones has taken place, then, if permanent contracture remains, it will be necessary to perform tenotomy, particularly of the tendines Achillis."

Hysterical spasm.—It would be difficult to define the nature of hysterical spasm. When one part of the body, such as a foot, is held constantly and rigidly in one controlled position I doubt very much if hysteria will altogether account for the distortion. One of the most markedly hysterical young women I ever saw was sent to me with severe talipes equinus for operation. I recognised this as a hysterical case and declined to operate. I treated her by the Weir-Mitchell system, the foot receiving particular attention from the masseuse. At the end of six weeks the patient was greatly improved as regarded her general condition and the spasm of the foot had relaxed, but there was then revealed a permanent shortening of the calf muscles causing a certain degree of contraction of the foot, but nothing like the amount which had formerly existed. I then divided the tendo Achillis and restored the part to a normal condition and there was no more trouble with the foot. In hysteria we more often find an exaggeration of symptoms, perhaps a gross exaggeration, than a mere simulation. In other words, there is generally some reality underlying the neurotic element.

Spasmodic torticollis.—This affection is characterised by almost constant spasmodic action of the sterno mastoid of one side only. In a few cases the muscles on both sides are affected. When these spasms have continued for many months or years the posterior cervical muscles, especially the splenius capitis, also become involved in the morbid action. This happens on the other side to that of the acting sterno-mastoid. There are other varieties which I have described in my pamphlet upon this subject.[2] In that publication I showed that treatment by drugs had always failed to cure the affection and I therefore advocated operation. Campbell de Morgan of Middlesex Hospital in 1866 divided the spinal accessory nerve and cured a severe case, but no other surgeon so far as I know had since then repeated the operation until I resuscitated this treatment. In 1880 I wrote a letter[3] recommending this procedure. On April 22nd, 1890, having previously stretched the nerve, I operated on my first case. I first published a statement of this case in April, 1891.[4] In this case I subsequently (May 28th, 1890) excised pieces from the external branches of the posterior divisions of the second, third, and fourth cervical nerves and cured the patient. At this time there was no record of operation upon the posterior cervical nerves having been carried out and if my paper had been published when it was received it would have been the first published case. The pressure on the space of the journal in consequence of Koch's discoveries regarding his treatment of tuberculosis delayed the publication of my paper for six months and just before it appeared Keen of America reported a similar operation performed by himself. I have operated 16 times and in every case a satisfactory result has taken place In several instances (and it may be in all) the nerve has reunited after a certain period from six months onwards and the function of the sterno-mastoid has been restored without any return of the spasm. Not only have the spasms been removed by these operations but there has been no permanent weakness produced by the paralysis of one sterno-mastoid and no deformity has resulted from the loss of action of this one muscle, although the contrary has been stated upon theoretical grounds as being sure to result. There can be no doubt that the other numerous muscles of the neck keep the head straight.

Congenital and acquired club-foot.—It will doubtless serve the purpose of this paper if we discuss the treatment of congenital talipes varus or equino-varus only, this form of club-foot being the most common and characteristic of all. The treatment of club-foot in the past—I mean subsequently to the introduction of tenotomy and before the time of osteotomy—consisted in continued pressure by means of splints and surgical boots and the division of resistant tendons and fasciæ. This procedure was very slow and tedious to both patient and surgeon. One very important detail of the method was to defer operation on the tendo Achillis until the varus part of the deformity (the turning in of the front part of the foot) had been thoroughly overcome and this procedure continued to be of the greatest importance. The fixation of the heel in a contracted position caused by shortening of the calf muscles gives the surgeon great leverage power in his endeavours to draw the forepart of the foot into a straight position. When this varus deformity had been entirely overcome the equinus which remained was easily removed by division of the tendo Achillis and careful after-adjustment to insure a correct lengthening of the tendon. The treatment as thus briefly sketched occupied nearly the whole period of growth, for although the more active interference took from three to six or eight months the patient had to be under occasional observation for several or many years and would probably during that period have to wear some kind of retentive apparatus.

Osteotomy.—Upon the introduction of osteotomy it was thought that a solution of the difficulties and the removal of the tediousness of the previous treatment of club-foot had been discovered. The removal of a wedge of bone or the ablation of separate bones from the tarsus and the immediate placing of the foot in a comparatively straight position, it was [illegible] ire. It was said to be [illegible] it really seems to be, [illegible] tly removed the struc- [illegible], in fact, is a mutilation of the foot and the joints become more or less ankylosed and useless. The patient may be able to place his foot or what remains of it flat upon the ground, but he loses that exquisite elasticity with which nature has endowed this human member. I have seen a great number of cases exhibited at various societies as examples of the success of osteotomy but I have always considered them examples of the failure of that operation. The patients have moved about with what we may call stumps instead of natural feet.

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[1] A paper read before the Chelsea Clinical Society on Feb. 16th, 1904.

[2] Spasmodic Wry [illegible]

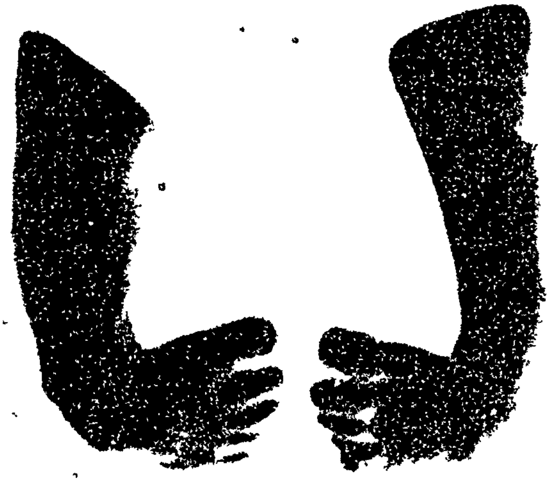
Another operation advocated for this deformity is subcutaneous division of all the soft tissues on the inner side of the sole down to the bones (Buchanan's operation). Regarding this procedure I may quote the late Mr. W. J. Walsham, whose opinion I think was always sound and unbiased. He adopted this procedure in a few cases and he states: "At the time of the operation the shape of the foot was certainly much improved and no apparent harm followed the division of the nerve and artery. We were disappointed, however, with the result, and in one case had subsequently to remove the astragalus." Then, again, we have subcutaneous division of all the soft tissues in the sole of the foot and behind the internal malleolus. I again quote Mr. Walsham who wrote: "This operation does not commend itself to us. The severance of the whole of the arteries, nerves, muscles, fasciæ, and ligaments in the sole of the foot, as well as the whole of the soft parts behind the inner ankle, together with the tendo Achillis and posterior ligament of the ankle, appears to us a very severe and, we are tempted to say, not a very scientific procedure." With the opinion thus expressed by Mr. Walsham I entirely agree.

Another operation which has received much attention is the open incision of all the soft tissues on the inner side of the foot down to the bone (Phelps's operation). The late Dr. A. M. Phelps of New York devised and brought this operation before the medical profession in 1881, since which time it has been largely adopted by general surgeons in this country. At the annual meeting of the British Medical Association at Ipswich in 1900 Dr. Phelps was present and advocated his method of operating. At that meeting I, as well as other surgeons connected with our London orthopædic hospitals, expressed an opinion adverse to Dr. Phelps's operation for the following reasons. That any improvement that may be effected in the position of the foot at the time of operation will have a tendency to relapse as the parts heal and contract. Just as in the case of severe burns accompanied by great loss of tissue the gap made will recontract unless a plastic operation is performed to fill up the parts which are wanting, so in Phelps's operation the contracted part being divided and separated must close together again. In a contraction from a burn if we cut through the cicatrix and separate the parts, however much we may try to keep them asunder the healing process will reproduce the deformity.

Professor A. Ogston of Aberdeen has devised a much better procedure than osteotomy or the other severe cutting operations which I have referred to. In the case of children in whom the tarsal bones are chiefly cartilaginous this surgeon cuts into the bones separately and scoops out each osseous centre until sufficient is taken away to enable the deformity to be entirely corrected by manipulation. The joints are left intact.

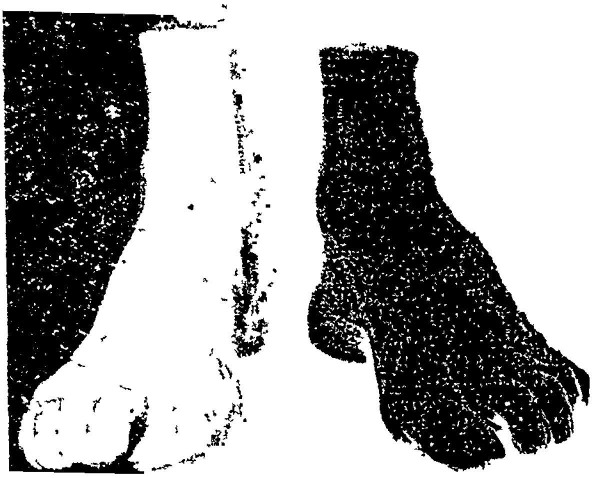
Rapid reduction by moulding.—I will now describe the plan of dealing with club-foot which I think is superior in every way to all other procedures yet described. I must first state that the treatment by manipulation, which I mentioned as being so successful, and the subsequent use of apparatus to keep up the good position until the bones have grown to their natural shape, occupies a considerable length of time—for instance, the case that I exhibited at Ipswich and of which I now give illustrations (Case 1, Figs. 1 and 2) occupied three years in producing the effect shown in Fig. 2. This even did not suffice and it was considered desirable that the boy should continue using a very simple light instrument for several years longer. This treatment is tedious but not so troublesome as may be thought. The principal part is accomplished in the first six months and after that the patient is only seen perhaps at intervals of three or four months. After the age of three years the patient referred to was only seen by me about once a year, until at the age of 15 years the feet were absolutely normal in every respect. In comparing this procedure with Phelps's operation and also with osteotomy we find that even with these heroic methods mechanical support has to be kept up almost if not quite as long as I have indicated even to produce a partial improvement. Now the procedure which I am about to describe is a modification of the treatment by manipulations and immediate reduction after tenotomy which I had practised for a number of years. The modification which I now employ was introduced to my notice by Professor Lorenz of Vienna. As a result of this modification the varus part of the deformity may, in many cases, be overcome at one sitting. Others may take two or more operations at intervals of a few weeks. In every case the foot is put up in a plaster-of-Paris casing, with due precautions against undue pressure, and kept up for some months.

Fig. 1.



Case 1. Cast taken shortly after birth, December, 1884.

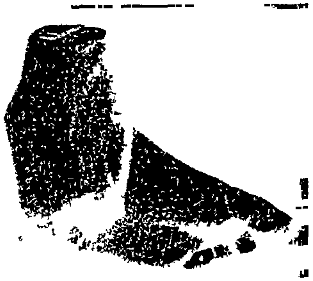
Fig. 2.



Case 1. Cast taken at the age of 15½ years.

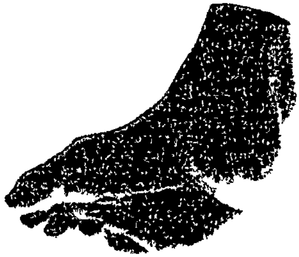
The reduction of club-foot by forcible manipulations is, as I have said, a very old procedure but there is a vast difference in the details of carrying it out. As regards Lorenz's method I have during the past year obtained far better results by this plan than I ever did before. Some surgeons advocate the use of mechanical wrenches and possibly for those operators who do not possess much muscular strength such a method may be necessary, but I am inclined to think that these manipulations are done better with the hands alone. By the latter means we retain more thoroughly the sense of touch, a feeling of give and take which is deficient in using the mechanical wrench. It is not absolute violence which leads to success; it is the steady, persevering, unremitting pressure, constantly varied from one point of bearing to another, which produces the best results Feet which during the first five or ten minutes' working seem hardly to give way at all gradually succumb to the continuous though varied pressure. In former days I used to persevere for perhaps five or ten minutes in trying to correct a foot and then placed it in the best position which could be maintained in plaster of Paris bandages Now I persist for half an hour, three quarters of an hour, or even longer Gradually the parts become lax and softened and one is able to manipulate the foot into any shape one likes It is, of course, tremendously hard work, and the more careful one is to avoid damage, such as deep bruising, the harder the work is

FIG 3



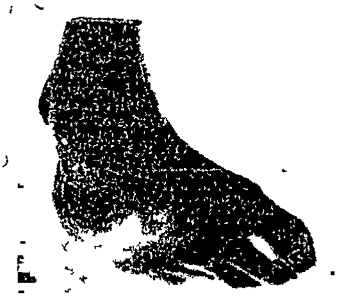
Case 3, aged 12 years Cast of left foot posterior view taken before operation, February, 1903

FIG 4



Case 3, aged 12 years Cast of right foot posterior view, taken before operation, February, 1903

FIG 5

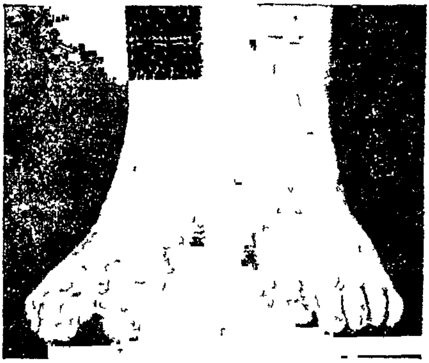


Case 3 aged 12 years Cast of right foot, anterior view taken before operation, February, 1903.

CASE 2 —On March 13th, 1903, I tried Lorenz's treatment in a woman, aged 40 years, suffering from congenital talipes varus, and who walked on the sides of her feet. She had been treated from childhood by several surgeons At the first operation a great deal of the deformity was overcome but having worked as hard as I could for an hour I did not feel equal to do any more, besides I doubt if it would have been judicious to continue the "sitting" The foot was maintained in its improved position by plaster of Paris bandages At the second operation on May 20th, nearly ten weeks after the first, I succeeded in overcoming entirely the varus position Again the feet were secured in plaster of Paris bandages There remained, however, some contraction of the calf muscles and contraction of the toes Therefore on Oct 6th last I divided the tendo Achillis of both feet and the extensors of all the toes This was nearly seven months after the first operation On Dec 28th, 1903 she was able to walk a *mile comfortably* and was *improving daily* She can now walk barefooted with her feet flat on the ground, but she will naturally have to wear light supports for a time

CASE 3 —A male patient, aged 12 years, was admitted to the City Orthopædic Hospital in February, 1903 His feet appeared as shown in Figs 3, 4 and 5 The first operation was performed on Feb 20th, 1903, the second on March 31st, the third on June 3rd, the fourth on July 21st, the fifth on Oct 7th, the sixth on Nov 11th, the seventh on Dec 11th and the eighth on Jan 1st, 1904 The feet now appear as in Fig 6, as shown by plaster casts and the boy can walk without any artificial supports with his feet flat on the ground There is still a slight shortening of the calf muscles which will require section of the tendo Achillis to make an absolutely perfect result, but such result is now certain

FIG 6



Case 3 aged 13 years Cast of feet anterior view each patella facing directly forwards Taken February 1904 one year after first operation

As to the exact changes which take place and allow the foot to be corrected I hesitate to give an opinion. In young children there can be little doubt that the cartilaginous bones become softened and can then be remedied, but in an adult, such as I have just described, the altered position must be chiefly or entirely due to giving way of the restraining ligaments and fasciæ. I must own I was surprised that the feet in the case of the woman aged 40 years should have become firm in so short a time and able to bear the weight of her body In the application of the plaster bandages after reducing the deformity the foot and the lower two thirds of the leg must first be covered cotton-wool bandage as thick as possible consistent with free control of the foot when applying the plaster bandage. Then the wool must be kept in place with a linen roller bandage and over that the plaster-of-Paris bandage is placed. If there is any doubt about the freedom of the circulation a window should be cut through all the bandages over the instep. This window will not only relieve undue pressure but will also enable us to watch the skin at the point where the greatest pressure has been made and to treat any superficial abrasion that may have been produced by the process of reduction. There is generally some pain for the first 12 hours after operation, but if it continues after that period then the window should be enlarged or part of the bandage or the whole must be removed and reapplied. The greatest care must be observed so as not to do damage by an over-tight plaster bandage.

Causes originating in the muscles themselves.—We have one more class of cases to consider, that is, the contraction of muscles from traumatic injury. Time will not allow me to enter fully into this subject. I will merely remark that I have met a considerable number of cases where isolated contractions have been found in various parts of the body, following a blow or some strain of the part. Many of these cases have existed for a number of years and have been treated by massage, electricity, baths, stretching, actual cautery, and blistering, all of which have failed to produce the slightest benefit, whereas subcutaneous section of the contracted muscles has immediately removed the pain and the difficulties of movement. I will give one instance of this. A boy, aged 14 years, was suffering from one of those contractions at the bend of the elbow. It did not interfere with the ordinary movements of his arm but prevented him from bowling at cricket. Being a very good bowler his parents were anxious he should not be further incapacitated from this acquisition. The tight fibres could be felt in front of the internal condyle of the humerus extending upwards, probably the border of the brachialis anticus. These fibres I divided subcutaneously and the difficulty was removed. This was probably the sort of case which bone-setters sometimes cure by violent wrenching.

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MESENTERIC CYSTS.

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ISOLATED cases of mesenteric cysts had been described as early as the seventeenth and eighteenth centuries, but it was not until the latter half of the nineteenth century that any large series of cases was recorded. Even now the number of fully reported cases is not considerable and instances of the occurrence of these curious pathological conditions of the mesentery seem worthy of being placed on record. A good deal of light has of late years been thrown upon their origin but the text-books still contain little information upon the subject, and before proceeding to describe a case which I had the opportunity of observing it may be of interest briefly to review the present state of our knowledge.

The occurrence of various varieties of mesenteric cysts had long been recognised, but Hahn[1] in 1887 may be said to have been one of the earliest writers to publish a series of cases of sufficient number to justify an attempt at their logical classification. He divided mesenteric cysts into (1) sanguineous cysts; (2) chyle cysts; (3) serous cysts; and (4) echinococcus cysts. Braquehaye[2] shortly afterwards published a *résumé* of the subject and extended Hahn's list by adding to it: (1) congenital cysts (comprising chiefly dermoids but occasionally also cysts arising from the Wolffian body) and (2) cysts of the adjoining organs encroaching upon the mesentery. At the same time he proposes the term "lymphatic cyst" to include the chyle and most of the serous cysts. The list was from time to time still further amplified, as when Moynihan[3] included cases of (1) cystic malignant disease and, in a later paper,[4] (2) cysts with walls the structure of which resembles intestine. This classification was widely accepted until Dowd[5] in 1900 reviewed the whole subject and suggested a simpler and more rational classification in which all forms of mesenteric cysts were divided into three classes: (1) embryonic cysts; (2) hydatid cysts; and (3) cases of cystic malignant disease. The older classifications in the main were based simply upon the examination of the contents of the cysts or upon the structure of their walls. That suggested by Dowd, upon the other hand, is based upon the study of the origin of the cysts.

It had long been known that cysts of congenital origin occasionally were found in the mesentery. Cases of true dermoid cysts had been recorded by the earliest writers on the subject. Cohnheim attributed the origin of these dermoid cysts to the inclusion of aberrant portions of the ectoderm within the ovary in early fœtal life, and for a long time it was believed that all mesenteric dermoid cysts sprang from the ovary and only secondarily became mesenteric. This view seems to be disproved by Langton's case,[6] in which there were three dermoids—one in each ovary and one in the mesentery. The occasional occurrence of congenital mesenteric cysts in connexion with the Wolffian structures was also recognised a number of years ago. Later, when cysts were described with walls the structure of which resembled that of intestine, Brentano,[7] in 1895, hazarded the opinion that in some cases the origin of mesenteric cysts, apart from the occurrence of true dermoid cysts, must be ascribed to some congenital aberration. Eve[8] three years later more definitely expressed the view that such cysts were derived by some irregularity of development from the mesoblastic portion of the intestinal tube. The origin of certain varieties of mesenteric cysts was thus fairly well understood.

The great difficulty lay with the chylous and serous cysts. Rokitansky[9] as long ago as 1842 taught that mesenteric cysts originated in the lymphatic glands by the dilatation of lymph spaces into cavities which subsequently become transformed into single thin- and thick-walled cysts. Many years later Virchow[10] also expressed himself as inclined to attribute the origin of mesenteric cysts to degenerative processes in the lymphatic glands. The same theory was strongly supported by Pagenstecher[11] on the grounds of the discovery by himself and certain other observers of glandular tissue in the walls of some mesenteric cysts. He regarded the degenerative process leading to the formation of cysts as a chronic inflammatory hyperplasia characterised by hyaline changes and softening and believed the whole to be of tuberculous origin. Hahn[12] had somewhat earlier expressed the view that mesenteric cysts might arise not alone from changes in the glands themselves but also from the blocking of lacteals and chyle ducts. This view, which appears at the time to have found wide acceptance, was later corroborated by Carson[13] as the result of an analysis of 11 cases and as recently as 1901 found an advocate in the person of Blum.[14]

Dowd, in the admirable paper above referred to, recast the hitherto accepted views by showing that with the exception of parasitic cysts and cases of cystic malignant disease all forms of mesenteric cyst are embryonic in origin. Moynihan[15] states that congenital remnants of the Müllerian and Wolffian ducts and bodies and of the vitelline duct are regularly found between the layers of the mesentery. It seems probable that, as Dowd suggests, most mesenteric cysts are derived from the inclusion in the tissues of portions of these structures. In view of the rich anastomosis of the chyle vessels and of the fact that ligaturing the thoracic duct or its radicles does not produce the formation of cysts, it is highly improbable that mesenteric cysts should be the result of the occlusion of lacteals. Further, Pagenstecher[16] and others have described chyle cysts lined with epithelial cells. This could scarcely have been possible if the cysts had arisen, as was suggested by Rokitansky, from the dilatation of lymph spaces in the glands of the mesentery. The so-called "chyle cysts" therefore probably are embryonic cysts situated in such close relationship to the lacteals that chyle has been infused into them. "Serous cysts" are likewise preformed cysts of embryonic origin, closely corresponding in their structure and contents to those forms of ovarian and parovarian cysts which contain serous fluid. "Sanguineous cysts," which were formerly believed to be either the result of bleeding or traumatism of the mesentery, or of hæmorrhage into pre-existing chyle or serous cysts, are apparently preformed embryonic cysts into which hæmorrhage has taken place. Dowd believes that "cysts with walls which suggest intestinal structure" are probably derived from sequestrations or diverticula from the intestine. "Dermoid mesenteric cysts," which may show a structure exactly similar to that of the ovarian cystadenomata, are probably derived from the sequestration, during the early period of development, of portions of the ovary or parovarian body.

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[1] Berliner Klinische Wochenschrift, 1887, p. 408.

[2] Archives Générales de Médecine, 1892, tome ii., p. 291.

[3] Annals of Surgery, 1887, vol. xxvi., p. 1.

[4] Medical Chronicle, September, 1902, p. 345.

[5] Annals of Surgery, 1900, vol. xxxii., p. 515.

[6] Quoted by Moynihan, Medical Chronicle, September, 1902, p. 345.

[7] Berliner Klinische Wochenschrift, 1895, p. 400.

[8] Transactions of the Royal Medical and Chirurgical Society, 1898, vol. lxxxi., p. 51.

[9] Lehrbuch der Pathologischen Anatomie, Band iii., p. 173, 1842.

[10] Berliner Klinische Wochenschrift, 1887, No. 14.

[11] Ibid., 1895, p. 911.

[12] Ibid., 1887, p. 408.

[13] Journal of the American Medical Association, 1890, vol. xiv., p. 674.

[14] Wiener Klinische Wochenschrift, 1901, Band xiv., p. 1179.

[15] Annals of Surgery, 1900, vol. xxxii., p. 515.

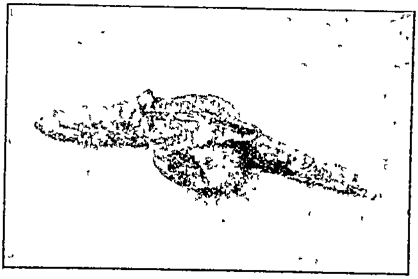
[16] Loc. cit.

In a word, then, all these cysts of the mesentery are preformed and of congenital origin, whilst the nature of their contents is largely a matter of chance. This view has since been accepted by Moynihan,[17] Fawcett,[18] and other recent writers on the subject. It seems to offer the most satisfactory explanation of the occurrence of mesenteric cysts.

Description of a case of mesenteric cyst.—The patient whose case I had the opportunity of observing was a female infant, aged eight months, who was admitted to the Hospital for Sick Children, Great Ormond-street, on Nov. 12th, 1902, as a case of intussusception. The mother stated that the baby had been in good health until Nov. 9th, when she began to vomit and seemed out of sorts. The sickness continued at intervals that day and the next. On the 11th the child grew very collapsed and the vomiting became almost constant. The mother now noticed that the vomited matter was brown and smelt like a motion. This state of affairs continued until the 12th when the child was seen by a medical man who diagnosed intestinal obstruction and at once sent the child to the hospital. Questions as to the condition of the stools elicited the fact that nothing had been evacuated from the bowels since Nov. 8th, when a normal motion was passed. No mucus or blood had been passed per rectum. Up to the onset of the present illness the child, who was breast-fed, had enjoyed good health. The patient, who was a fat, well-nourished infant, was admitted in an extremely collapsed condition. The abdomen was tumid and distended and there was felt an indefinite rounded mass to the right of, and a little above, the umbilicus. The diagnosis of intestinal obstruction due to intussusception was made and laparotomy was decided upon. Hot bottles were applied and an injection of half a pint of saline solution was made under the skin. The operation was performed shortly after admission by Mr. H. Stansfield Collier, to whom I am indebted for permission to use the clinical notes of the case. A small incision was made to the right of the middle line immediately above the umbilicus. Instead of an intussusception a tumour was felt pressing upon the small intestine. The incision was then enlarged and the tumour was brought more clearly into view. It was found to be a firm-walled cystic tumour of the size of a small apple, situated between the folds of the mesentery at the level of the lower end of the jejunum in which it had produced a kink. The tumour was drawn into the wound and, after being aspirated by means of a trocar and cannula, laid open with a scalpel. About an ounce of yellow viscid contents was evacuated. The gut below the level of the cyst, which had previously been empty and collapsed, immediately began to fill. Owing to the extremely collapsed state of the patient no attempt was made to remove the cyst. It was packed with gauze and replaced along with the bowel attached to it. Adequate provision for drainage having been made, the wound was closed and the child was hurried back to bed. 30 minutes after leaving the theatre breast-feeding was begun. The child never rallied. Seven hours after the operation she had a severe bout of vomiting and death occurred. Before death the temperature rose to 106° F.

On microscopical examination the fluid contents of the cyst were found to contain, besides a large quantity of amorphous débris, a number of cholesterin crystals. Owing to an unfortunate mishap the fluid was not preserved for chemical examination.

At the necropsy the organs generally were healthy. The cyst was of the size and shape of a somewhat flattened racquet ball, measuring two inches by one inch. It was situated between the layers of the mesentery of the jejunum with its longest diameter at right angles to the long axis of the bowel. The intestine coursed over, and was intimately attached to, the distal pole of the tumour. (See figure.) The bowel was not constricted and showed no unusual appearances beyond some smoothing out of the rugæ of the mucous membrane at the point of attachment. The cyst had firm walls, about a quarter of an inch in thickness, which cut almost like cartilage and did not collapse when an incision was made. Its inner surface was traversed by many fine trabeculæ of fibrous tissue and it contained a small quantity of blood-stained fluid; no hairs or other contents characteristic of dermoid cysts were discovered. The mesenteric glands were generally somewhat enlarged but they presented no evidence of tubercle.



Specimen of mesenteric cyst. A portion of the wall of the cyst has been removed and a bristle passed through the lumen of the gut attached to the distal pole of the tumour.

The tumour was examined histologically by Dr. F. A. Bainbridge, late clinical pathologist to the Hospital for Sick Children, who reported as follows: "On microscopic examination the cyst wall is seen to consist almost entirely of fibrous connective tissue on the outer surface of which are numerous blood-vessels and a layer of flattened epithelial cells (probably peritoneum). The inner surface of the cyst wall is slightly irregular and covered by several delicate layers of fibrin inclosing a few leucocytes between them. No muscular tissue is present."

There seems little doubt then, that we have here to deal with a cyst of congenital origin which must be classed among the group of embryonic cysts of the mesentery.

Harley-street, W.

AMAAS, OR KAFFIR MILK-POX.

BY W. E. DE KORTE, M.B. LOND.

AMAAS, or milk-pox, may be defined as a specific contagious, eruptive fever closely resembling small-pox in appearance, yet differing from it in some respects. The question which immediately suggests itself is whether the difference between small-pox and amaas is such as to constitute them distinct diseases or whether the latter is not variola modified by some undetermined factors. It has been also suggested that amaas is chicken-pox modified by race and climate. When contemporary epidemics of these two diseases are seen side by side, as occasionally occurs in the same community, the differential diagnosis presents little difficulty. The characters of the prodromata, of the rashes, and of the "clinical courses" of these two diseases do not appear to coincide. Moreover, the indubitable fact that vaccination immunises against amaas renders it well-nigh certain that we are not dealing with modified chicken-pox but, on the contrary, lends great weight to the view that amaas is closely allied to small-pox. As shown in a *résumé* of 13 cases appended, the fact that it was possible to vaccinate, though only in a modified degree, convalescents from amaas would indicate that the disease in question is not ordinary European variola, "for at Glasgow during five years 52 small-pox patients were vaccinated at various periods during the stages of eruption and convalescence twice, or even thrice, but in no single instance was any reaction manifested."[1]

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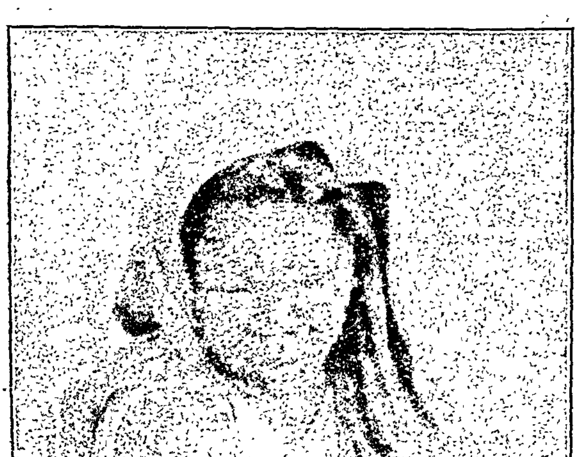
[17] Medical Chronicle, September, 1902, p. 345.

[18] Transactions of the Pathological Society of London, 1902, vol. liii., p. 406.

The following were the differences observed between variola and amaas:—1. The predilection of amaas for the aboriginal native rather than for the half-caste, both living under similar conditions and both being unvaccinated, and the almost entire immunity of the European even though unvaccinated. Thus, in Graaff Reinet, Cape Colony, where these notes were made, out of 125 cases admitted to the lazaretto only two occurred in poor whites, yet the surroundings of these unfortunates are for the most part quite as unsavoury as those of the natives. 2. The low mortality for all ages among the unvaccinated. Thus, of 97 cases admitted to the local lazaretto, where the patients were huddled together on the floor, without nursing of any kind, and reduced to the utmost shifts, only three deaths occurred which could fairly be ascribed to the disease. Thus the mortality for this particular series of cases was only slightly over 3 per cent. 3. The disease is milder among sucklings and children than among adults, frequently aborting in the former. It cannot be conjectured that some degree of immunity had been conferred on the nurslings by vaccination of their mothers during the period of gestation, for in no instance could it be ascertained that vaccination had been so performed. 4. The absence of secondary fever in amaas, even in confluent cases. Pustulation occurs much earlier and is a more gradual process; the degree of pus formation is also less than that observed in small-pox. 5. The nature of the resulting scar. Instead of the depressed foveate scar of small-pox, amaas, when it does scar, which is by no means always the case, leaves an irregular, stellate depression the edges of which present a worm-eaten appearance. 6. The vesicle is not so completely loculated as in variola, though partially divided by fine trabeculæ. 7. Owing to the spread of the epidemic the magistrate ordered the vaccination of all coloured natives. About a dozen cases were admitted to the lazaretto displaying vaccinia and amaas (Fig. 1), neither disease being apparently modified by the other. It can definitely be said that amaas was not aggravated by the superimposed vaccinia. The type assumed by the major disease in pre-vaccinated cases was neither more nor less severe than the ordinary run of cases and certainly not nearly so severe as occurred in some unvaccinated sufferers. In juxtaposition to the observation that the simultaneous development of the eruptions of the two diseases occurred in the same person is the fact that the course of vaccinia in the subjects of amaas, after the latter disease has run its course, is undoubtedly delayed and modified to a varying degree in all those experimented on. The vaccinations were done between the third and fifth weeks after the commencement of the eruption. Whether, therefore, at a later date the tissues contain more of the antitoxic or anti-microbic substance for neutralising the poison of vaccinia cannot be said to have been determined. An assumption of this kind, however, is negatived by the observations of Dr. H. Sinigar of Leavesden Asylum who reports: "Out of 45 persons who provided evidence of previous small-pox 40 were successfully vaccinated."[2]

FIG. 1.



From a photograph of a patient showing the eruption of both vaccinia and amaas.

As only patients in an advanced state of amaas were brought to the lazaretto and owing to the impossibility of extracting the sequence of events in the development of their complaints from raw Kaffirs there was for a while considerable obscurity as to the clinical course of the disease in its earlier stages. A case occurring in private practice in a white patient afforded an opportunity of observing the various stages of the disease.

A girl, aged three years, unvaccinated, suffering with a cold in the head and running at the nose for several days, complained of sore throat for 24 hours. The glands of the neck were tender and slightly enlarged. On the second day of the disease the temperature was 105° F and the child vomited and was seriously ill. On the third day of the disease a few acne-like spots appeared on the bridge of the nose, on the backs of the hands, and on the flexor surfaces of the forearms. The temperature was 102°. (When time is stated in terms of hours it refers to the period which had elapsed after the beginning of the eruption.) At the twelfth hour the eruption covered the back and the limbs; there were only a few spots on the front of the chest and abdomen. The eruption felt shotty and consisted of an irregular macule with a small conical central elevation, yellowish in colour. At the twenty-fourth hour the temperature was 98·4°, the rose spots were more papular, and where the papules were close together their areolæ coalesced. At the thirty-sixth hour the central little cone had grown to a flat-topped vesicle. At the forty-eighth hour most of the papules had become flat-topped vesicles. At the sixtieth hour most of the vesicles had a depressed centre; a few were dome-shaped. The temperature was 102°. There was some eruption in the nose, throat, and ear. There were considerable itching of the skin and conjunctivitis. At the seventy-second hour the vesicles were somewhat larger; the other characters were the same. At the ninety-sixth hour the vesicles were decidedly pearly in appearance and dome-shaped; pustulation was commencing. A few vesicles, especially on the face, were more fully pustular. The temperature was 100°. The rose-red areola was confined as a narrow band to the base of the vesicle. In severe cases, however, the areola extends for some distance round the pock. At the hundred and eighth hour the temperature was 102·4°. The vesicles were losing their pearliness and were becoming more waxy-white in colour. At the hundred and twentieth hour a considerable number of the vesicles were only sero-purulent and devoid of any areola. The temperature was 101°. Pustulation might be said to be complete at the hundred and twentieth hour. At the hundred and thirty-second hour the temperature was 101°. The patient was much better and ate and slept well; her recovery from this time was uninterrupted. At the hundred and forty-fourth hour the temperature was 100°. Most of the pustules on the face and back had ruptured; those on the face which were not broken were beginning to scab. Most of the pustules on the legs and the arms had collapsed without any scab formation; a certain proportion, however, scabbed over.

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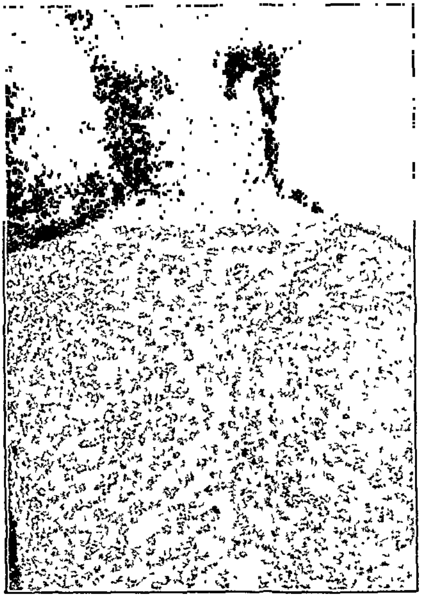
[1] Dr. R. S. Thomson and Dr. J. Brownlee: THE LANCET, Oct. 22nd, 1898, p. 1051.

[2] THE LANCET, April 5th, 1902, p. 951.

The process of collapse and scab formation is as follows (*vide* Fig. 2, which shows the back of a white man covered with the pustules of amaas). It will be seen that a small dark dot occupies the centre of each pock. This appearance is due in part to umbilication and in part to alteration in texture of the wall of the pustule at this spot. The centre of the dome of the pustule becomes bluish in colour and slightly depressed; a rent occurs in this depression through which some of the contents escape. The walls of the collapsed pustule together with the inspissated contents are separated at the base of attachment and shed as a small brownish scale, exposing to view a somewhat raised floor, dusky red in colour, which fades on pressure. After some further changes in the European a pigmented stain persists for some time, while in the native, owing to the destruction of the rete Malpighii and its contained colouring matter, a white spot surrounded by a halo of dark pigment marks the site of the pock. The patient whose case I have just narrated being a highly neurotic subject the course of the temperature is probably not typical. The natives suffer from coryza, headache, backache, and a high temperature for three days, on the third day the rash appears, and from that [illegible] this is the usual run of case. Much severer examples occur in which the symptoms are greatly aggravated, the disease becomes confluent but only on the face and legs, rarely on the arms or trunk. At the height of the pustular stage there is much subcutaneous œdema. The lips, the nose, and the eyes are much swollen. The mouth remains open and saliva trickles out. The eyes can hardly be opened. The general contour of the face is so altered as to make the patient unrecognisable. The teeth and gums are covered with sordes. The tongue is harsh and dry and the breath is foul, the patient presenting a most loathsome appearance.

FIG. 2.



Eruption of amaas on the back of a white man.

The following is the vaccination history of two European children, three native adults, and nine native children, all of whom were convalescing from amaas at the time of the vaccination.

CASE 1.—A boy, aged 12 years. He had been vaccinated on two previous occasions unsuccessfully. There were no vaccination marks. During the fourth and fifth weeks after the eruption of the disease he was twice vaccinated with humanised lymph without the least effect. A week later, on Oct 2nd, he was vaccinated in three places with fresh calf lymph. On the 9th one well-marked vesicle with slight areola occupied the site of each insertion. On the 11th one vesicle had disappeared; the other two were scabbing over. He presented the appearance of a reaction on a person already partially protected by vaccinia.

CASE 2.—A girl, aged three years. This patient had never been vaccinated. Four weeks after the date of the eruption she was vaccinated with humanised lymph; no result followed. On Oct. 2nd she was revaccinated with calf lymph. On the 9th there were two well-marked vesico-papules. On the 12th a small red vascular papule marked the site of each inoculation—a reaction precisely similar to the previous case. It is interesting to note that neither of these children reacted to human lymph while both did to calf lymph. Arm-to-arm vaccination in two subjects of the disease experimented upon took in the manner described.

CASE 3.—This patient was an adult red Kaffir who was vaccinated for the first time with calf lymph, strict antiseptic precautions being adopted. A photograph showed well-marked vaccinia eight days after inoculation, also the sites of the pocks seen as white dots due to absence of pigment surrounded by dark rings caused by increased pigmentation. This patient—the only one—presented a typical areola, so that the reaction in this case was complete. The patient had been 24 days at the lazaretto when vaccinated.

CASES 4 AND 5.—These patients, two women, were vaccinated for the first time on June 28th. A photograph taken on July 8th showed both patients presenting typical vesicles having raised edges and central depressions. The slow evolution of the vaccinia was probably due to the modifying influence of the amaas and not to attenuation of the lymph employed.

CASE 6.—A girl, aged three years, vaccinated from Case 3 on one spot which developed into typical vaccinia.

CASE 7.—This patient was vaccinated with the rest on Sept. 30th for the first time. On Oct. 7th there were three vesicles, one on each vaccinated area. On the 16th there were two scabbed pustules; one vesicle had disappeared.

CASE 8.—A boy, aged three years. On Oct. 9th there was one vesico-papule on each of the two vaccinated spots; the third insertion had disappeared.

[illegible] years. On Oct. 7th she had [illegible] The vesicles had coalesced; [illegible] ed to the base of the vesicles. The vesicles were very vascular. On the 15th the vesicles had become three scabbed pustule; there was no areola.

CASE 10.—A boy, aged three years. On Oct. 7th there were well vesiculated areas without roseola. On the 11th the vesicles had run together; there was no roseola. The vesicles were very vascular. On the 16th there were three scabbed pustules; there was no areola.

CASE 11.—This patient was aged ten years. On Oct. 8th there were three small papules. On the 11th no vesicles had formed and the papules were quite distinct; there was no areola.

CASE 12.—A girl, aged one year. On Oct. 11th a single vesicle occupied the site of each insertion.

CASE 13.—A girl, vaccinated on Oct 7th. On the 16th there was a papule on the site of each of two insertions; the third had disappeared.

CASE 14.—This patient was vaccinated on *Oct. 16th in* three places with lymph taken from the patient in Case 10. On the 23rd one of the above insertions had developed into typical vaccinia. The quantity of lymph obtained from the patient in Case 10 was very little, probably not sufficient to have produced more than the above result.

Summarising the above, with the exception of the patient in Case 3, who gave as complete a reaction as an ordinary primary case, all reacted in varying degrees, like individuals more or less protected by previous vaccination.

Bacteriology.—As might be expected, this is of a negative kind. Smears on cover-glasses made from the contents of the pock at all stages disclosed no organism which could in any way be connected with the disease. If proper precautions were taken to prevent the admixture of any extraneous organism in the collection of the amaas matter

A Comparative Table of Small-pox, Amaas, and of Two Diseases of a Varioliform Nature which have been Described by Dr. Brownlee and Dr. Thomson and by Dr. Izett W. Anderson.*

—	Amaas.	Natural small-pox.	Infectious disease in Lascars.	Varioloid varicela.
Incubation ...	10 to 14 days.	10 to 14 days.	10 to 14 days.	14 days.
Effects of vaccination and previous attacks of variola ...	Sure preventive. Only one case occurred, in a woman, aged 63 years, who had suffered from small-pox 60 years previously and bore unmistakeable evidence of the attack.	Sure preventive. Second attacks rare.	In 11 cases previous vaccination had no immunising effect. Previous attacks of variola seemed to have little controlling effect.	Disease occurs equally in vaccinated or unvaccinated persons. It occurred in those deeply pitted by antecedent small-pox.
Effects of vaccination during convalescence	Modified vaccinia.	None at all.	Four out of five patients were successfully vaccinated; the fifth failed; this patient had previously suffered from small-pox.	Not noted.
Date of eruption	Third day.	Third day.	First day.	In the course of the third day of the disease.
Distribution of rash on the body ...	The body generally, not uniformly; always most markedly on the face, front of the legs, extensor surfaces of the forearm, palms of the hands, and soles of the feet.	As for amaas.	No special affinity for the face. No eruption on the palms of the hands and soles of the feet. On the legs elements were more sparse and scattered. The back was chiefly affected.	—
Initial rashes	Were not observed.	Occurred.	Not mentioned.	Not mentioned.
Evolution of the pock ...	In from 36 to 48 hours the macule with its small conical centre has passed through the papular stage and has become a fully developed flat-topped vesicle. The vesicles are partially divided by fine trabeculæ. In 96 hours the vesicle is pearly and in 100 hours is waxy-white in appearance. The polynuclear lymphocytes are losing staining reactions and becoming pus cells. A number of pustules are without areolæ. Umbilication and pseudo-umbilication are present.	Vesicle attains limit of its growth about the fifth day of the eruption. Loculated. Pustule formed on the eighth or ninth day surrounded by a vivid areola. Umbilication present.	Vesicles almost entirely absent; such as do exist resemble small bullæ such as might have been produced by scalding water. Vesicles partially divided by fine trabeculæ Vesicular contents originally clear become cloudy and distinctly sero purulent; but in no instance were true pustules formed. Pseudo-umbilication produced by desiccation of central portion of vesicle.	Papular stage lasts from 24 to 48 hours. Eruption presents papular and vesicular stages and only in some cases the pustular stage. Vesicles in some cases resembling those of variola and in others those of varicella. Umbilication was not constant.
Fever	Defervescence with first appearance of eruption. No secondary fever.	Defervescence with first appearance of eruption. Secondary fever.	No defervescence as in variola. No secondary fever.	The temperature was of a remittent type without secondary fever.
Race and age	Predilection for individual negroes in unvaccinated community, also individual Europeans but in much lesser degree. Disease mild in sucklings and children, often aborting in former. Fatality for all ages is low.	All unvaccinated persons susceptible with trifling exception. Very fatal to children under five years. Fatality for all ages is high.	Confined to Lascars. Out of 250 English workmen exposed to infection not one contracted this disease. No mortality.	Chiefly among natives. Europeans susceptible. (?)
Initial symptoms... ...	Headache, slight cold in the head, slight sore throat, glands of the neck enlarged. Vomiting and occasional backache.	Backache, headache, vomiting. Sore throat and enlarged glands not usual.	—	Constant catarrh of the throat, with eruption on the soft parts.

* Dr. Izett Anderson: Epidemic Varioloid Varicella in Jamaica, Transactions of Epidemiological Society of London, vol. ii., p. 414.

no organisms could be discovered in the contents of the vesicle or pustule. Nor could any cultivation be obtained on the ordinary culture media. The following organisms were very often present in specimens of amaas lymph: staphylococcus pyogenes aureus, staphylococcus cereus flavus, staphylococcus albus epidermidis, and bacillus subtilis. By first washing the pock with a strong solution of an antiseptic and passing a sterile capillary tube into the interior of the pock its contents could be collected free from all contaminating organisms. With regard to experiments made on animals eight guinea-pigs were found apparently to be immune to the action of amaas lymph, whether inoculated as vaccine or injected into the peritoneal cavity. Experiments on calves were inconclusive but nothing like typical vesicles were produced by inoculating these animals with amaas lymph. A subcutaneous injection of two drops of amaas lymph was given to a monkey without producing any visible effect. To ascertain whether the injection of amaas matter had exerted any influence on the monkey[3] it was subsequently vaccinated with calf lymph on the back. By the fifth day a number of vesicles made their appearance; some of these ran together but showed no umbilication. There fever in amaas, The axillary glands were slightly enlarged. much earlier alay brown scabs had formed on what had now pus formation is which were involuting. The result was 5. The nature q have expected had the monkey been prodepressed foveate s vaccination. This animal undoubtedly scar, which is by in exactly the same manner as human irregular, stellate dc have had amaas.

Summarising the appended table, it is evident that amaas cannot well be confounded with either the infectious disease in Lascars or with varioloid varicella. When compared with variola such a definite statement cannot be made, for it will be seen that amaas resembles small-pox in many particulars; the differences which exist between these two diseases appear to consist more in degree of virulence than of kind.[4] The provisional conclusion arrived at on the relationship of amaas to variola is that the former is small-pox mitigated by some undetermined factor or factors.

Graaff Reinet, Cape Colony.

A CASE FOR DIAGNOSIS.[1]

By W. JOHNSON SMYTH, M.D. Edin.,
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The patient was apparently in good health till three and a half years ago when the train by which he was travelling was derailed at midnight. Early next morning he was alarmed to find himself lying between two dead fellow passengers and five days after this his ill-health began. This consisted in frequent vomiting, followed by great loss of strength and in his being invalided home. During the interval elapsing between the railway disaster and last autumn he had been under the care of 20 medical men and the symptom of vomiting could be relieved only by the hypodermic administration of morphine, although many other remedies had been tried. His family medical adviser recommended his relatives to send him to Switzerland and he had reached London late last year in charge of a nurse who had instructions to give him half a grain of morphine whenever vomiting set in. The patient, however, had a considerable sum of money in his pocket and being fond of a gamble put most of this on a horse with unfortunate results. The vomiting set in with exceptional severity and only large doses, from a half to one grain, of morphine relieved him.

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[1] Dr. R. S. Thomson and xperiments on the horse and Calmette's 1898, p. 1051. it. Annales de l'Institut Pasteur, No. 3,

[4] Cf. Notes on a Mild Type of Small-pox, Variola Ambulans, by Dr. F. Montezambert, Brit Med. Jour., May 11th, 1901.

[1] A paper read before the Bournemouth Medical Society on March 9th, 1904.

Such were the circumstances of the case when I was asked to take charge of the patient. He came under my care direct from London. He complained of frequent attacks of vomiting, headache, insomnia, or when asleep of nightmare or sensuous dreams. He admitted having had syphilis six years previously; he believed that he had received mercurial treatment, though for a short period. His habits were temperate till the present trouble began. He was unmarried, aged 38 years; his height was 5 feet 8 inches, and his weight was 8 stones 6 pounds. He was much emaciated. As regards the cerebro-spinal nervous system much emotional weakness was evident. The will was infirm to a high degree. His memory was good but his judgment was diseased. His ideas were grandiose; he talked as if he had very ample means, which was untrue, and he was extravagant in every direction of thought. He was harmless to others but he often talked of suicide. He informed me that his people wanted to get him certified as insane but that no medical man would risk it. I certainly considered him fairly on the borderland, if not within [illegible] He suffered from a slight degr [illegible] was twice as large as the right, [illegible] was circular and free from puckering. He suffered from associated iridoplegia in the left eye, the iris responding to neither light nor accommodation for distance. The other organs of special sense were normal. From a later examination of the retinæ they were found to be free from syphilitic or albuminuric deposits. Impulses through the motor nerves were feeble, badly sustained, and this was most marked in the lingual, labial, and facial muscles. He had an occasional difficulty in starting a sentence. The function of the sensory nerves was exalted throughout. The knee and other deep reflexes were exaggerated. The superficial reflexes were the same. No girdle pains were complained of at this stage. The muscular sense was preserved. There was much wasting of the muscles but quite symmetrically so throughout the body. A distinct cautiousness of gait was noticeable but the ataxia was not marked. The temperature was normal when first seen but there was a rise of from 1° to 1·5° F. every evening. The integumentary system was normal. There was no albumin or sugar in the urine which was normally acid with a specific gravity of 1020 The patient complained of frequently vomiting food and when there was no food present in the stomach he vomited watery, bile-stained material. Because of the severity of this symptom he said he had often to be fed per rectum for days at a time. Later I made careful observations as to the nature of the vomit. It contained food, hydrochloric acid, and bile pigment, but no blood at any time. No fæcal matter was ever vomited. On examining the abdomen nothing abnormal could be found nor was there pain on pressure over the stomach or elsewhere. He suffered from occasional constipation but the stools were natural in form and colour; blood was never noticed. No hæmorrhoids were present. The heart and the lungs were quite normal.

I made a close inquiry from the nurse and, whilst she corroborated the history of vomiting as narrated by the patient, she alleged that the patient, in her opinion, had the power to induce vomiting at will and did so in order to get the morphine. On my suggesting that she might go away she said that the patient "would howl his head off" if she was not at hand to give him morphine. I got rid of the nurse on the next day. The patient received a severe "talking to" and I insisted on his playing a "straight game" or else I would not attend him. He was allowed a glass of benedictine before meals (not a bad remedy for mal de mer). He was given a mixture of bromide of potassium and syrup of glycerophosphates three times a day after meals. He had an hour's massage commencing at 10 P.M.

For six weeks no vomiting took place, the patient slept well and put on six pounds in weight but all the other signs remained the same. At the end of this period I had to leave Bournemouth for ten days but asked a medical friend, who [illegible] absence, not to give morphine, [illegible] As soon as the patient heard that [illegible] sick, sent for my medical friend, and swore by "bell, book, and candle" that I promised faithfully that if he got sick during my absence he would get morphine. My substitute refused the morphine but the patient declared that he would jump out of the window if he did not get the drug. So to prevent this my friend gave half a grain of morphine hypodermically. During those ten days the patient had a daily return of sickness and was given morphine once or twice a day, never more than half a grain at a time.

On my return I was surprised at the turn that things had taken and I found the patient suffering from the most distressing form of vomiting I ever witnessed. Ice, chloroform, chloretone, and hot drinks were tried but in vain; the sickness continued and at this stage the patient for the first time complained of acute neuralgic pains around the lower ribs. Morphine alone seemed to give relief. The morning temperature was 101° and the evening temperature was 102·2°. So great was his distress that I feared acute mania would develop. During the four days that elapsed from my return the patient was given three grains of morphine whilst feeding per rectum was constantly carried out, as his stomach would retain nothing. On the fourth day he had a very violent attack of pain and vomiting and half a grain of morphine was given at 3 P.M. At 4 30 I was sent for, as the patient appeared to be dying. I found him unconscious; Cheyne Stokes breathing had set in and the end seemed to be near. There was no sign of contraction in either pupil, both being equally dilated. I injected one-sixtieth of a grain of strychnine and 40 minims of ozonic ether, after which the respiration and the pulse improved slightly. A medical friend saw him at 5 P.M.; we injected more strychnine and ether and though the patient rallied temporarily he again got worse and apparently died at 5 30 P.M. After observing the respiration and cardiac movement cease we stretched the limbs into position, covered him up somewhat, and had been some time discussing the case when to our horror the patient gave a long inspiratory snore that somewhat disconcerted us. I think the respiratory and cardiac movement must have been quite two minutes in abeyance, during which period the corneal and plantar reflexes were quite gone and the pupils were widely dilated. On this renewal of respiration and circulation taking place we administered hot nutrient enemata and with an occasional dose of strychnine, digitalin, and ether the patient was kept alive till 9 P.M. on the second day after his apparent death. During this period he recognised his relatives and myself, his corneal and other reflexes returned, but the Cheyne Stokes breathing continued less or more till the end. He was unable to swallow food during this time and his speech was unintelligible. I most carefully examined his retinæ during this period; apart from enormous congestion of the blood-vessels they were quite normal.

On the day following death I made a post-mortem examination of the brain. The meninges were deeply congested and the pia mater and arachnoid were matted together, thickened, and milky in appearance over the frontal and anterior half of the parietal lobes, to which they were closely adherent. The grey and white matter was congested; the lateral ventricles were dilated and contained excess of fluid. The choroid plexuses were enlarged and had a beaded and gelatinous appearance. The brain substance as a whole was preternaturally soft. *No hæmorrhage, gumma, or tumour of any sort was present.* Professor W. S. Greenfield of the University of Edinburgh kindly examined the medulla for me but found no evidence of disease in it.

The following are some of the points of interest in this case, 1. The onset of the leading symptom—vomiting—began soon after the railway disaster. 2. It is evident that morphinomania was fairly established. 3. Did the morphinomania exaggerate the vomiting? Certainly, the latter was apparently kept in obeyance by the treatment which the patient received during the first six weeks he was under my care. 4 Was the case one of locomotor ataxia, general paralysis, or some other disease? Most of the subjective and objective symptoms apply equally to locomotor ataxia and general paralysis, whilst if, on the one hand, the vomiting and the girdle pains point to locomotor ataxia, the exaggerated knee-jerks, the mental deterioration, and the post-mortem appearances point to general paralysis. Personally, although I certified the death as due to locomotor ataxia, I believe it to be one that goes far to sustain Dr. F. W. Mott's view (as mentioned in the *Archives of Neurology*) that the older clinicians were in error in describing two diseases locomotor ataxia and general paralysis, there being only one disease here—"tabo-paralysis"—the former being varieties of the latter. I think that the patient's final collapse was due to an acute congestive attack—severer than ever he previously experienced—commencing in the medulla, at first involving the vomiting centre, and, after paralysing this, exciting and then paralysing the respiratory centre that lies close by.

Bournemouth.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF SEPTIC PNEUMONIA; ABSCESS OF THE LUNG; ASPIRATION; RECOVERY.

By ARTHUR J. SHARP, M.D. LOND., F.R.C.S. ENG.,
AND
HUGH N. KEELING, L.R.C.P. LOND., M.R.C.S. ENG.

THE patient was a single woman, aged 31 years. Her family history was good with the exception that one sister died at the age of 41 years from phthisis, another at 37 years from heart disease following rheumatism, and a third at 34 years from "consumption of the bowels." She was a tall, thin woman, with a sallow complexion and had enjoyed good health with the exception of occasional colds. During the summer of 1903 she felt out of sorts—a little overworked and noticed that her breath was foul owing to numerous carious teeth and stumps. On Nov. 18th, 1903, the unsound teeth were extracted under ether, both the administration of the anæsthetic and the subsequent recovery being uneventful. The dentist was struck by the unusual fœtor about her mouth. She returned to her employment three days later, there being neither cough nor expectoration at this time. On the 27th she had a rigor in the evening and was seized with severe pain below the right nipple. On the next morning there were no abnormal physical signs discoverable; her temperature was 100° F.; her pulse and respirations were respectively 92 and 24 per minute. The diagnosis was acute pleurisy, probably of the phrenic surface of the lung. Two days later a short cough commenced, with limited expansion of the thorax on the right side. On Dec. 2nd her temperature was 100° and the pulse and respirations were respectively 96 and 20 per minute. The pain was less and the expansion was better. There were slight impairment of resonance and deficient entry of air at the right base behind. The resonance elsewhere was good. On the 4th her temperature was 102·8°, her pulse-rate was from 100 to 112, and her respirations were 32 per minute. There were increased dulness at the right base behind and a slight friction sound below the nipple in front. There was no expectoration. On the 6th the middle two-fourths of the right lung posteriorly showed impaired resonance and in places there was tubular breathing. On the 7th some extremely offensive expectoration appeared for the first time. An aspirator trocar and cannula three inches long driven deeply through the ninth intercostal space considerably posterior to the scapular angle (the only place where there now seemed to be any dulness) was felt to move freely within a cavity and two and a half ounces of horribly foul pus were evacuated in this way, suction being strongly maintained until only blood was forthcoming. A diagnosis of localised empyema was made and the patient was removed to a hospital. It is noteworthy that her temperature was practically normal from this date onwards, although her general condition was exceedingly critical for some days. On the 8th an operation as for empyema was performed by resecting the ninth rib. Although a bead of dried pus could still be seen clinging to the cutaneous end of the track of the aspirating cannula no infection of the pleura appeared to have taken place. Some serum escaped from the pleural cavity when opened, but though the lung was punctured once or twice nothing further abnormal was found. During the next few days the patient had recurrent bouts of cough, during which the odour of the breath and sputum were indescribably foul. In the intervals of these attacks it was noticed that the breath and sputum both remained (or gradually became) free from distinctive odour. The operation wound continued inodorous throughout, the patient gradually began to recover strength, and the sweating, cough, and expectoration diminished. On Jan. 4th, 1904, four weeks after the aspiration, abnormal physical signs were only to be found over an area three inches or less in diameter at the site of the puncture, and here the breath sounds, voice sounds, and resonance were all somewhat deficient. She was discharged on the 5th and within the next ten days the cough entirely ceased.

Considering the foul state of the mouth when the teeth were extracted it is easy to suppose air-borne infection to have taken place, but it is difficult to understand how the dental operation could have been avoided. Presumably the risk would increase with long postponement. It is interesting to note that simple aspiration may (as in this case) suffice, since subsequently to the aspiration recovery was speedy and uninterrupted and the quantity of sputum expectorated was insignificant. At the end of April she was in good health.

Whitby, Yorkshire.

NOTE OF A CASE OF SHOULDER PRESENTATION ENDING BY NATURAL DELIVERY.

BY THE RIGHT REV. J. E. HINE, D.D. OXON., M.D. LOND.,
BISHOP OF ZANZIBAR.

I HAD read years ago in books of cases of this kind ending satisfactorily by the *vis medicatrix naturæ* but I had not myself seen one, and the circumstances of the present case being somewhat unusual it seems worth while sending a note of it to THE LANCET.

I was staying last January in a remote village on the mainland in the Yao country of Central Africa near the Rovuma river. Late at night I was asked by a native teacher to go to see a woman who had been in labour for two days and the people did not know what to do to help her. I may say that it is very unusual for the natives in this part of the country to call in any outside assistance for women in labour. The greatest secrecy is kept and the matter is intrusted to certain wise women of the village and no man is allowed to approach anywhere near the scene. This particular woman, however, was a Christian, the wife of a teacher, and the native prejudice on his side, at any rate, was not so marked as usual. I went with the messenger and was taken about a mile into the forest, my progress being interrupted from time to time by sorties of excited women who tried to prevent my going. However, I got at last to the place and found the patient lying out in the open beside a wood fire with a group of women (whether wise or not wise I should not like to say) sitting round her. She was a young girl, not more than 16 years old, a primipara. Labour had come on at full term more than 48 hours previously and the membranes had ruptured some hours before I arrived. The right arm of a fully developed though evidently dead but not decomposed fœtus was prolapsed, lying outside the vulva. I had great difficulty in getting the people to let me make an examination but after a time I succeeded and found that the os was only dilated sufficiently for the passage of the arm, the uterus was firmly contracted down on the fœtus, and all labour pains had ceased. The patient was in fairly good condition. The pulse was regular and not very weak and there was no very marked distress. It seemed, however, to me that the condition looked about as unfavourable as it well could. I had no chloroform and no instruments of any kind with me and anything like operative interference, or manual interference either, was impossible under the circumstances. I told the woman and her friends that I did not see that I could help her, but I gave her a grain of opium more for the sake of "doing something" than with any hope of relief. It appeared to me perfectly impossible that delivery could take place under the conditions—a transverse presentation, a young primipara, a fully developed fœtus, a rigidly contracted uterus, and more than two days in labour. So I dropped the medical character and assumed the priestly and prepared her for death which seemed to me inevitable. I then went away and left her. About an hour aftewards a messenger arrived and told me that the child had been born; nothing more had been done but pains had come on and delivery had taken place. On the next morning I went to see the mother and found her sitting up with a group of friends round the fire in her hut looking quite comfortable as if nothing particular had happened. What actually did happen I could not find out. My questions spoken in Swahili had to be translated into Makua and the difficulty of expressing technical terms and translating untechnical answers through media of this kind is a very great one. Whether the favourable result was ascribed to the miracle-working powers of the bishop, or whether it was the grain of opium, or whether it was due to some native charm I could not find out. It all ended happily. One sees strange things in the untrodden wilds of Africa!

Masasi, German East Africa.

A CASE OF CARBOLIC POISONING IN AN INFANT.

By LOUIS E. STEVENSON, B.A., M.B., B.C. CANTAB.

I CIRCUMCISED an infant, six weeks old, on March 10th of this year. The wound was dressed with lint soaked in carbolic oil (1 in 20). The little patient was very well all day, sleeping most of the time, and had a good night. Early next morning he vomited and had apparently nausea at intervals during the day but did not vomit any more. He had two normal motions. During the afternoon the napkins were stained a dark colour. The carbolic dressing was discontinued. On March 12th he was rather restless with no sound sleep. The appetite was poor and the urine was scanty and dark-coloured. He had two motions, one of which was dark in colour. Towards evening the urine was more free and his appetite was better. He had a very restless night, scarcely sleeping at all. On the 13th the patient was very restless. He had a temperature of 98° F.; the urine was passed freely and the motions were normal. The eyes had a glassy appearance with the eyelids somewhat injected. He was pallid but had a fairly good appetite. He had twitchings in the limbs at intervals all day. He slept better at night. On the 14th the same symptoms continued. At 6 P.M. there was a slight rose-coloured rash on the chest and the abdomen. The rash occurred in patches. He slept well. On the 15th the rash was very thick over the chest and the abdomen. At 9 A.M. the child became extremely pallid with feeble pulse. He was ordered brandy, five drops every two hours. He had a second fainting attack about 11 A.M. His temperature was 98°. His appetite was good. He had no more attacks, although he remained very pale all day. At 6 P.M. the rash on the chest and the abdomen was disappearing but a slight rash developed on the back. He slept well. On the 16th the rash was very thick on the back and very slight on the hips, the neck, and the face. The patient was happy and contented. The pallor was still marked. On the 17th the rash was almost gone. The eyelid injection and the glassy appearance of the eyes were rapidly disappearing. The child became convalescent from this date.

For these excellent notes I am indebted to Nurse Adams who watched the little patient most carefully and nursed him with rare skill. The lesson to be drawn from this case is, I think, that in view of the possibility of absorption one should use very much weaker carbolic oil in these cases or substitute some other dressing. I have used the 1 in 20 carbolic oil in a considerable number of cases of circumcision and have never known a case of poisoning before. I shall be interested to hear from other practitioners if they have experienced any trouble of this kind.

Temple Sowerby, Penrith.

TORBAY HOSPITAL.—The Torquay Masonic lodges' concerts, which have been promoted by the mayor on behalf of the Torbay Hospital and Rosehill Children's Hospital, have been the means of raising £63 for those institutions.

A Mirror

OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb*, lib. iv., Prooemium.

ST. GEORGE'S HOSPITAL.

THREE CASES OF PROSTATECTOMY.

(Under the care of Mr. H. W. ALLINGHAM.)

FOR the notes of the cases we are indebted to Mr. T. Crisp English, surgical registrar.

CASE 1.—The patient, aged 75 years, was admitted into St. George's Hospital on Nov. 16th, 1902, with epididymitis, the result of catheterisation for enlarged prostate. He had had prostatic trouble for about seven years and for the last two years had passed a No. 7 black olivary catheter for himself, using it about three or four times a day and three times at night. There had always been severe pain before catheterisation and also pain after it, with occasional hæmaturia, and the patient was very anxious for any operation that could afford him relief, for "his life during the last two years had been perfect misery." Five weeks before admission there had been acute epididymitis on the right side, which had subsided, and this was followed by similar inflammation on the left side.

On admission the patient was found to be in fair condition and a rectal examination showed marked enlargement of the prostate. He was suffering from a great deal of pain and the catheter when passed was frequently blocked by small clots of blood; a little urine could sometimes be passed without the use of an instrument. A consultation was held and prostatectomy was recommended. This was performed on Nov. 27th by Mr. Allingham. A No. 8 catheter was passed and the bladder was distended with boric lotion. Suprapubic cystotomy was then performed and the enlarged middle lobe of the prostate was found to project prominently into the bladder. Mr. Allingham then proceeded to enucleate the prostate with the right index finger, standing on the patient's left side. After about five minutes' work the whole prostate was removed from the bladder, together with the proximal one and a quarter inches of the urethra which was wide and tortuous. There was very little hæmorrhage and the prostate came away as one piece. A large tube was placed in the suprapubic wound and a No. 8 catheter was tied into the urethra. Progress after the operation was at first very satisfactory, the pain being entirely relieved and small quantities of urine being passed per urethram. On Dec. 20th, however, acute bronchitis developed, with gout in the feet and right shoulder, and death occurred on the 27th.

CASE 2.—A man, aged 64 years, had suffered with increased frequency of micturition for six years. During the last three months there had been increasing difficulty in micturition until ten days before admission when acute retention occurred. Since that time he had only passed drops of urine with great pain. On admission into St. George's Hospital on March 25th, 1903, the patient was catheterised and about two pints of urine were withdrawn. This was alkaline and contained albumin and pus. The prostate was felt projecting into the rectum as a large, rounded, tender tumour. For four weeks he was regularly catheterised and the bladder was washed out. Catheterisation, however, was exceedingly difficult and no improvement in the general condition took place. After a consultation Mr. Allingham performed suprapubic cystotomy on May 2nd and without much difficulty enucleated the whole prostate which weighed one and two-third ounces. There was a well-marked middle lobe which acted as a valve to the urethra. A drainage tube was placed in the suprapubic wound. On the fourth day after operation the bladder was washed out with boric lotion through a No. 7 catheter, which passed without difficulty, and this process was repeated every morning. Some urine was passed per urethram on the 9th and after this in increasing quantities. The patient got up on the 20th and was discharged on June 6th; the suprapubic wound was then soundly healed, catheters were no longer used, and the urine was acid and clear, passing freely and with some power.

CASE 3.—A healthy-looking old man, 80 years of age, was admitted into St George's Hospital on April 30th, 1903, with a portion of a catheter in his bladder. He had had enlarged prostate for 15 years and during that time had regularly passed a No. 7 gum elastic catheter for himself. On the evening of April 29th, whilst the catheter was being withdrawn, a piece about four inches long broke off and was left behind in the bladder; no pain or inconvenience resulted from this accident. On admission the urine was acid and quite clear and per rectum a greatly enlarged prostate was felt; the patient was in vigorous health, being accustomed to walk from ten to 12 miles daily. Mr. Allingham operated on May 2nd. The bladder was first distended with about 30 ounces of boric lotion and was then opened above the pubes. The portion of the catheter which had been broken off was found and removed. The prostate, which was greatly hypertrophied, was then enucleated in two portions with the right index finger, the prostatic urethra being removed at the same time. Hæmorrhage was trifling and a large drainage-tube was inserted into the suprapubic opening. The weight of the prostate was two and three-quarter ounces. The patient was rather drowsy during the week following the operation and there was slight rise of temperature; urine was secreted freely. On the 6th the drainage-tube was removed and the bladder was irrigated daily with boric lotion from this date. On the 11th the stitches were removed, all drowsiness had disappeared, and small quantities of urine were being passed through the urethra, the urine being acid and free from albumin. The patient got up on the 21st and at the present time is progressing excellently.

Remarks by MR. ALLINGHAM.—These three cases form an interesting contribution to the operative treatment of enlarged prostate. Sufficient experience has now accumulated to show that total extirpation of the gland is undoubtedly the best procedure for those cases in which the symptoms are not controlled by regular catheterisation. The pain and misery which often accompany enlargement of the prostate and the frequent difficulty in the passage of instruments are strong arguments in favour of the radical operation. Other operative measures such as vasectomy have proved to be of little value, whilst partial removal of the gland is not easier than total extirpation and its results have not been nearly so satisfactory. It seems probable, therefore, that complete removal of the gland will become the routine practice for all cases of enlarged prostate in which the symptoms are not readily controlled by palliative measures and for those cases in which the condition is definitely, though perhaps slowly, progressing. The results of this procedure are excellent, in spite of the age of the patients and of serious complications which are frequently present either locally or in other parts of the body. The technique of the operation is sufficiently explained in the description of the cases. In all these patients the entire prostate gland was removed; the hæmorrhage was trifling and very little shock resulted. In Cases 2 and 3 there was complete restoration of function, urine being retained and passed without instrumentation, whilst the pain, insomnia, and other symptoms which had existed before operation were completely relieved. In Case 1, in which death occurred four weeks after operation as the result of bronchitis, the fatal result cannot be attributed to the operation; apart from this complication the patient's progress had been quite satisfactory. Extreme age appears to be no bar to the operation, provided that the patient's general condition is good. Case 3 is an excellent illustration of this point, the patient being 80 years of age.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Sarcoma of the Pancreas associated with Pseudo-lipæmia.—Experiments on Ankylostoma Larvæ.

A MEETING of this society was held at Guy's Hospital on May 3rd, Dr. A. P. BEDDARD being in the chair.

Dr. J. FAWCETT described a case of Sarcoma of the Pancreas associated with Pseudo-lipæmia. A youth, aged 19 years, was admitted into Guy's Hospital with a severe suppurative gingivitis and he died in 24 hours. At the necropsy a general suppurative peritonitis was found for which no cause could be detected. The pancreas was infiltrated throughout with a white hard growth extending at its tail around the duodenum and into other structures. Many secondary deposits were present in the glands. The histological structure of the growth was that of a lympho-sarcoma but as to whether it originated in the pancreas, the glands, or the duodenum was somewhat doubtful. The case was called sarcoma of the pancreas since the whole organ was involved in the growth. The urine was withdrawn from the bladder after death and contained neither sugar nor diacetic acid.—The blood drawn from the right heart for purposes of bacteriological investigation separated after a short while into an upper milky layer with dark blood below. This blood condition not having been suspected during life the only blood available for further examination was that in the intracranial sinuses. The following report was made by Dr. A. E. Boycott: "The blood separated into a layer of corpuscles (about one-sixth) and a supernatant creamy layer. No change was present in the red corpuscles and there was no excess of leucocytes. The creamy layer owed its colour to a number of extremely minute particles separable with great difficulty from the fluid. They were insoluble in ether or in 1 per cent. acetic acid and on staining gave no indication that they were derived from the cellular elements of the blood." It was found that the blood contained only 0·38 per cent. of fat—i.e., no more than was present in normal plasma. In addition to the interest attaching to the nature of the growth and its situation there was the special feature of the blood condition. So-called "lipæmic" blood was usually of a pinkish colour but the term "lipæmia" had been applied to any blood which after withdrawal separated into layers the upper of which was creamy. A large number of these cases were associated with diabetes, although it had been found in other conditions, such as chronic alcoholism. That it might be due to other causes than free fat had been shown by the late Dr. C. T. Coote[1] and the name of "molecular albumen" was given to it by Dr. Coote, though it was very doubtful whether this substance alone would cause the blood to become "milky." Amongst others, Dr. W. Hale White[2] had recently reported a case in which a so-called "lipæmic" blood owed its milky character to a proteid and another substance which, though allied to fat, was not a true fat. Therefore it was clear that "lipæmia" was not a correct term to use for all cases of "milky" blood. The pathology of the condition was no more clear than it was 40 years ago but fat was not the only cause of it and diabetes was not the only disease with which it was associated. Whether the pancreas had any etiological connexion with it must be left undetermined for the present.

Dr. A. E. BOYCOTT read a paper on Ankylostoma Larvæ. He said that the eggs of ankylostoma required a free supply of oxygen for development. Development did not take place if the eggs were covered with water or were in an atmosphere of hydrogen. If air was bubbled through the water the eggs would hatch. Eggs were killed by immersion in water for ten days and by an atmosphere of hydrogen in 24 hours. The adult larvæ lived in water in the laboratory for several months. In hydrogen at 20° C. they lived for 21 days, in a vacuum for about seven days, and in carbon dioxide for six days. At 37° C., however, they did not live more than four days in hydrogen or carbon dioxide. In the intestine there was very little free gaseous oxygen. Bunge and Weinland had shown that ascaris and other worms could live anaerobically for several days. Analysis of gas collected from the small intestine of cats and rabbits showed that the percentage of oxygen varied from *nil* to about 4. Attempts to induce further development of the extra-corporeal stage of ankylostoma by keeping them with blood, duodenal mucosa, and with deficient oxygen had been uniformly unsuccessful.

LIVERPOOL MEDICAL INSTITUTION.

Strangulated Inguinal Hernia.—Partial Enterocele, Strangulated.—The Treatment when certain Foreign Bodies have been Swallowed.—Digestants.—Interpretation of Physical Signs in Pleural Empyema.

A MEETING of this society was held on April 28th, Dr. JAMES BARR, the President, being in the chair.

Mr. K. W. MONSARRAT related a case of Strangulated Inguinal Hernia with an unusual complication. The patient was a man, aged 45 years, and the hernia was operated upon 24 hours after the onset of the symptoms of strangulation. The gut was intensely congested but except for a greyish purple patch on the entering coil at the neck of the sac it did not show evidence of marked damage. At the end of the following week the patient complained of vague general abdominal pain and this was accompanied by evening pyrexia. The pain became localised to the right iliac fossa and during the seventh week after operation symptoms of chronic intestinal obstruction commenced. The abdomen was opened in the right iliac region and a mass of coiled small intestine was found bound to the parietal peritoneum by a dense adhesion and there were numerous other adhesions between the coils, one of which was causing a *definite compression. The adhesions were divided*, the omentum was used to cover some of the raw surface, and the abdomen was closed. This operation was followed by subsidence of all morbid symptoms.

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[1] THE LANCET, Sept. 8th, 1860, p. 232.

[2] THE LANCET, Oct. 10th, 1903, p. 1007.

Mr. T. O. LITLER JONES related a case of Richter's Hernia in a woman, 73 years of age, who was admitted into the Liverpool Royal Infirmary with a history of four days' pain and abdominal discomfort with slight distension and a small lump in the right femoral region. There was no constipation or vomiting, neither was there a history of hernia. A strangulated femoral hernia being diagnosed, operation was proceeded with. The gut was adherent to the sac which contained foul-smelling fluid; the protrusion was of about the size of a half-inch marble, of an ashy grey colour, too far gone for recovery. The constriction being divided, the gut was gently pulled down and the diverticulum was invaginated into the lumen of the bowel. Lembert's sutures of fine silk were used to secure the peritoneum. The sac was removed, the wound was washed with an antiseptic, a small drain was used, deep sutures to attempt a radical cure were now inserted, and the patient was put back to bed. An uninterrupted recovery followed, the patient leaving the hospital in the fifth week. This was the second case that had come under his care, the other requiring enterectomy and being in the inguinal region. The bud-like process in the latter case was about half the lumen of the bowel; 14 inches were removed. The patient was a man, aged 48 years, and also made a good recovery.

Dr. W. BLAIR BELL read a note on a method of treatment which he had adopted in two cases in which children, aged 18 months and four and a half years, had swallowed foreign bodies—the one a brooch and the other a bed-knob. He had given the children absorbent cotton-wool teased finely in their food. The result had been extremely satisfactory in each case, the swallowed body being passed in at most 18 hours enveloped in the wool.—In reply to Mr. LITLER JONES Dr. BELL said that so far as he knew the method was a new one and that he could find no record of similar treatment, although "hair" had been recommended since it had a faculty for forming hair-balls.

Dr. CARTER read a note on Digestants and related a number of experiments illustrating the relative values of recent and old pepsin and of papain as digestants of proteids. He also mentioned other experiments showing the influence of antiseptics on both peptic and pancreatic digestion and the contrast between oxidising antiseptics and others. Lastly, he pointed out that the bacillus typhosus did not influence digestion and though, as a rule, antiseptics had no restraining influence on the bacillus, yet peroxide of hydrogen, lysol, and formalin in such degrees of dilution as admitted of their administration internally had a marked effect, both inhibiting the growth of, and killing, the bacillus.

Dr. R. J. M. BUCHANAN read a paper on the Interpretation of Physical Signs in Pleural Empyema. He drew attention to the frequent occurrence in cases of pleural effusion of auscultatory signs the same as those obtaining over solid lung. He considered Baccelli's sign untrustworthy as a distinction between serous and purulent effusions. The auscultatory signs over purulent effusion resembled, in his experience, those over consolidated lung more than those over serous effusion and he offered an explanation in support of his view, based upon a series of illustrative cases. He was of opinion that serous effusion exercised a selective rather than a wholly inhibitive influence over the transmission of vocal vibrations. He pointed out the danger of errors in diagnosis in cases of the "acute pneumonic type" of pleuritis and the probability that in such cases purulent effusion might be present from the onset. In concluding Dr. Buchanan emphasised the necessity for a more careful study and interpretation of the physical signs so as to establish strong grounds in practice for advocating exploratory puncture.—Dr. A. G. GULLAN mentioned a case in which the vocal fremitus, breath sounds, and vocal resonance were transmitted through a purulent effusion. The patient was a man, aged about 40 years, who was supposed to have a thickened pleura, as he had a previous history of pleurisy on the affected side. His temperature, night sweats, and general appearance were considered by the physician in charge to be due to large tuberculous cavities which existed at both apices. After death, however, the upper parts of the lungs were affected by marked tuberculosis but pus was found in the pleural cavity.—Dr. T. R. GLYNN mentioned the importance of the obliquity of the line of dulness in pneumonia when the patient was sitting up. He said that in some cases, though the clinical symptoms pointed to a large effusion being present, only a small quantity of fluid could be drawn off, the excessive dulness being due to concurrent pneumonia.—Dr. W. B. WARRINGTON said he thought the existence of bronchial breathing was independent of the nature of the material conducting the glottic sound and was observed equally whether the fluid was serous or purulent. He considered the chief difficulty was to explain the existence of bronchial breathing in some cases of pleural effusion and in others the diminution of all the normal auscultatory phenomena.—Dr. HUBERT ARMSTRONG remarked that empyema, like enteric fever, was a disease which occurred with greatest frequency in children and yet was generally discussed in the aspects which it presented in adults. A most important point in the diagnosis was the altered position of the apex beat. This and the extreme dulness with distinctive resistance on percussion were the signs on which he placed most reliance, but when in doubt he never hesitated to explore, using a large needle.—Dr. E. T. DAVIES said that in his experience the most trustworthy sign of pleural effusion was the absence of vocal fremitus, but the only certain evidence of pleural effusion was obtained by the use of the exploring needle.—The following gentlemen also took part in the discussion: Dr. NATHAN RAW, Mr. LITLER JONES, Dr. JOHN HAY, Dr. J. HILL ABRAM, and Dr. J. LLOYD ROBERTS.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at Manchester on April 15th, Dr. W. J. Sinclair (Manchester), the President, being in the chair.—The meeting was devoted to a discussion on Abortion. Dr. W. E. Fothergill (Manchester) brought forward some points regarding the Pathology of "Habitual" and Incomplete Abortion. "Habitual" abortion was defined as a term applied to the consecutive occurrence of from three to five abortions in the same patient without any sign of syphilis. He had examined a large number of specimens from such cases and had found that *there was constantly present* thrombosis of the intervillous spaces to an extent sufficient to cause death of the ovum. Regarding the use of chlorate of potassium in such cases, he asked whether the drug diminished the coagulability of the blood. Speaking on incomplete abortion with reference to the fate of portions of ovuline tissue left in the uterus in non-septic cases, he said that, of course, in many instances breaking down and discharge of the tissue occurred but in others he suggested that the decidual cell acted in some degree as a phagocyte, eating up the ovuline tissues. He further suggested, on the ground of microscopical observation, that the decidual cell was an active phagocyte with the function of repelling invasion by chorionic villi. When the decidual cells failed to check the activity of the fœtal villous growth deciduoma malignum *might result*.—Dr. J. B. Hellier (Leeds) introduced the Medical Indications for Induction. To establish an imperative indication, the patient's life must be seriously threatened and the operation must be likely to do good. In advanced cardiac disease induction in the early months of pregnancy was hardly ever the correct treatment and strong reasons were adduced against the performance of the operation in cases of pulmonary tuberculosis and of insanity. On the other hand, Dr. Hellier recognised its value in three classes of diseases: 1. Hyperemesis gravidarum of the "pernicious" kind, in which early induction was necessary to obtain a successful result. A pulse of 120 implied a serious condition; one of from 130 to 140 meant a doubtful prognosis in any case. Women who before conception had had symptoms of gastric ulcer, although the symptoms might have ceased for some time, were liable to suffer severely from vomiting in pregnancy. 2 Certain cases of chorea gravidarum in which serious nervous and constitutional symptoms appeared. 3. Cases of albuminuria and anasarca due to nephritis. When the toxæmia was due to the pregnant state the termination of the latter led to cessation of the production of the toxic material. But this effect was not instantaneous, time was required before improvement could be obtained, and therefore induction must not be delayed too long.—Dr. J. E. Gemmell (Liverpool) brought forward the Methods of Induction. Bearing in mind the hæmorrhage and sepsis arising from incomplete natural abortion, the method chosen should be that in which these complications were best guarded against. The time selected should therefore be before the end of the fourth month; the method, that of dilatation by means of Hegar's dilators, curettage, and gauze packing, after the same preparations and under the same conditions that were usual in any other surgical operation by the vaginal route. By this method the whole field of operation was under control from beginning to end; the difficulty of extraction of the fœtus was overcome by the use of ovum forceps, or if necessary by removing the fœtus piecemeal. Dr. Gemmell's experience was of six cases in 18 years: 1. At the third month: use of sponge tents, finger and ovum forceps. 2 At third month: gum elastic bougie and gauze packing of the vagina; expulsion in 24 hours; sequelæ: pelvic cellulitis and abscess. 3. At the third month, for cancer of the cervix: bougie, expelled in 24 hours; the introduction of a second was followed by expulsion of the ovum 48 hours later. 4. At the second month: for hæmophilia which had led to nearly fatal post-partum hæmorrhage at each of three previous labours; passage of the sound and separation of the membranes; expulsion at the end of 36 hours. 5 and 6. Dilatation and curettage at one sitting. If pregnancy be allowed to advance to the fifth month induction was of doubtful value to the patient. If it be necessary the method of dilatation followed by gauze packing or the smaller Champetier de Ribes's bag was the safest line of treatment.—Dr. W. Walter (Manchester) introduced the Treatment of Incomplete Abortion, dealing with both the non-septic and septic states.—Dr. W. Macfie Campbell (Liverpool) introduced the Treatment of Abortion. After briefly reviewing the prophylactic measures Dr. Campbell said that the treatment of threatened abortion was simple and unsatisfactory, although he had occasionally been surprised by the good results from ergot which had been given to empty the uterus. With inevitable abortion arose the question as to whether treatment should be expectant or active. The first required time, carried a constantly increasing risk of sepsis, and had depressing effects upon the patient's mental state. There were also the possibilities of retention of portions of placental tissue and the need for subsequent interference. In active treatment, if tamponnement of the vagina did not lead to the emptying of the uterus, he preferred dilatation followed by digital or instrumental clearing out. He had found digital removal a difficult procedure unless the ovum was almost extruded and therefore he preferred to use the ovum forceps. With care and gentleness the pain was trifling and extraction was generally easy. If the finger discovered some attached tissues he employed Donald's flushing curette. Bleeding sometimes went on after removal or curetting and it was then necessary to pack the uterine cavity.—Dr. D. Lloyd Roberts (Manchester) held that "habitual" abortion was due to syphilis. He advocated early abortion in cases of serious cardiac disease, in nephritis, and especially in hyperemesis in which he had never regretted the performance of the operation.—Dr. A. Donald (Manchester) considered induction to be justifiable in cases of moral insanity. He carried out the induction at one sitting, dilating up to No. 16 (Matthews Duncan) and then using the flushing curette. Recovery followed without a bad symptom —Dr. J. M. H. Martin (Blackburn) thought that "habitual" abortion was due chiefly to malpositions of the uterus or to neurotic conditions. In hyperemesis it was absolutely wrong to abstain from intervention.—Dr. E. O. Croft (Leeds) took a middle position in regard to induction. He advocated preliminary treatment by instrumental separation of the ovum or by packing the cervix with gauze. As a result the cervix became softer and was more easily dilated subsequently. Surgical methods, he thought, were advisable only in urgent cases.—Dr. E. T. Davies (Liverpool) supported Dr. Donald's remarks anent moral insanity on the ground of a similar case in his practice.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on April 27th, Dr. J. Nigel Stark, the President, being in the chair.—Dr. Robert Jardine read notes of a case of Recurring Eclampsia. The history of the first attack was as follows. A married woman, aged 30 years, a quartipara, was admitted into hospital under Dr. M. Black's care on April 23rd, 1903. She was believed to be eight months pregnant. She had three fits before admission and was unconscious when admitted. There was slight œdema of her hands and feet and her urine was loaded with albumin. Under treatment she regained consciousness on April 26th and was delivered by natural efforts on the following day of a dead child. There was still a trace of albumin in the urine when she left the hospital. On Dec. 3rd the patient was again admitted to the hospital in a semi-comatose condition with a history of convulsions which had continued for 12 hours. The urine was found to contain a large quantity of albumin with granular and hyaline casts and degenerated blood cells. Saline solution was injected subcutaneously. The os uteri was dilated with Bossi's dilator and a live child was delivered with forceps. The tube casts disappeared but there was still a trace of albumin when the patient left the hospital.—Dr. Jardine also read notes of a case of Hydrocephalus with Post-partum Hæmorrhage. The patient, who was a married woman, a bipara, was admitted to hospital on Oct. 12th, 1902, after two attempts had been made to deliver her with forceps outside. The uterus was firmly moulded round the child but there was no special thinning of the lower uterine segment. The uterus was in a state of continuous tonic contraction. The large head could be felt to crackle under the fingers. Dr. Jardine perforated and delivered by means of a cranioclast As profuse hæmorrhage came on he cleared out the placenta and compressed the uterus bimanually. An intra-uterine douche at 120° F. was given, followed by a solution of suprarenal gland, 30 grains to the pint. As the uterus still remained uncontracted it was plugged with iodoform gauze.—Dr. J. K. Kelly read notes of two cases of Primary Carcinoma of the Ovary. In each both ovaries were affected. One patient was married and 45 years of age and the other was unmarried and 30 years of age.—Dr. Peter McBryde showed a Long Feather which was discharged from a labial abscess in a girl, aged 15 years.—Dr. S. J. Cameron showed a case of Spina Bifida in which operation was performed on the day of birth. The skin over the tumour had been injured during parturition and showed a tendency to slough a few hours after birth.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 19th, Dr. H. Angus, the President, being in the chair.—Mr. Vaughan Bateson gave an address on Medical Customs of the Tibetans, which was illustrated by photographs and specimens of charms, &c. He said that the medical men were priests and that drugs were very little used in the treatment of disease but that they relied chiefly on charms. These were in some cases objects of the nature of jewellery or in others inscriptions on paper which were worn on the person, different inscriptions being used according to the object desired. Other remedial measures were bathing in waters which at certain times were supposed to possess healing virtues, and the use of musical instruments, drums and trumpets. Surgical measures were apparently never undertaken among the Tibetans. In cases of snake-bite pieces of sandstone were applied to suck away the poison. Syphilis, at least in the familiar form, was rare. Leprosy was common, as was apoplexy. The methods of disposing of the dead were described. Cremation was practised in the case of persons of peculiar sanctity but was rare owing to the scarcity of fuel. The most common practice was to expose the body to be eaten by vultures and wild animals. Bodies were also put into the water sometimes.—Questions were asked by Dr. D. Goyder, Dr. H. J. Campbell, Dr. W. A. Evans, and Dr. S. Johnston, and Mr. Bateson replied.

ASSOCIATION OF ASYLUM WORKERS.—The annual meeting of this association will be held at the Medical Society's House, 11, Chandos-street, Cavendish-square, London, W., on Tuesday, May 17th, at 4 P.M., when Sir James Crichton-Browne (President of the association) will be in the chair. All interested in asylum work and workers are cordially invited to attend.

Reviews and Notices of Books.

Nothnagel's Encyclopædia of Practical Medicine: Diseases of the Liver, Pancreas, and Suprarenal Capsules. By LEOPOLD OSER, M.D., EDMUND NEUSSER, M.D., HEINRICH QUINCKE, M D., and G. HOPPE SEYLER, M.D. Authorised translation from the German. Edited, with additions, by REGINALD H. FITZ, M D., and FREDERICK A. PACKARD, M.D. London, Philadelphia, and New York: W. B Saunders and Co. 1903. Pp. 918. Price, cloth 21*s.* net; half morocco, 25*s.* net.

THIS volume forms an excellent work of reference on diseases of the organs dealt with and especially from the pathological and clinical standpoints. The first section deals with Diseases of the Pancreas and comprises some 300 pages of which over 30 are devoted to a very complete bibliography of the subject. It is the work of Dr. L. Oser of Vienna and is prefaced by a short article on the anatomy of the pancreas by Professor Emil Zuckerkandl and one on the physiology of the organ by Dr. Katz who is also responsible with Dr. Oser for many of the experimental researches of which protocols are given in the text. A critical statement and exhaustive discussion of the general pathology, symptomatology, and treatment of pancreatic diseases follow. The groups of symptoms found in pancreatic diseases in general are most carefully recorded and impartially considered with reference to their significance and value in diagnosis. These symptoms Dr. Oser divides into three groups: the first, those directly referable to the impaired action of the pancreas, comprising glycosuria, diabetes, fatty stools, and faulty digestion of proteids; the second includes symptoms which are in many cases suggestive but by no means pathognomonic, such as urinary changes other than glycosuria, sialorrhœa pancreatica, an early and rapidly advancing cachexia, and the so-called bronzed diabetes; and the third group comprises symptoms which do not by themselves suggest pancreatic involvement—namely, jaundice, pain, and dyspeptic symptoms. The remainder of the section is devoted to the separate consideration of the individual diseases of the pancreas. Among these we may mention as very excellent and complete the accounts given of the various forms of pancreatitis and the relation of hæmorrhagic processes to them, of cysts and cancer of the pancreas, and the discussion of the nature and origin of fat necrosis. A commendable feature is the frankness with which Dr. Oser points out the incomplete character of our present knowledge of many matters concerned and the difficulty, in some cases the impossibility, of forming a diagnosis with the means at our disposal, while his plea for careful observation and record of cases of pancreatic disease in general we can heartily endorse. It is also gratifying to recognise that the labours of English and American workers on the subject are duly recognised. Dr. Fitz, the editor of this section, whose own work on pancreatic disease is so well known, has added many editorial notes of great value, bringing the work more up to date, although, of course, many advances have been made since the publication, notably the recent work of Mr. A. W. Mayo Robson and Dr. P. J. Cammidge (THE LANCET, March 19th, 1904, pp. 773, 782, &c.).

The second section deals with Diseases of the Suprarenal Capsules and is the work of Dr. Edmund Neusser of Vienna. Its general plan is similar to that of the preceding section, though as a whole it is less critical and less well arranged, and it is considerably improved by the additions of the editor, Dr. Fitz, notably in the case of the therapeutical uses of suprarenal extract. The account of Addison's disease is, however, a valuable and exhaustive review of our knowledge of it. Dr. Neusser endeavours to combine the internal secretion and the auto-intoxication theories of the function of the suprarenals; the pigmentation in Addison's disease he regards as a secondary phenomenon not dependent on the capsular disease but on the associated involvement of the abdominal sympathetic system.

The third section, that dealing with Diseases of the Liver, occupies more than half of the book. It is the joint work of Dr. Quincke and Dr. Hoppe-Seyler of Kiel and like the other two sections begins with an anatomical and physiological introduction followed by a general account of the pathology and symptoms of hepatic disease, after which the individual diseases are considered separately. The bibliography here, however, is given for each disease and not collectively at the end of the section. The general accounts are, of course, of a less controversial character than in the previous sections and are almost without exception clear and critical. In the section on cholelithiasis great stress is laid on the rôle of micro-organisms and the catarrhal processes produced by them in the genesis of gall-stones. In that on cirrhosis the author (Dr. Quincke) perhaps hardly does justice to the work of English observers, while the account of malignant disease of the liver is not quite so clear as could be wished. Hydatid disease is very carefully described and an excellent discussion of the nature of multilocular or alveolar hydatid disease is appended to it. This section was edited by Dr. Frederick A. Packard whose untimely death is deplored by the general editor, Dr. Alfred Stengel, in his preface.

Annual Report of the Public Health of Gibraltar for the Year 1903 By W. H. HORROCKS, M B, B Sc. Lond, D.P.H. R.C.P.S. Eng, Major, R.A.M.C., M.O.H. Gibraltar: Garrison Library Printing Establishment. 1904. Pp. 22.

Major Horrocks points out that in order to compare the death-rate of Gibraltar with the death-rates shown in the Registrar-General's latest return it is necessary to calculate a "standard death-rate." The population of Gibraltar, as compared with that of England and Wales, has a proportionately small number living at the ages of high mortality and a proportionately large number at the ages of low mortality. Consequently, the general death rate as recorded is too favourable and must be corrected for age and sex distribution in order to make it comparable with the corrected death-rates given by the Registrar General. The general death-rate of 17·62 per 1000 is low, the mortality being highest in the first quarter and lowest in the third quarter of the year. The infantile mortality of 179·6 per 1000 is very high and considerably above the average, the high rate being due to a large number of deaths from bronchitis and broncho-pneumonia. Among the diseases causing mortality enteric fever proved fatal in five out of 20 reported cases. The principal zymotic diseases caused 49 deaths, equivalent to a zymotic mortality of 2·11 per 1000 of the total civil population. There were 31 deaths from tuberculous diseases, equivalent to a death-rate of 1·52 per 1000 of the total civil population. Major Horrocks details the administrative measures which are necessary in the struggle against tuberculosis. He writes that the general sanitary condition of Gibraltar is satisfactory taking into consideration the overcrowding of individuals in houses and the aggregation of houses on areas which characterises the town. House-to-house inspection continues and month by month insanitary houses are brought into line with modern requirements. The by-laws as to drains and sanitary fittings require to be brought up to the standard. The supply of drinking water has been a source of anxiety owing to the deficient rainfall. During the year a collecting area of ten acres has been provided on the sand slopes above Catalan Bay. This area is capable of yielding 240,000 gallons per inch of rainfall. The sand has been covered with corrugated iron sheets laid on creasoted timber framing. The water from the area is collected in a channel at the bottom of the slope and is conveyed to four reservoirs.

A collecting area of 37 acres is projected and an increase to the reservoirs which will allow of a pipe supply to individual houses. At present the distribution of drinking water by butts and barrels is mainly in the hands of private individuals. A scheme has been elaborated by which all butts and barrels are sterilised by steam once a week. Should an epidemic of enteric fever or cholera occur it will be feasible to sterilise all the butts and barrels once a day. The bacteriological laboratory has been completely equipped and it is now possible to make a systematic biological examination of the public water-supplies. The supply of sanitary water to the high-level districts near Moorish Castle has been improved by the construction of a high-level reservoir. The ventilation of the main sewers, a matter of great difficulty, is under consideration. For the removal of refuse the commissioners have decided to replace the straw baskets by covered galvanised-iron receptacles. It is hoped that the sanitary commissioners will soon be able to erect one of the new destructors at the North Front. All infected articles of clothing and bedding have been satisfactorily disinfected in the Washington Lyon disinfecting apparatus. The dairies and cowsheds in the town are not satisfactory. Major Horrocks is anxious that the Dairies, Cowsheds, and Milkshops Orders of the Local Government Board shall be made to apply to Gibraltar. Constant supervision has been exercised over the food-supplies sold in the town. The report is evidently one of sterling work.

A Manual of Pathology. By JOSEPH COATS, M.D. Glasg., late Professor of Pathology in the University of Glasgow. Fifth Edition, revised throughout by L. R. SUTHERLAND, M.B. Glasg., Professor of Pathology in the University of St. Andrews. With 729 illustrations and two coloured plates. London, New York, and Bombay: Longmans, Green, and Co. 1903. Pp. 1287. Price 28*s.*

IN reviewing a text-book so well known as "A Manual of Pathology" by the late Dr. Coats no words are required to explain the scope and character of the publication. The fifth edition has been admirably revised throughout by Professor Sutherland and the work may be regarded as one of the best treatises on the subject of pathology. The requirements of the student have been kept prominently in view and the whole manner in which the manual is written is particularly adapted to the purpose of conveying a sound knowledge of pathological processes; at the same time the practitioner will find the work a valuable one for reference.

Much interesting material is contained in the first section of Part I., headed Nature, Causation, and Terminations of Disease in General. The chapter on bacteriology has been omitted, as Professor Sutherland rightly considers that this subject is now one which can only be adequately dealt with in special works. The etiological connexion of bacteria with disease is, however, referred to and we are glad to find that due emphasis is laid on the variation of the powers of resistance to the inroads of pathogenic organisms on the part of the tissues as being an important element in the causation of pathological conditions. With the advance of knowledge in bacteriology there has been a great tendency to magnify the powers of the seed and to forget the influence of the soil. The actual etiology of particular forms of disease is in many cases obscure because of the limitations of medical knowledge. The most obvious manner in which morbid changes may be set up is by the direct interference of forces external to the body but equally important is a pre-existing condition which renders certain structures more liable to interference than others. This pre-existing state may be inherent in the actual structure of the part or it may be an acquired peculiarity, and this "susceptibility" or "predisposition" cannot be too strongly impressed upon the student when studying pathogenic factors. In this connexion the remarks on exposure to cold are interesting. It is pointed out that exposure can scarcely be the direct cause of disease as it produces in different persons most diverse results. It is probable, however, that the effect of the exposure is, by reflex nervous influences, to render some part unduly susceptible to the exciting cause of disease, the locality which is thus rendered susceptible being determined often by the individual characteristics of the person attacked.

In our review of the previous edition[1] we drew attention to the brevity with which the developments of hæmatology were considered. In the present edition this defect has been fully remedied and a good account is given of the Alterations of the Blood and its Constituents.' The description of the various forms of leucocytes is particularly lucid and the introduction of two coloured plates considerably adds to the value of the letterpress. The condition of leukæmia receives due attention and the various tissue changes found in connexion with the disease are carefully noted. The microscopic changes occurring in the blood in cases of malaria are also described and directions are given as to the technique employed in the examination of the blood for the hæmatozoon.

The method in which the pathology of the various systems and organs of the body is discussed deserves high praise. A noteworthy feature of the book is its thoroughness; there is no "padding" with unnecessary details of conflicting theories, yet nothing that is of importance seems to be omitted. Some text-books on pathology are only guides to morbid anatomy but Dr. Coats's manual is not so limited. Not only are the structural alterations brought about by disease described but the essential nature and (so far as present knowledge permits) the individual causes of morbid processes are minutely investigated. The student is thus introduced to the scientific study of disease in as broad a sense as possible and the knowledge so attained will be of incalculable value to him subsequently when engaged in the actual practice of his profession. The book is well illustrated and the fact that in this edition the number of illustrations has been increased from 490 to 729 is proof of the complete manner in which the work has been revised.

The Prevention of Consumption. By ALFRED P. HILLIER, M.D. Edin., Secretary to the National Association for the Prevention of Tuberculosis. London: Longmans, Green, and Co. 1903. Pp. 225. Price 5*s.* net.

THIS little book, which comprises 157 pages of large text together with illustrations and an appendix of 68 pages embracing reprints of articles by the author and others, forms yet another addition to the already numerous books and pamphlets upon the same subject. In this instance the book has had the advantage of being revised by Professor Koch and the eminent pathologist writes a few introductory remarks in which he commends the efforts of the author. Dr. Hillier has certainly been at pains to collect much heterogeneous material relative to the subject of which he treats, embodying as it does comments upon the attitude of the antivivisectionists and upon the influence of pulmonary tuberculosis upon art. The book is written at a higher level than any of the previous efforts of the author with which we are acquainted and there are indications that the reviser has modified or restrained some of Dr. Hillier's former views which were perhaps a little extravagant. One effect of this editing has been, in a sense, to enhance the value of the book but it has also introduced something like a dual authorship which rather complicates the professedly popular character of the volume. We find, for instance, that in one place the author is seeking to explain the meaning of certain recent scientific work not easily comprehended by the layman while on another page there is the homely injunction—in big print, too—"Do not spit on the floor." In explaining the nature of the disease too much space is devoted to the opinions of the ancients and too little, relatively, to modern ideas. As a popular exposition we cannot say that this little volume compares altogether favourably with Dr. S. A. Knopf's "Tuberculosis as a Disease of the Masses and how to Combat it," a popular essay which in 1901 was awarded the prize offered by the International Congress on Tuberculosis which met at Berlin in 1899. But notwithstanding this a discriminating public will derive much useful information from Dr. Hillier's book. We say "discriminating" because in some places the author has not always succeeded in conveying the meaning which we imagine that he intended to convey. For instance, his remarks on compulsory notification in Sheffield leave the impression upon the reader that the local Act subjects tuberculous persons to the same penalties as regards exposure and the like as is the case with acute infections diseases, but this is not so. So, too, with respect to prevention, the statement that "measures which count on general hygiene alone are feeble and futile" is an unfortunate one, seeing that these very measures have apparently been responsible for the enormous decline which has taken place in the disease. Certain special measures are doubtless desirable but we shall do well to resist any neglect of "general hygiene." We are glad to see that Dr. Hillier accepts the view for which we have constantly contended in our columns—i.e., that the infectivity of pulmonary tuberculosis is "undoubtedly low"—but we do not quite follow his meaning when he says that having regard to the long period during which infection may last "this low infectivity is enough under certain circumstances to hand on infection from one case to at least one or two more and thus keep our tuberculosis death-rate as it is to-day." The "certain circumstances" do not obviously obtain generally as the disease continues steadily to diminish. Another instance of over-statement occurs on p. 156, where the author remarks that "the man sent home on a sick allowance and a weekly bottle of medicine from some dispensary to spit on the hearth and cough his time away amidst the family is doomed himself and will probably infect others." Surely this should read *may possibly infect others*. If, as is by no means unlikely, a second edition of this little book is called for, Dr. Hillier will do well to modify some of the passages to which we have referred, and he might, too, with advantage devote a little more space to the results of open-air treatment. A few remarks on the possible fallacies of the statistics relating to sanatoriums would be useful, as the assumption underlying these figures that had the patients not entered the sanatoriums they would either have died or have become worse is, of course, largely gratuitous. When maps or charts relative to the distribution of pulmonary tuberculosis are furnished the author should state the year or the periods to which they relate and care should be taken to ascertain that the term "tuberculosis" has the same meaning wherever the figures relating to it are compared.

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[1] THE LANCET, August 11th, 1900, p. 403.

The Bombay Medical and Physical Society. Vol. VII., No. 1. January, 1904. Bombay: Printed at the Times Press. 1904. Pp. 37.

AT the annual meeting of this society the report for the preceding year was read and was followed by three papers—the first, by Lieutenant-Colonel H. P. Dimmock, I.M.S., on Trypanosomiasis, in which he drew attention to "epidemic dropsy" which particularly requires investigation; the second, by Lieutenant-Colonel Collie, I.M.S., Notes on a Few Selected Operation Cases at the Petit Hospital; and the third, by Captain E. F. Gordon Tucker, I.M.S., on Plague, a Soil Infection. Colonel Collie's operation cases are of considerable clinical interest; they are cases of "pyosalpingo-oöphoritis," of "ovarian cyst with twisted pedicle," and of "enlarged spleen, much elongated pedicle allowing the spleen to occupy the right side of the abdomen; acute symptoms from twisted pedicle." In this case the abdomen was occupied by a large hard tumour on the right side extending from Poupart's ligament to the costal arch but separable from the liver. The tumour extended about two inches to the left of the middle line between the umbilicus and the pubes and on the right side into the lumbar region where its outline could be distinctly felt. It was hard, smooth, and mobile; the contour towards the middle line was well defined and presented a slight depression opposite the umbilicus. On percussion over the splenic region an area of dulness could be marked out as large as is often found with a normal spleen and on deep palpation it appeared that the spleen could be felt in its normal position. Though the tumour "felt like an enlarged spleen on the wrong side of the body," the diagnosis made lay between a sarcoma of the ovary with a twisted pedicle and a renal tumour. At the operation a large dark slate-coloured, apparently solid, tumour was found occupying the whole right side of the abdomen; it appeared at first sight to be fixed to the spine, but on raising the tumour the pedicle was found to extend as a broad twisted band into the splenic region. It was this broad band which was taken for the spleen; the tumour was the spleen displaced. On examining the pedicle a double twist was observed and in order to undo this the spleen had to be lifted out of the abdomen. Before closing the abdomen the colour of the spleen had markedly improved and its consistence was softer. The patient recovered and, when the dressings were removed, the spleen was found adherent to the abdominal wound and diminished to a sixth of its former size. The history of the case is most instructive.

Captain Tucker's paper is worth study. He dwells on the circumstance that we know little or nothing of the characteristics of the "bacillus pestis" as a saprophyte in nature. He writes: "We wish to know whether the involution forms which we can produce by methods which only in a very inadequate manner mimic the conditions under which the bacillus may flourish in external nature represent forms under which the bacillus may remain latent or non-virulent for long periods in houses, clothing, some host other than man and rodents, or the soil. Or, if it be demonstrated that in a town which has suffered from one epidemic and has remained quite free for months but again becomes the seat of the pestilence, evidence of definite infection through some imported case is always forthcoming, and that there is no such thing as plague reappearing spontaneously in a previously infected district under seasonal or other variations, then the question arises, What are the peculiar local conditions which favour the occurrence of an epidemic after definite periods of quiescence or at definite seasons of the year in a particular locality?" The problem before us is to attempt to find out the position and condition of the plague bacillus in nature during the latter portion of the "period of quiescence," when it is probable, though not proved, that it exists in the state of a facultative saprophyte. Should it be ultimately proved, as Captain Tucker ventures to think that it will be, that the plague bacillus exists as a saprophyte in the soil, it will have the result of impressing on the public that the one and only way of dealing with the problem is partial evacuation carried out on scientific lines, an evacuation of houses rigorously maintained for eight weeks against all and any who refuse to avail themselves of the protection provided for them by the Government through inoculation.

LIBRARY TABLE.

Short Talks with Young Mothers. By CHARLES GILMORE KERLEY, M.D. London and New York: G. P. Putnam's Sons, The Knickerbocker Press. 1901. Pp. 282. Price 5*s.*—We have read this little book with considerable interest. It is full of practical suggestions and has evidently been written by a man who has had wide personal experience in the management of the nursery. It is singularly free from all theoretical bias. Dr. Kerley has many interesting observations to make on the subject of habits and with reference to the question of capricious appetite—one of the commonest and most objectionable habits incidental to childhood—he recommends an original line of treatment which he claims to be followed by very excellent results. Habits of appetite, like other bad habits, are very easily engendered in young children by carelessness on the part of the nurse, and when once acquired they can only be removed by systematic attention. Habits of bed-wetting, masturbation, nail-biting, and thumb-sucking are particularly liable to manifest themselves in degenerate children born of neurotic parents and they are particularly difficult to cure. Every word that Dr. Kerley has to say on the subject of these habits is worth attention and is useful not only for mothers but for practitioners also who are frequently consulted on these matters. The directions for the feeding of infants and young children are very simple and in accordance with the best modern principles. For infants graduated mixtures prepared by the combination of gravity cream, pure milk, sugar and water are recommended. By the use of the formulæ which the author supplies an accurate percentage modification is secured without any mechanical and chemical interference with the natural properties of milk. With regard to the preservation of the milk the author is in favour of pasteurisation as opposed to sterilisation. We highly commend the diet schedules which are drawn up for children from one year to six years of age. Two points which we consider of very great importance have evidently been carefully borne in mind in drawing up these dietaries. One of them is that the diet should be thoroughly representative, varied and free from monotony, and secondly, that an adequate supply of nitrogenous food apart from butcher's meat should be provided for the requirements of tissue growth. We consider these dietaries, if intelligently modified to meet the requirements of personal idiosyncrasies and individual peculiarities of digestion, will prove of the greatest use to those who are called upon to arrange a child's diet. It is impossible in a short space to do justice to the excellence and originality of this little book. We can only advise all those who are interested in the study and rearing of children to read what Dr. Kerley modestly describes as "Short Talks with Young Mothers."

The Meal Poke, University of St. Andrews, University College, Dundee. Edited by B. BELLYSE BAILDON, M.A., Ph.D., and R. COCHRANE BUIST, M.A. St. And., M.D. Edin., for the Committee of the Students' Union Bazaar. Dundee: James P. Mathew and Co. 1903. Pp. 112.—This is a book apparently written for a bazaar. It does not possess a formal prose introduction but possibly the first verse of the opening poem may serve in some measure to suggest at least the origin of the title:—

> "The meal-pokes, the meal-pokes,
> The sonsie, gaucie meal-poke,
> Baith rich and puir are fain to gi'
> To ony students' meal-poke."

Amongst the contributors to the volume are Dr. Bellyse Baildon (the author of the prefatory verses), Dr. Arthur Balfour, Dr. R. Cochrane Buist, Dr. J. M. Barrie (who is not at his best), and Dr. Andrew Lang, whose playful humour finds a suitable outlet in his article on Andreapolis. The book contains a number of illustrations and two pieces of music, of which one, entitled the "Pawkie Duke," is stated to be "a Scottish national song for the guidance of Englishmen and other foreigners."

Mechanical Vibratory Stimulation, its Theory and Application in the Treatment of Disease. By MAURICE F. PILGRIM, M.D., First Vice-President of the American Electro-therapeutic Association, Professor of Psychiatry in the New York School of Physical Therapeutics, Editor of Department of Psychiatry in the *Journal of Advanced Therapeutics.* New York: The Lawrence Press. Pp. 152.—Dr. Maurice F. Pilgrim teaches that mechanical vibratory stimulation increases the volume of the blood and lymph flow, increases nutrition, improves the respiratory process, stimulates secretion, improves muscular metabolism, stimulates the excretory organs, relieves congestion, and inhibits pain. The great remedy, however, must be properly employed and the book is written to show how this may best be accomplished.

Burdett's Hospitals and Charities, 1904. By Sir HENRY BURDETT, K.C.B. London: The Scientific Press. Pp. 1032. Price 5*s.* net.—This useful compilation is larger by some 12 pages than the issue for 1903. Seven pages of this increase are due to an increase in the introductory matter, this again being probably due to the space given to the affairs of St. Bartholomew's Hospital. *En passant* we wish that Sir Henry Burdett would not write about "Bart.'s" as he does upon p. 78. This slang, however, in no way detracts from the value of the information concerning hospitals with which the book is mainly concerned. Not only are hospitals in these islands dealt with but there are also accounts of Indian and colonial hospitals, of those in Egypt, and of British hospitals abroad. There is in addition a section dealing with American hospitals. We can add nothing to what we have said upon previous occasions—namely, that the book is indispensable to anyone who wishes to know about hospitals and their management.

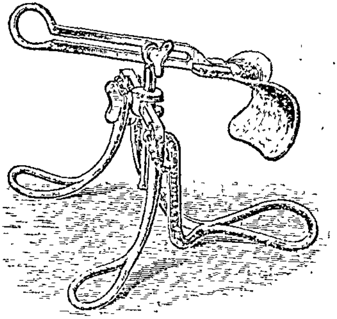
The Old Riddle and the Newest Answer. By JOHN GERARD, S.J., F.L.S. London, New York, and Bombay: Longmans, Green, and Co. 1904. Pp. 293. Price 5*s.* net.—In this work the author endeavours to demonstrate by quotations and inferences drawn from the writings of the greatest scientific men that the forces of the universe itself do not and cannot solve the great riddle which from the beginning of time nature has offered to every thinking man. The author says that the enemies of science are not the Philistines alone who would muzzle or stifle her. More numerous and dangerous are those, professedly of her own household, who ascribe to her pretensions of which she herself knows nothing and who strive to make her responsible for a philosophy entirely beyond her scope. The work is an inquiry as to how far the assumptions of scientific men are rational. That the Cosmos in which we dwell has not existed for ever is a truth enforced by the researches of physical science no less than by the clear teaching of reason. It certainly had a beginning and there must be a Cause to which that beginning was due—a cause capable of producing all which we find to have been actually produced. The material universe and the mechanism of the heavens, organic life with all its infinite marvels and varieties, animal sensation, human intelligence, the canons of beauty, the law of good and evil—all these must have existed potentially in the First Cause, as in the Source whence alone they could be derived. In particular the Law of Evolution has been studied in its various significations in order to determine from the point of view of reason and science alone whether it can be said that the prime factor is thus supplied. Darwinism is weighed and found wanting. Fleischmann's lectures, which have appeared in book form in Leipsic, are quoted which contend that "the theory of descent has not a single fact to confirm it in the realm of nature. It is not the result of scientific research but purely the product of the imagination." The author contends that it has become apparent that the days of Darwinism are numbered. He considers that the result of the investigation makes it evident that while modern discovery has immensely multiplied and magnified the marvels which have to be accounted for, it has disclosed nothing which can be supposed to account for them in a manner to satisfy our reason and our intellectual need for causality. The origin and nature of matter and force, the source of motion, of life, of sensation and consciousness, of rational intelligence and language, of free-will, of the reign of law and order to which all nature testifies—all these are for science utterly unsolved problems. Since it is not possible to find the cause required within the world of material forces and sensible phenomena it becomes no less obvious that it must lie beyond, across the frontier which nothing material can pass. We know that a Cause exists. We know that it must possess every excellence which we discover in nature, all that she has and more, since what she derives from it the Cause of nature has of itself. In it must be all power, for except as flowing from it there is no power possible. Finally, as a capable Cause of law and order in nature and of intellect and will in man, the First Cause must be super-eminently endowed with understanding and freedom in the exercise of its might or it would be inferior to its own works. Nature not being intelligent, not even a being, but an order of things constituting a power subject to law, cannot therefore be God. She is the wondrous product of an Almighty Will. And so the author says that, in the words of Rivarol, God is the explanation of the world and the world is the demonstration of God. He adds that the acceptance of a Self-existent, All-powerful, and Intelligent Being can alone serve as a basis for any system of Cosmogony which satisfies our intellectual need of causation, while, on the other hand, the nature of this Being, as necessarily beyond the scope of our senses, can be known to us only indirectly through the effects of which He is the cause. The book is written in a scholarly vein and the diction is clear but the question involved is as old as human intelligence and the volume might just as correctly have been entitled "The Old Riddle and the Oldest Answer."

New Inventions.

SELF-RETAINING ABDOMINAL RETRACTORS FOR USE IN THE HYPOGASTRIUM AND EPIGASTRIUM.

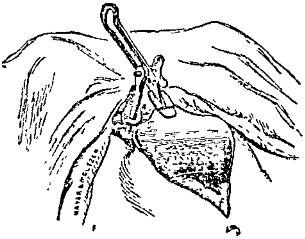
RETRACTION of the parietal incision in abdominal surgery is only necessary when the viscus or tissue under operation cannot be brought outside the abdominal cavity. On these occasions, especially when considerable force has to be exerted and maintained for some time, automatic retraction, provided that the correct angle and direction can be readily obtained, is preferable to manual, firstly, because greater steadiness can be secured, and secondly, because it partially, or entirely, takes the place of an assistant, a matter of no small moment in operations of emergency in private practice and at all times a great consideration with many surgeons on the score of asepsis. The instruments, which are represented by the accompanying illustrations, have been made for me by Messrs. Mayer and Meltzer and consist of two pieces of apparatus for automatic retraction from the direction of the pubes and sternum respectively. The former, or hypogastric set, Fig. 1, is merely a further development of Doyen's self-retaining retractor, but differs from it in that the tripod stand, which is fixed by the weight of the pelvis as well as of the thighs, allows of variation of the position of the point from which retraction is made, both laterally and vertically. The latter is most essential in that the vertical distance between the surface of the operating table and that of the mons Veneris varies greatly in spare and very stout females. The pelvic limb of the tripod is detachable to facilitate packing and is so shaped as to allow of instruments or the whole hand being introduced into the vagina. The blades, six in number, of two different depths and three different widths, are adjustable to the same handle.

FIG. 1.



Hypogastric set.

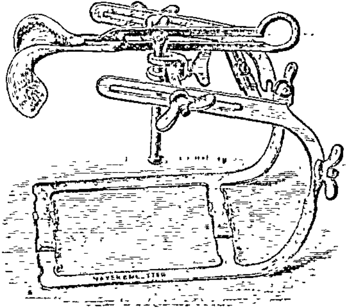
FIG. 2.



In situ.

When in position the instrument, if not required, is no inconvenience to the operator, since the handle is withdrawn towards the knees and the blade not attached. To retract a longitudinal or oblique incision in the lower half of the abdominal wall (the operator standing on the right) the selected blade is introduced with its long axis parallel to that of the wound, rotated into the

FIG. 3.

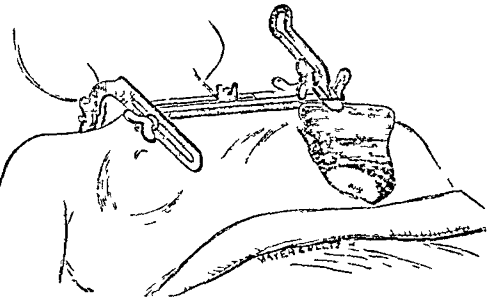


Epigastric set. The vertical pin which carries the retractor handle is erroneously shown projecting below the level of the horizontal bar. On the far side the frames are shown disconnected.

transverse position and held in the lower angle of the incision with the left hand, whilst with the right the handle is first adapted to the slot on the back of the blade and then fixed firmly to the stand in the required position by tightening the two winged screws (Fig. 2). The operation in which I have found this apparatus of most use has been hysterectomy, especially when there has been troublesome bleeding from the floor of the pelvis or where in the case of a retroperitoneal fibroma a ureter has been accidentally wounded and required suturing.

The epigastric set (Fig. 3) consists of a double frame hinged together over the shoulders and capable of being fixed at any angle by means of two winged screws, thus allowing the elevation of the horizontal bar, which carries the retractor handle, to be varied according to the depth of the chest. The position of the bar can also be varied in the slots in the sides of the anterior frame according to the length of the chest. I have found this instrument of the utmost value in operating for perforated gastric ulcer in the neighbourhood of the cardiac orifice. A deep blade is used and the upper angle of the median incision together with the liver and left costal margin forcibly retracted upwards and to the left (Fig. 4). Respiration is not affected since the anterior frame does not come in contact with the patient at all and the posterior frame is either fixed by the patient's weight or at most is only further steadied by pressure of its curved ends as they pass over the shoulders against the thick edge of the trapezius muscle. The unavoidable spring in the frame is no disadvantage, all the slack being taken up when the blade and handle are fixed. Like the hypogastric set it can be set up and placed in position in a few seconds and if not required in no way interferes with the operation as the handle is withdrawn towards the chin. It can be easily packed into an ordinary bag, the width of each frame being reducible by half for this purpose.

FIG. 4.



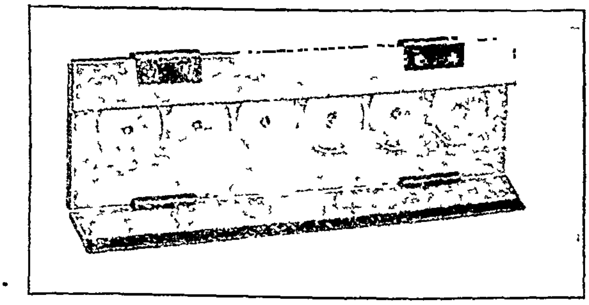
In situ.

W. F. Brook, F.R.C.S. Eng.

Swansea.

AN INSTRUMENT FOR PREPARING AND CARRYING COVER-GLASS FILMS.

This instrument consists of an aluminium case made up of a central portion with two hinged sides. The central portion contains "cells," in which the cover-glasses exactly fit, of such depth that when in position the upper surface of the cover-glass is flush with the aluminium surface. The hinged sides have a strip of indiarubber on the under surface to afford a firm hold on the cover-glass. For use, the cover-glasses are slid into the "cells," the hinged sides are turned down and held in position; a little blood is taken on the edge of a slip of visiting card or cigarette paper and lightly drawn across each cover-glass. The following are the advantages of this method which have been proved by several months' trial; it has been chiefly used for blood films but is equally good for others: 1. Saving of time at the bedside. No time is wasted choosing and picking up cover glasses. 2 Cleanliness. The cover-glasses need never be fingered. When prepared the instrument can be kept closed by an elastic band applied lengthways and wrapped in paper, contamination of the films by dust, &c., being thus avoided. 3. If films require to be fixed by heat the instrument can be placed in an oven with the films in position. 4. The films obtained by this method are more satisfactory than those obtained by the usual process of slipping cover glasses apart 5. The instrument is inexpensive and can be prepared by any good mechanic.



D. G. Marshall,
Major I.M S

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A Comitia was held on April 28th, Sir William S. Church, Bart., K.C.B., the President, being in the chair.

The following gentlemen having passed the required examination were admitted as Members of the College: James Graham Forbes, M.A., M.D. Cantab., Donald George Hall, M.A., M.D. Cantab., Charles Christopher Heywood, M.A., M.B. Cantab., L.R.C.P., George Mackay MacDonald, B.A., M.B. Cantab., L.R.C.P., David Sommerville, B A., M.D. R.U.I., and Edward Turton, M.D. Vict., L.R C P.

Licences to practise were granted to 99 gentlemen who had passed the required examinations.

A report was received from the examiners for the Murchison scholarship which was awarded to Mr. W. H. Harwood-Yarred, a student of St. Thomas's Hospital.

The following Members having been nominated by the Council were balloted for and elected as Fellows of the College: Bertram Louis Abrahams, M.B. Lond., William Cecil Bosanquet, M.D. Oxon., Thomas Robert Bradshaw, M.D. Dub., John Francis Harpin Broadbent, M.D. Oxon., Edmund Henry Colbeck, M.D. Cantab., William John Gow, M D. Lond., Arthur John Hall, M.B. Cantab., Edward Johnstone Jenkins, M.D. Oxon., Arthur Carlyle Latham, M.D. Oxon., and Charles Arthur Mercier, M.B. Lond.

The following communications were received: 1. From the Secretary of the Royal College of Surgeons of England, reporting certain proceedings of the Council on April 14th. 2 From Lady Clark, offering for the acceptance of the College a marble bust of the late Sir Andrew Clark, Bart., by H. Bain-Smith, 1888. The best thanks of the College were given to Lady Clark. 3. From the Lister Institute, inviting the College to allow its President to be nominated, *ex officio*, a Member of the Council. The request was acceded to. 4. From the Board of Trade, thanking the College for the report on beri-beri and asking permission to print it. Permission was granted.

The quarterly report, dated April 15th, of the College Finance Committee was received and adopted.

A report, dated March 21st, from the Committee of Management was received and adopted. The committee recommended the Royal Colleges to insert the following note after Paragraph xviii., Section ii., of the Regulations—viz., "Note.—A candidate who possesses a registrable qualification is admissible to re-examination without producing evidence of attendance on additional hospital practice." The committee also recommended that the Simon Langton Schools at Canterbury should be added to the list of institutions recognised by the Examining Board in England for instruction in chemistry, physics, and practical chemistry.

Another report from the same committee, dated April 11th, was received and adopted. The report recommended that the St. Paul's Eye and Ear Hospital, Liverpool, should be added to the list of ophthalmic hospitals recognised by the Examining Board in England.

A report, dated March 4th, from the Laboratories Committee was received and adopted.

After some further routine business the President dissolved the Comitia.

THE LANCET.

LONDON: SATURDAY, MAY 7, 1904.

"Passing Off."

"THE methods of commercial dishonesty are many and various and if they amount to fraud they are illegal." The quotation is from a small volume recently published,[1] the author of which, Mr. J. CUTLER, K.C., as a barrister of experience and as an authority upon the law relating to patents and trade-marks, can claim to have had considerable opportunities of appreciating mercantile ingenuity. The contents of the book were originally made public in the form of lectures delivered at King's College, where Mr. CUTLER is professor of law, and it is consequently explanatory and instructive without being rigidly technical. Its subject also is calculated to interest others than students as it will explain to those concerned with commercial morality the extent to which the law enables honest traders to protect themselves and their customers against "substitution." The protection afforded by a registered patent or trade-mark is more or less familiar to all. The intricacies which beset the administration of the law, the technical difficulties which may prevent a trade-mark from being registered or which may cause another to be removed from the register, are matters which puzzle the layman and upon which even the lawyer may speak doubtfully, but the fact that there is a register which affords valuable protection to the owner of a name or emblem distinctive of his business is generally grasped, and it is equally recognised that a distinguishing device although associated with a trader's goods in the public mind may, nevertheless, not be registrable as a trade-mark. That which is not always understood, even by those persons who have dishonest ambitions with regard to their neighbour's customers, is that even if the latter has no trade-mark, either registered or registrable, he may still have a remedy against those who seek to sell their goods as his. His action, however, in this case will be not in respect of an infringement of a trade-mark but for "*passing off*" and the claim will be that by using a copy or a colourable imitation of the mark which denotes or distinguishes the plaintiff's goods the defendant is representing that his goods are those of the plaintiff. The aggrieved party will succeed if he proves, first, that the mark on which he relies distinguishes his goods in the market and, secondly, that the mark used by the defendant is calculated to represent the defendant's goods as those of the plaintiff. It will be remembered that in the recent action brought by Messrs. BURROUGHS, WELLCOME, and Co. against a firm of druggists the claim was to restrain the defendants from passing off their goods as the goods of the plaintiff as well as for the infringement of the "tabloid" trade-mark. It was the motion of the defendants to expunge this trade-mark from the register, their failure as to this, and their subsequent appeal which made this portion of the action so prominent. The plaintiffs, however, in addition to establishing their right to their trade-mark obtained an injunction as to the "passing off," and to this they might have been held to be entitled even though the word "tabloid" had been removed from the register.

The question of "passing of" is one of interest to medical men in respect of other goods besides drugs. There are many articles for internal and external use which the medical practitioner may recommend and in respect of which he may desire to rely upon qualities associated with the wares of a particular manufacturer. In these columns we frequently give the results of our examinations of articles of diet and of other things, the makers of which no doubt profit by such praise as we are able to bestow. This may be when the manufactured article is introduced to the public, perhaps by one who hardly recognises at first the value of his production and of its scarcely acquired reputation. Later, when it has come to be associated with his name or with the distinctive label or wrapper which he has chosen for it, he will find that others are only too ready to supply the demand which he has created. These will not only offer similar goods to his, which they may have a right to do, but will copy the general "get up" and appearance of his wares by which the purchasing public know them, with the direct object of deceiving buyers who are not closely observant. Practically all the leading cases upon "passing off," the outline of which Mr. CUTLER gives in illustration of his points, have been decided at the instance of firms whose names are familiar to everybody, such as LEVER in connexion with soap; DUNLOP in connexion with the accessories of cycling; KODAK, a name which must necessarily suggest a well-known firm but which had been applied by the defendants to bicycles; and HENNESSY in connexion with brandy. Some of these cases refer to the use of a name and some to the imitation of a wrapper or label. The remedy with which Mr. CUTLER principally deals is the civil remedy, the result of which is an injunction restraining the defendant from passing off his goods as those of the successful plaintiff, together with pecuniary damages where such are due. Proceedings of a criminal nature can also be resorted to under the Merchandise Marks Acts and Mr. CUTLER discusses in his concluding chapter the relative advantages of civil or criminal process and the circumstances which justify resort to the latter branch of the law.

The work to which we have referred, it will be observed, treats only of the deceit which takes advantage of the reputation of a brother trader and for which he accordingly seeks a remedy. It is not concerned with that iniquitous form of commercial dishonesty which indirectly injures the honest trader by passing off goods by means of the pretence that they are what in fact they are not. This more public offence is dealt with penally under such statutes as the Merchandise Marks Act and the Sale of Food and Drugs Act and frequent newspaper reports of cases affecting the food rising to £600. He was allowed to do other work and held three other important appointments. He resigned in 1902. During this period no report was issued by the medical officer. The first report was issued in 1903 by Dr. James Kerr who was appointed in 1902. His salary was £800 per annum, rising to £1000, and he was not allowed to hold any other appointment. Let us give the Board credit for what it has accomplished. When it commenced work the prospect was enough to appal the most ardent lover of education. The Board was hampered by a badly drawn Act and by the fatal British love of compromise. As a Board it acted with conspicuous unfairness for years towards the medical profession and was not infrequently extravagant. But within the last few years, owing to wholesome checks administered by the result of Regina *v.* Cockerton and the refusal of the medical profession to give certificates, the Board was beginning to settle down. Of the conduct of its individual members we can say nothing but praise. They have ungrudgingly devoted their time and their talents to the service of the children of the poor and they have left the new education authority a sound system upon which to carry on the work which the School Board organised.

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[1] Passing off, or Illegal Substitution of the Goods of One Trade for the Goods of another Trade, by John Cutler, M.A., K.C., Professor of Law at King's College, London, and editor of the Official Reports of Patent Design and Trade-mark Cases. London, Gay and Bird, Limited, 1904, pp. 94, price 1s. net.

MALARIA AND PREVENTIVE MEASURES.

One of our correspondents has recently had the opportunity of meeting some of the invalids from the English regiments quartered temporarily in the hinterland behind Aden during the progress of the Boundary Commission which is working under General Maitland to decide on the frontier which Turkey is to accept. It appears that the Hampshire Regiment landed in Aden in February, 1903, 1100 strong, being actually over strength. 300 men were despatched to take part in the Somaliland campaign, where there are certain obvious risks contingent on active service and a fair chance of a medal for the survivors when the fighting is all over. The rest of the regiment, all presumably in good health after service in India, were marched up to the hills where they left sandy wastes behind them and got into a hilly country where tea and coffee are grown. A few weeks ago, or about a year after the regiment landed from India, the principal medical officer held an inspection and decided that 75 per cent. of the men were unfit for duty. We understand that there have been 32 deaths in this regiment in Aden and that about half of these were due to malaria. The ordinary causes of sickness must have accounted for a few of the 75 per cent. but the great bulk of them are being invalided for malaria with the ordinary symptoms of intermittent fever, sweats and consequent debility, anæmia, and enlarged spleens. There are pools of water in this hinterland near the soldiers' camping grounds and many mosquitoes and the regiment was paraded daily for a preventive dose of quinine while a non-commissioned officer stood by to see that the men really drank the prescribed dose. But we are informed that there were no mosquito nets provided by the authorities either for officers or men and the officers naturally suffered in a similar proportion, four having been already invalided home and three now being in hospital in Aden. The fever-stricken men blanched as if from prolonged hæmorrhage, crawling about like chronic invalids, are now being sent home, and as their mission was a political one they will probably get no medal to compensate them. But we now know that malaria is a preventable disease. Why was this regiment not supplied with mosquito nets which are now served out even to black soldiers in the Soudan? If our information is incorrect we shall be glad to have it authoritatively denied but if it is correct in substance we hope that the matter will be inquired into. We have heard it whispered that in India troops in barracks even in malarial stations are not yet supplied with mosquito netting, though the hospitals are well provided with it. It is only fair to the Indian Government to state that the Dublin Fusiliers who were relieved by the Hampshire Regiment and the "Buffs" who were sent to Aden last October have both suffered less from malaria than the unfortunate Hampshires.

THE HOUSE OF COMMONS AND VENTILATION.

In an annotation which appeared in our issue of Oct. 10th, 1903, p. 1033, the substance of the report which a select committee of the House of Commons had presented in regard to the ventilation of the House was embodied. This topic has again been disturbing the equanimity of Members without, so far as we can see, any very urgent reason and the animated discussion upon it which on April 28th occupied so large a part of the valuable time of our legislative assembly does not appear to have produced any particular result. As we pointed out at the time there is really very little to find fault with in the ventilation and Mr. T. W. Russell was probably quite correct in saying that a great deal of nonsense was talked about the matter. This opinion seems to have been shared by Sir M. Foster, Sir W. Foster, and Dr. Farquharson, all of whom are well qualified to form a competent judgment on such a point. The only serious defect in the arrangements which the committee's report brought to light was that the air inlets were placed in the floor and covered by matting over which those who entered the chamber had to pass, so that particles of dust and mud from the boots of the persons concerned were introduced into the air current and so disseminated. This, of course, is by no means a satisfactory system and the sooner it is amended the better. We do not suppose that Members would take kindly to Mr. Weir's suggestion that they should leave their boots at the door, even though the assistance of "eight Japanese girls in their native costume" was available to this end, but some inexpensive structural alterations overcoming the difficulty should be quite feasible.

ATTEMPTED SUICIDE BY MEANS OF ILLUMINATING GAS.

In the *Boston Medical and Surgical Journal* of March 24th Dr. F. Holyoke has published a case of attempted suicide by means of illuminating gas which presents several points of interest. The inhabitants of a tenement house were disturbed by moaning in one of the rooms during the afternoon and evening. At 8 P.M. they knocked at the door but were not answered. The police were called in and on breaking open the door found the windows closed tightly and gas escaping from two jets. The air was unbreathable and a man, aged 44 years, was lying unconscious in an easy chair. He was removed from the room and seen by a medical man within ten minutes. He was perspiring profusely and his clothes were drenched with sweat. The pupils were dilated, the face was cyanotic, the limbs were relaxed, and the pulse was imperceptible at the wrist but a feeble cardiac impulse could be felt at the rate of 140 a minute. Respiration was very slow and gasping and the jaw had dropped. After artificial respiration the breathing became more rapid. Strychnine and nitroglycerine were injected and the pulse was restored. At 9.30 P.M. the skin was pale and cold and the limbs were rigid and convulsed. The pupils were dilated and did not respond to light. There was a naphtha-like odour from the breath which did not disappear until the fourth day. The rectal temperature was 96·8° F., the pulse was 142, and the respirations were 32 and shallow. Large mucous râles were heard over the lungs and persisted until the second day. The temperature did not become normal until the third day; then it rose steadily until the sixth day when it reached

100·6°. Consciousness was gradually regained on the night of the second day. For the next two days the patient complained of great headache and of numbness in the limbs, which latter lasted for a week. On the second day was noticed a peculiar condition of the parts on which he rested when in the chair—the shoulders, the sacrum, and the buttocks. They were thickened and brawny, bright red, hot, and tender, as though scalded. After a few days the skin became loose, leaving a large denuded surface which healed slowly. The muscles of the left leg were paretic for several weeks. There was also vaso-motor weakness of this leg: when standing was attempted the skin became turgid and purple with distended vessels. The gas was a mixture of two parts of coal gas and one part of water gas.

THE TAX UPON A CUP OF TEA AND A GLASS OF BEER.

WITH regard to the proposal of the Chancellor of the Exchequer to raise the duty on tea to 8*d.* per pound a little calculation will show that when this tax is realised the indirect duty paid upon a glass of beer will still be higher than that paid on a cup of tea. Of course, as Mr. Austen Chamberlain said, everything depends upon the lightness of the beer and the strength of the tea. The question put to him in the House of Commons was: "What is approximately the amount of indirect taxation carried by a glass of light beer and a half-pint cup of tea of moderate strength?" There is no difficulty in estimating the indirect taxation upon a glass (half-pint) of light beer, for the duty upon such beer, the wort of which does not exceed a gravity of 1055, is 8*s.* per 36 gallons, which is equivalent to one-sixth of a penny on the half-pint glass. Coming to tea we may fairly assume for the purpose of calculation that on the average one teaspoonful of tea is used for making a half-pint of tea (a breakfast-cupful) and the mean weight of one ordinary teaspoonful of tea is, we find, 40 grains. There are 7000 grains in the pound, so that the indirect taxation upon a teaspoonful of tea or upon a cup of tea made from it would be $\frac{1}{22}$*d.* In other words, the indirect taxation on 22 cups of tea would be one penny, while the taxation on six half-pint glasses of light beer would come to the same sum. The indirect taxation, therefore, is nearly four times heavier on the glass of beer than it is on the cup of tea. The taxation of strong beer is, however, proportionately heavier. The question raised is of importance and it is interesting to find that on calculation the beer-drinker pays more taxation than does the tea-drinker. Total abstainers therefore can hardly prefer the charge against the Chancellor of the Exchequer that as compared with tea-drinking beer-drinking is encouraged.

STEREOGNOSIS AS A LOCALISING FACTOR IN CEREBRAL AFFECTIONS.

THE value of stereognosis as a sign in the diagnosis of affections of the brain may now be said to be established firmly by clinical evidence of indisputable character. In the *Journal of Nervous and Mental Disease* for April Dr. William Bullard of Boston, U.S.A., states that astereognosis—the inability to recognise the character and identity of small solid objects placed in the hands—"may be caused by affections of the cerebral cortex, by subcortical lesions, or by lesions in or near the optic thalamus," and occasionally by lesions of the pons and bulb. These various points constitute the complex pathway of sensations which, proceeding from the stimulus of the object grasped and manipulated in the hand, are conducted to the cerebral cortex, and hence the exact localisation of a lesion at any one point of this pathway is not always possible to be made in the absence of certain associated signs. A clinical description of the phenomenon of astereognosis and of its tests was published three years ago in THE LANCET[1] and illustrative cases were recorded. The balance of clinical and pathological evidence which has been accumulated since then shows that lesions of the parietal area of the cortex close to the rear of the genu of the fissure of Rolando are very frequently associated with varying degrees of astereognosis. There is also strong clinical evidence that subcortical lesions in this situation may produce the same symptom. Verger has reported several cases of cortical lesions in which astereognosis was present but only one in which there was proof by operation of the site of the lesion. The case was that of a man with a hæmorrhagic clot which had destroyed a part of the brain cortex. On removal of the former after trephining (by Lannelongue of Paris) the cortex was seen to be destroyed in the region of the middle third of the Rolandic area (ascending frontal and parietal convolutions), while the subjacent white substance was softened and friable. Isolated cases have been reported of lesions in the middle part of the ascending parietal convolution and the adjacent part of the inferior parietal lobe by various observers (Raymond, Walton and Paul, Dana, Mills, and Verger) which confirm the accuracy of the localisation of the "stereognostic sense" of the hand and fingers in this region, while the now classical case of Mills and Keen has shown that a single circumscribed lesion of the corona radiata lying deeply and close to the optic thalamus may produce astereognosis as an early and prominent symptom. Dr. Bullard's own case is that of a man aged 58 years, who had been addicted to alcohol. In May, 1902, he began to suffer from numbness of the left arm and leg; his lower extremities "often felt as if they were asleep." He was often unable at night to determine the position of his legs among the bed-clothes. Six weeks later he consulted a physician who found that astereognosis of the left hand was the most prominent symptom. There was some lack of "muscular sense" in this hand but muscular power (grip on the dynamometer) was unimpaired. No Romberg's symptom of ataxia was present, though the gait was a little awkward owing to a slight "dragging" of the left foot in walking. There was marked exaggeration of the knee-jerks. He grew feeble and early in July developed optic neuritis and some degree of anæsthesia over the lower part of the face on the right side. Sensation to temperature changes, touch, and pain remain normal in both hands but marked astereognosis persisted in the left hand and on the left forearm. A diagnosis of cerebral tumour was made. The patient gradually grew worse and died about the middle of September, having in the meantime lost all power of the left arm, hand, and foot. The necropsy disclosed some degree of arterio-sclerosis and diffuse nephritis. A tumour was found deeply imbedded in the brain substance of the right cerebral hemisphere. It was ill defined externally and in places approached the cortex; internally it reached the surface of the ventricle. The structures involved by this large growth included (together with adjacent parts of the corona radiata) the subcortical radiations distributed upwards to the parietal area of stereognosis as before defined and seemed therefore to support the correctness of the doctrine of the localisation of the stereognostic function.

THE SANITARY INSTITUTE.

Dr. Robert Farquharson, M.P., vice-president of the Sanitary Institute, occupied the chair at the dinner held on May 2nd at the Hôtel Métropole, London. After the usual loyal toasts Sir R. M. Hensley, chairman of the Metropolitan Asylums Board, in proposing the toast of "The Navy, Army, and Auxiliary Forces," testified to the value of the work that had been done by the Royal Army Medical Corps. Lieutenant-Colonel R. H. Firth, R.A.M.C., in replying, said that a plan was in progress by which it was hoped a greater knowledge of elementary sanitation would be disseminated among the non-medical men in the services. Sir R. Douglas Powell, in proposing the toast of "The Houses of Parliament," referred to the sanitary condition of the House of Commons. It appeared that legislators were condemned to breathe an atmosphere which trickled through tortuous and subterranean passages and then ascended through a carpet soiled with the dust shed from the shoes of the Members of Parliament on their way to and from the lobby. He shrank from describing the vast army of microbes, aerobic and anaerobic, malignant and beneficent, classified and unclassified, said to flourish in the legislative chamber. In his opinion the Sanitary Institute ought to look into the matter. Sir Francis S. Powell, M.P., in replying to the toast, said that in the opinion of Sir Walter Foster there were good microbes and bad microbes and it was a question whether in destroying them they had not destroyed more good ones than bad. The result was, however, that the last state of the House was worse than the first. Referring to the work of the Sanitary Institute he considered that in London there had been an improvement in sanitary conditions which almost amounted to a revolution. He recognised signs in the provinces that led him to consider that the housing problem was almost solved. He advocated sanitary missionaries who should proceed from house to house instructing housewives in the elementary laws of sanitation. Sir John Ure Primrose, Lord Provost of Glasgow, proposed the toast of "The Sanitary Institute of Great Britain and the Colonies," which was replied to by the chairman, Dr. Farquharson, by Mr. Arthur H. Reid, chairman of the board of examiners for the Sanitary Institute of British South Africa, and by Mr. William Whitaker. Mr. E. W. Wallis, the secretary, received many congratulations on the success of the dinner. It may be mentioned here that one of the special features of the Health Exhibition of the Sanitary Institute at Glasgow in July next will be a municipal exhibit arranged by the different departments of the Glasgow corporation. The cleansing department proposes to arrange for, amongst other things exhibits of a model up-to-date destructor and the Globe fertiliser; the gas and electric departments will exhibit the latest developments in illumination; and the sewage departments productions from what were formerly waste products. The other departments of the corporation will also be well represented. The social and holiday aspect of the Congress has not been overlooked and excursions have been arranged to the following amongst other interesting places, Loch Lomond, the Trossachs, and the Falls of Clyde.

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[1] THE LANCET, May 25th, 1901, p. 1483.

INVESTIGATIONS INTO THE CAUSATION OF SMALL-POX.

AT a meeting of the Metropolitan Asylums Board on April 30th the hospitals committee reported that it had considered an application from Dr. T. F. Ricketts, medical superintendent of Joyce Green Small-pox Hospital, requesting that authority should be given to him to carry on in conjunction with Dr. C. J. Martin, F.R.S., director of the Lister Institute of Preventive Medicine, experimental work in connexion with the causation of small-pox. Dr. Ricketts informed the committee that such authority would only imply stabling accommodation with attendance and possibly a slight increase in the expenditure usually sanctioned for hospital scientific apparatus. The recommendation gave rise to a great outburst of antivivisectionist oratory on the part of a small section of managers and amendments were moved to refer the report to the hospitals committee and also to the general purposes committee for further information. Both amendments were rejected and the recommendation of the committee was agreed to. Great indignation was expressed at the action of a member of the hospitals committee who informed his board, Hackney, of the application of Dr. Ricketts before the report with its recommendation was printed on the agenda. As a result of that information the following resolution from the Hackney board of guardians was read:—

> The guardians having been informed that the hospitals committee of the Metropolitan Asylums Board have under their consideration a proposal to obtain a licence under the Vivisection Act for Joyce Green [illegible] experiments on animals, this board hereby strong [illegible] use of a rate-supported hospital for such purp [illegible] o foregoing resolution be forwarded to the Home Secretary, the President of the Local Government Board, and the metropolitan boards of guardians, with a request to the latter that when electing managers for the Metropolitan Asylums Board they will request them to oppose any attempt to use the hospitals of the Metropolitan Asylums Board for the purposes named in the resolution.

A motion to refer the letter to the hospitals committee for consideration and report was, after a heated discussion, lost and it was decided formally to acknowledge the communication.

THE SPOROZOA IN RELATION TO DISEASE IN MAN AND ANIMALS.

Professor E. A. Minchin resumed his lectures on the Sporozoa and in his sixth lecture[1] delivered at University College, London, on April 25th, dealt with the sub-class of the myxosporidia. These belong to a class different from the rest of the sporozoa dealt with in previous lectures. The myxosporidia are neosporidia—that is, forms in which spore formation begins early in life and goes on continuously during the trophic stage. Such spore formation is not an interruption of the vegetative life of the parasite whereas in the telosporidia (the other great group of sporozoa) spore formation is the end of the trophic stage. The spores are formed in the interior of the protoplasmic body, not on the periphery as in gregarinæ, hence they are called endospores. The myxosporidia comprise four families—viz., the disporea in which the parent form gives rise to only two endospores, the polysporea which produce more than two spores, the chloromyxidea, and the myxobolidea. The trophic stage of the myxosporidia is marked by a large-sized amœboid phase and the spores produced are also relatively large. With rare exceptions the spores possess two or four polar capsules each. These forms are parasitic in fishes and cold-blooded vertebrates (amphibia) but they are rare in invertebrates and not known to occur in any warm-blooded vertebrates. The parasites in fishes were first observed by the physiologist, Johannes Müller, who named them "psorosperms." They occur in two conditions—viz., freely in the internal cavities of viscera (the gall-bladder, the urinary bladder, and the pelvis of the kidney) and as tissue parasites within the parenchyma of the bodily organs. The latter form of infection of the host is the more serious and virulent of the two. It has been traced as the cause of epidemics among fishes in Germany. Thus Doflein and Hofer have shown that certain epidemics of fish disease recently observed in Germany—e.g., among barbel in certain rivers—were due to tissue infection by a species of myxobolus. The myxobolus Lieberkühnii, a yellowish slimy-looking sporozoon, is a parasite in the pike's bladder and was met with in nearly 50 per cent. of the specimens examined by Professor Minchin. It is comparatively harmless. The trophic stage of the parasite is amœboid in form with an elongated multinuclear worm-like sinuous body composed of a finely granular ectoplasm and a densely crowded granular endoplasm containing various particles—e.g., dark brown crystalloid bodies, oil and pigment droplets, and metaplasmic granules. The ectoplasm is the region which exhibits pseudopodial movement. Myxidium reproduces itself in the winter months by a process of budding, the buds which are constricted off being multinuclear. Spore formation occurs only in the warmer months of the year (endospores). This occurs by a process of encystment, the cell protoplasm within the cyst undergoing division into six or more spores (sporoplasmic bodies), each of which undergoes further subdivision into a pair of spindle-shaped bodies provided with "stinging cells" at each pole. A two-shelled protective envelope is secreted by the parasite which is now in a condition to infect a fresh host. This infection is generally of the "casual" form—i.e., produced by accidental swallowing or eating of the fish containing the parasite. When located within the alimentary canal of the new host the gastric juices loosen the shells and the little "amœbulæ" issue forth and attach themselves to, or invade, the tissues of the host. They are also carried by the lymph stream and may thus make their way into the kidneys, skin, and eye muscles. Thus a calf fed on the spores will be speedily infected by the amœbulæ which will make their appearance in the tissues and organs mentioned. In the tissues they undergo further multiplication by fission and finally the young myxosporidia imbed themselves in the tissues where they remain as ordinary parasites (trophozoites) for a more or less prolonged period. Occasionally they may give rise to serious disease or cause death of the host.

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[1] References to the first, second, third, fourth, and fifth lectures will be found in THE LANCET of March 12th, p. 736, and 26th, p. 889, April 2nd, p. 950, and 9th, p. 1009.

CHANGES IN THE SUPRARENAL CAPSULES IN CASES OF NEPHRITIS.

Some interesting observations on the condition of the suprarenal capsules in cases of nephritis in which during life increased pulse tension was noticed are recorded in the *Tribune Médicale*, 1904, p. 119, by Dr. Aubertin and Dr. Ambert. In these cases they have found definite changes, both on naked-eye and microscopical examination, practically without exception. Eight of such cases in all were examined, while 19 cases of other diseases were studied as controls. In three of the eight cases large adenomata were found four, five, and eight centimetres in diameter respectively; in the remaining five cases the glands as a whole were larger and heavier than the normal standard. When cut into the cortical substance was found to be increased in thickness and to contain small adenomatous nodules. Histological investigation confirmed this, showing a true hyperplasia of the cortical layers; the medullary substance, on the other hand, took no part in this overgrowth; it was, in fact, somewhat atrophic. Even in the cases where the large adenomata occurred the remainder of the cortex of each gland was hypertrophied. In seven cases of renal disease without increased pulse tension no alterations were found in the suprarenal capsules; further, in 12 cases of various acute and chronic affections without increased pulse tension suprarenal changes were only found in one case; this was a case of tuberculosis with a slight degree of fibrosis of the kidneys in which a circumscribed adenoma was found, without any other change in the structure of the organ. As a result of these observations a relation was inferred to exist between the raised tension of the pulse in such renal cases and the changes in the suprarenal bodies. The explanation which Dr. Aubertin and Dr. Ambert offer of this relation is ingenious, though, perhaps, mainly speculative. Allowing that the normal suprarenal gland produces a substance in its medullary cells which increases blood pressure, they assume that the cortex produces an antagonistic body which they regard as also a protection against the effects produced by the retained toxic products in chronic renal disease. These hypothetical toxins they suppose produce increased blood pressure on the one hand and acute or chronic uræmic symptoms on the other. The hyperplasia of the cortex of the suprarenal they regard as an attempt on the part of the organism to antagonise these toxins. These observations, if confirmed, are certainly of great interest both pathologically and clinically considered, while the explanation is practically an instance of the supposed protective action from auto-toxication, a function which on other grounds some pathologists attribute to the suprarenals.

THE HYPODERMIC INJECTION OF CALOMEL: TRIBUTE TO ITS DISCOVERER.

One of our Italian correspondents writes: "Forty years ago in the clinique of the University of Pavia calomel was for the first time employed hypodermically in the treatment of disease and the practice, now general throughout Italy, especially in syphilitic affections, has amply realised the anticipations of its author, Professor Angelo Scarenzio, director of the Clinica Dermosifilopatica in the Lombard School. On the recurrence last month of the fortieth anniversary of the discovery the medical staff of the university celebrated the occasion by presenting their colleague with a gold medal bearing on the obverse a likeness of Professor Scarenzio in profile and on the reverse the following inscription:—

VII. ID. APRIL. MDCCCLXIV.
Collegae et Sodales
Ingenium Viri et Sollertiam admirantes
Die ejus inventi anniversario
A. MDCCCCIV.

The elegance of the Latinity, due to the pen of Professor Majocchi of Bologna, has its counterpart in the artistic beauty of the medal, equal in grace and finish to the best traditions of the studio from which it comes, that of Signor Johnson of Milan. The ceremony of consigning the medal was eminently 'simpatica' (to use the expressive Italian word), all the medical staff of the Lombard School being present, together with representatives of many other cliniques, foreign as well as Italian."

MENINGITIS IN MUMPS.

Among the rare complications of mumps is meningitis. At the meeting of the Société Médicale des Hôpitaux of Paris on March 25th M. A. Chauffard and M. L. Boidin described two cases of meningitis in mumps which are important because the existence of the complication was verified by lumbar puncture. A lad, aged 17 years, was admitted to hospital on Feb. 15th, 1904, the fourth day of an attack of mumps. Both parotid regions were swollen, rosy, and œdematous. The temperature was 100·7° F. On the following days the temperature fell to normal and the right parotid diminished progressively but the left (the last attacked) still remained large. On the night of the 19th the patient slept badly and complained of headache. On the 20th the temperature was 100·4°. Careful examination of the nervous and other systems revealed no cause for the headache and pyrexia; there were no signs of orchitis. On the 21st he still complained of slight headache and insomnia. The temperature was 101·8° in the morning and 101·3° in the evening but the pulse was only 56. On the 22nd the temperature was normal and the patient had slept and felt well. From the 22nd to the 26th he progressed towards convalescence but though the temperature was normal the pulse was from 56 to 60 and the patient progressively lost weight. On the 26th the parotid swelling had almost disappeared and the pulse was 80. In the second case a man, aged 36 years, noticed on Nov. 24th that his neck was a little swollen. He had no pain and paid little attention to the condition which disappeared in two days. But on the 26th he felt acute pain in the scrotum which compelled him to remain in bed. On the 28th the pain extended to the lower abdomen and he was feverish. This condition persisted until Dec. 2nd, when he entered hospital. He was prostrated, the face was red and swollen, and the temperature was 106° F. He complained of acute pain in the scrotum. The right testicle and epididymis were much enlarged and the parotid glands were a little so. On the 3rd the temperature fell to 102° but the state of the testicle had not altered. There was no headache or other nervous symptom but the pulse was 68. On the 4th and 5th the testicle was less painful, the temperature was normal, and the pulse fell to 52. Atrophy of the testicle followed. In both cases a series of lumbar punctures were made. In the first case the puncture was first performed on the fourth day and yielded normal cerebro-spinal fluid. A second puncture, made on the ninth day (when there were headache, pyrexia, and slow pulse), yielded cloudy fluid containing numerous large lymphocytes. On the eleventh day similar but less cloudy liquid was obtained. On the nineteenth day the liquid obtained was clear but it still contained abundant lymphocytes. In the second case lumbar puncture yielded on the ninth and twelfth days clear liquid containing numerous lymphocytes. Lymphocytes in diminished numbers were found as late as the eighty-ninth day. The liquid obtained by puncture was never under pressure, fibrin was always absent, and the amount of albumin did not exceed the normal. It is to be noted that the most important signs of meningitis—rigidity of the neck, Kernig's sign, the "meningeal streak," vomiting, constipation, and ocular signs—were absent. On the other hand, there were in the first case symptoms of an attenuated form of meningitis—the relapse of the fever without any lesion to account for it, the headache sufficiently intense to cause insomnia for two nights, and the bradycardia. In the second case the supervention of orchitis rendered the diagnosis of meningitis less clear and explained the very high temperature. Perhaps headache was absent in consequence of the painful character of the orchitis. On the other hand, the bradycardia was well marked.

THE REVACCINATION BILL OF 1904.

As our readers are aware there is at present a Revaccination Bill before the House of Commons, but it is unfortunately not a Government Bill. Despite the promise which the Government gave about revaccination some years ago nothing has ever been heard of any Government Bill on the subject. This being so there is not much chance that the Bill will ever reach a second reading and all the more so as it was down for May 4th, the same day as the Southwark and Birmingham Bishoprics Bill which was bound to be fought tooth and nail by a certain section of the House. Mainly owing to the action of Mr. Bryn Roberts and Mr. Lloyd-George, who are consumed with anxiety to see the law obeyed (except indeed as regards the Education Act), the question as to whether Churchmen might spend money subscribed by themselves in supporting two Bishops was debated at such length that the Revaccination Bill never had a chance. The Imperial Vaccination League has, however, published a list of persons who support the Revaccination Bill, 1904. The list is contained in a pamphlet of 78 pages. We say nothing as to the medical men whose names are found therein, for in the eyes of opponents of the Bill medical men simply care for vaccination on account of the fees which it brings in and are notoriously biased on the subject. The manifesto, which the persons named in the list have signed, welcomes legislation "making revaccination at school age compulsory on all but the children of conscientious objectors or those who may be for a time excused on the ground of ill-health." Nearly every class of the population is represented in the list but all the signatories do not approve of the conscientious objector clause. Many large employers of labour have signed and petitions in favour of the Bill have been, or are going to be, presented to the House of Commons by the Herefordshire county council, the boroughs of Finsbury, Holborn, and the city of Westminster, the municipal corporations of Bootle, Bury, Manchester, Leamington Spa, Newcastle-upon-Tyne, St. Helens, Stoke-upon-Trent, Sunderland, and the Prescot union. We wish the Bill every success but we greatly fear that it will not attain it this year.

FESTIVAL DINNER OF THE MIDDLESEX HOSPITAL.

THE festival dinner in aid of the funds of the Middlesex Hospital and its cancer charity was held at the Whitehall Rooms, Hôtel Métropole, London, on May 3rd, the Right Hon. the Lord Mayor occupying the chair. During dinner, at which about 140 guests were present, the band of the Coldstream Guards performed an excellent programme of music by permission of Colonel A. E. Codrington. The Lord Mayor, in proposing the usual loyal toasts, referred to the generous interest taken by their Majesties the King and Queen in hospitals and charitable institutions in general and the Middlesex Hospital in particular, and in proposing the toast of "Continued Prosperity to the Middlesex Hospital" he spoke of the great demands which were made on the generosity of the charitable at the present time, three hospitals alone appealing for sums amounting together to £1,000,000. In pleading the claims of the Middlesex Hospital he referred especially to its cancer charity which has continued its excellent work for upwards of a century. He then read a letter from Lord Derby announcing a donation of £1000 to the dinner fund. The Right Hon. Lord Sandhurst, G.C.S.I., chairman of the weekly board, in replying to the toast summarised some of the improvements and advances made in the working of the hospital during the past ten years, referring to the opening of the new cancer wing with its separate organisation, to the convalescent home at Clacton, to the building of the new laundry at Hendon, to the new and commodious nursing home, and to the establishment of the clinical and cancer research laboratories and the electro therapeutical department. In paying a tribute to the work of Dr. W. S. Lazarus-Barlow, the director of the Cancer Research Laboratory, Lord Sandhurst referred to his appointment on the Cancer Research Committee of the German Government and stated that the principle of the institution was coöperation with other bodies concerned in cancer research, not competition. He concluded his reply with an appreciation of the work done by the permanent officials of the institution and then proposed the health of "The Medical Staff," coupling it with the names of Mr. Henry Morris and Dr. J. Kingston Fowler. Mr. Morris, in his reply, referred to the increased cost of surgical methods and apparatus and to the increase in conservative operations. Dr. Fowler, in replying on behalf of his medical colleagues, alluded to the necessity of the endowment of medical education and research and the importance of these as a national investment, a fact already recognised by some other nations. He further pointed out the disadvantage suffered by London schools in competition with those in the provinces where local patriotism led to endowment and general interest. The toast of "The Visitors" was proposed by Lord Grenfell of Kilvey, G.C.B., G.C.M.G., a vice president of the hospital, and responded to by Mr. J. W. Watson, Master of the

Worshipful Company of Mercers. Lord Sandhurst, in proposing the toast of "The Chairman," had the gratification of announcing that the subscriptions promised amounted to nearly £6000 and expressed the hope that this would be considerably increased before the list closed. The Lord Mayor, in replying, expressed the pleasure it gave him to preside and his gratification at the result.

THE GENERAL MEDICAL COUNCIL.

THE next session of the General Medical Council will begin on Wednesday, May 25th, at the office of the Council, 299, Oxford-street, London, W., Sir William Turner, K.C.B., the President, taking the chair at 2 P.M. In consequence of the Whitsuntide holidays the session will begin on a Wednesday instead of on the usual Tuesday.

A COURSE of ten advanced lectures on the Tracts of the Brain to be given on Wednesdays, at 5 P.M., in the Physiological Theatre of University College, London, has been commenced by Dr. W. Page May. The introductory lecture upon the Structure and Tracts of the Cord was delivered last Wednesday (May 4th). The syllabus of the remaining nine lectures is as follows: Lectures 2 and 3, Topography of the Brain Stem; Lecture 4, Motor Paths; Lecture 5, Sensory Paths; Lecture 6, Basal Ganglia, Thalamus and Corpus Striatum; Lecture 7, Cortex, Localisation, Association; Lecture 8, Cranial Nuclei and their Central Connexions; Lecture 9, Optic Nerve and its Connexions; and Lecture 10, Smell and Hearing. The lectures are open without fee to all internal students of the University of London.

AT a coroner's inquest held at Birkenhead on April 13th and 20th a verdict was returned against Mr. K. McD. O'Callaghan of culpable negligence as regarded his treatment of a woman named Alcock whom he had been called in to attend six hours after the birth of a dead and decomposed child. Mrs. Alcock died from septicæmia. The charge was heard before the magistrates on April 28th and after hearing the evidence for the prosecution the bench discharged the accused. Mr. O'Callaghan, however, still has to take his trial at the assizes on the coroner's warrant. Mrs. Alcock had been attended in her confinement by an uncertificated midwife.

THE May dinner of the Aberdeen University Club in London will be held in the Trocadéro Restaurant, Shaftesbury-avenue, London, W., on Wednesday, May 18th, at 7 30 P.M. Intending diners should communicate with Mr. J. Malcolm Bulloch or Dr. Robert J. Collie at 25, Porchester-terrace, London, W.

Dr. J. Rose Bradford will deliver the Croonian lectures at the Royal College of Physicians of London on Tuesdays and Thursdays, June 7th, 9th, 14th, and 16th, at 5 o'clock. He has taken as his subject, "Bright's Disease and its Varieties."

THE seventh annual meeting of the Childhood Society will be held at 7, St. James's-square, London, S.W., on Wednesday, May 11th, when an address on Degeneracy, Physical, Mental, and Moral, will be delivered by Dr. G. E. Shuttleworth.

A TELEGRAM from the Acting Governor of Hong-Kong received at the Colonial Office on May 3rd states that for the week ending April 30th there were 25 cases of plague and 25 deaths from the disease.

THE annual general meeting of the Medical Defence Union will be held at the rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, London, W., on May 26th, at 5 P.M.

THE BACTERIOLOGY OF THE THAMES, OF THE SEA, AND OF SHELL-FISH.

FIRST NOTICE.

THE importance of being able to determine accurately the precise significance of the organisms found in shell-fish and in estuarial waters cannot well be overstated. On the one hand, the absence among the public of certain diseases borne by shell-fish is at stake; and, on the other hand, the livelihood and hence in no small measure the health and well-being of a large littoral population are in the balance. Moreover, the general subject has a wide scientific interest. As we have already stated in our columns when dealing with the fourth report of the Royal Commission on Sewage Disposal, the Commissioners did not consider that the bacteriological examination either of sea water or of shell-fish, "even if carried out in a quantitative as well as a qualitative manner," could at present be recommended for the purpose of distinguishing unsafe foreshores, layings, ponds, and the like. They thought, however, that the results so far obtained showed great promise. The report upon which this conclusion was largely based has now been published in the shape of an elaborate appendix to the fourth report of the Commissioners and the author of this work is Dr. A. C. Houston.[1]

This report, if we mistake not, is destined to become a classic in bacteriological literature inasmuch as it approaches *the subject from a thoroughly unbiased and scientific stand*point and in this sense it will serve to rescue the bacteriology of estuarial waters and of shell-fish from the somewhat unsatisfactory state into which it has recently fallen by the anxiety of certain bacteriologists to generalise rather too widely from the very limited facts at their disposal. The report under review consists of a folio volume of 316 pages together with numerous charts, tables, and maps illustrating the bacterial contents of the waters examined, the biological characters of the organisms discovered, and the precise position geographically from which the several samples were procured. The term "B. coli" as used by Dr. Houston includes all gas-forming bacillus coli like organisms and the biological characters of the microbes are given in tabular form. The word "communis" in connexion with bacillus coli has been avoided by Dr. Houston for the reason that, in his view, this word, if unaccompanied by any definite statement as to the tests employed and the results obtained, is apt to be misleading, whereas if all the details with regard to the subcultures are furnished the employment of the word "communis" is unnecessary. It is therefore quite open to anyone who may wish to speak in terms of bacillus coli communis to analyse Dr. Houston's tables and to arrive at his own conclusions. This course has undoubted advantages having regard to the fact that there is apparently some difference of opinion among bacteriologists as to the precise significance of the several tests which are used by one or other bacteriologist to differentiate bacillus coli communis from bacillus coli-like organisms. As regards bacillus enteritidis sporogenes the test employed by Dr. Houston was based upon the smallest amount of the sample which yielded the "enteritidis change" in anaerobic milk cultures for spores. Section I. of the report deals with

The Condition of the River Thames at Hampton and Sunbury above the Tidal Portion of the River and above the Intakes of some of the London Water Companies.

Here the water contained from ten to under 100 bacilli coli per cubic centimetre and one spore of bacillus enteritidis in ten cubic centimetres and from these results Dr. Houston infers that the Thames at Sunbury and Hampton is composed of "extremely dilute sewage"—that is to say, sewage diluted about from 1000 to 10,000 times—and it may be added that the bacilli coli found "were rarely other than typical B. coli as freshly isolated from human fæces" Dr. Houston has obviously misgivings as to the desirability of using such water as this for drinking purposes even after filtration and he discusses the potential dangers to which London is exposed from what may be called the risks attendant upon of filtration. Some will agree with him that too much importance must not be placed upon the immunity of London from enteric fever in the past; others may think that he attaches insufficient weight to the testimony of experience. But whichever view they take they will have read a very interesting discussion.

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[1] Vol. iii. of Fourth Report of Royal Commission on Sewage Disposal, containing reports by Dr. Houston on Bacteriological Investigations. Eyre and Spottiswoode. Price 10s. 10d.

Dr. Houston next turns his attention to the lower Thames and he tells us that the 232,000,000 gallons of effluent which are daily discharged at Barking and Crossness contain at least 100,000 bacilli coli and between 100 and 1000 spores of bacilli enteritidis per cubic centimetre, while the sludge, 50,000 tons of which are taken weekly to the Barrow Deep, contains bacilli coli in numbers varying from 1,000,000 to 10,000,000 000 per cubic centimetre and bacilli enteritidis from 10,000 to 100,000 per cubic centimetre. There was, however, one sample of sludge which was strongly alkaline and which yielded negative results as regards both organisms. Dr. Houston did well to record this anomaly as it serves to accentuate the importance of taking multiple samples of any given material before arriving at a conclusion. The river at Barking and Crossness is regarded as sewage diluted about 100 to 1000 times, but the bacilli coli collected near Crossness were less "typical" than those collected near Barking inasmuch as several samples of the former either gave no indol reaction or caused no clotting in milk, while two samples failed both as regards the indol and clot reactions. This departure from the "typical" is of interest.

When the water of the Thames at Purfleet, five miles below Crossness, was examined the results were very similar to those obtained at Barking and Crossness, but there would seem on the whole to have been a further departure from the "typical"—i.e., eight of the samples examined failed to respond both to the indol and the clot test. At Grays, which is five miles below Purfleet, the conditions were appreciably better, the number of bacilli coli per cubic centimetre being on an average over 100 but less than 1000, while the spores of bacillus enteritidis varied from one to ten per cubic centimetre, but here there appeared to be no further departure from the "typical."

The next examination was made at Mucking, ten miles below Grays, where the average number of bacilli coli per cubic centimetre was ten and that of bacillus enteritidis sporogenes usually one. As regards these results Dr. Houston remarks that the Thames at Mucking was on a basis of bacteriological findings as suitable for waterworks purposes as it is at Sunbury or Hampton. This is a somewhat remarkable result and it shows how overdrawn have been some of the pictures relative to the condition of the lower Thames and the pollution of its foreshores.

At the Chapman lighthouse, five miles lower down than Mucking, although excremental bacteria could still be detected the results are regarded by Dr. Houston as very satisfactory. Here, however, the ratio of the bacillus coli-like microbes to the spores of the bacillus enteritidis became altered and in certain of the samples the spores of this latter organism were more numerous than the bacillus coli-like organisms. Seemingly the more delicate bacilli coli perish, while the resistant spores are able to survive.

The Condition of the Water in Barrow Deep.

Numerous allegations have been made with regard to the disastrous consequences of depositing the London sludge in this locality, and the whole mouth of the Thames, together with the Whitstable oyster fisheries, have been regarded as having been poisoned thereby. It is therefore eminently instructive to turn to Dr. Houston's report and to hear what is the testimony of the bacteriologist upon the subject. It may be noted in passing that the entrance to the Barrow Deep is about 13 miles seawards of the Nore and 48 miles from Crossness and it may be well to remind the reader that the 50,000 tons of sludge which are deposited weekly in the Barrow Deep contain from 1,000,000 to 10,000 000.000 bacilli coli per cubic centimetre and from 10,000 to 100 000 spores of bacillus enteritidis in the same amount. Dr. Houston's samples were apparently collected near the surface and they yielded bacilli coli from none in 10 cubic centimetres to 10 per cubic centimetre, while about half the samples gave a positive result with bacillus enteritidis sporogenes in one cubic centimetre of the water. Dr. Houston accounts for these remarkable results by supposing that the microbes sink gradually to the bottom and there undergo dissolution. But be the explanation what it may, it is impossible not to agree with Dr. Houston when he says "the results of the bacteriological analysis do not substantiate the alleged *gross* pollution of the Thames estuary and the Essex and Kentish coasts (east of a line connecting the Chapman lightship with Stoke) due to the discharge of chemically treated sewage into the Thames at Barking and Crossness and sludge into the Barrow Deep. On the contrary, the results appear to indicate that outside the Barrow Deep and beyond the Chapman lighthouse the excremental bacteria derived from the sludge and effluents respectively must be present in such small proportion in the sea water as, practically speaking, to be almost if not quite negligible. The statements which have been made to the contrary appear to have been based on conjecture." It would be instructive to compare these results with the examination of samples taken in Barrow Deep some distance below the surface and at the bottom of the sea.

Dr. Houston deals next with—

The Bacteriological Examination of the London Filtered Water,

as the Commission desired to obtain some results in this direction for purposes of comparison. Samples of water were taken from the *mains* of the East London and Southwark and Vauxhall companies and the results are, as usual, arranged in tabular form in the report. As, however, time and opportunity did not allow this matter to be gone into at all fully Dr. Houston advises that provisional inferences only should be drawn from the results. As regards the bacillus enteritidis sporogenes only one out of all the samples examined yielded a positive result with ten cubic centimetres of the water, but the results as regards the bacillus coli are regarded as the reverse of satisfactory, although many of the bacillus coli-like organisms were not completely typical of the bacillus coli. But, notwithstanding this, altogether typical bacilli coli were found in 1, 10, or 100 cubic centimetres of the water.

Dr. Houston points out that the bacillus coli is an index of excremental but not of specific pollution; he, however, conceives that "a fortuitous chain of circumstances might convert a potential into an actual and menacing danger to health." He pictures to himself the simultaneous existence of an epidemic of enteric fever in the towns of the valley of the Thames above the intakes and a breakdown of the filters. Were this to occur the result might undoubtedly be serious or even disastrous. But Dr. Houston is nothing if he is not absolutely fair and he adds, as if anxious to tone down the impression which he has produced, "it is not desirable to push unduly the question of *potential* danger to health," and after pointing out that filtration must be regarded as a relative rather than an absolute safeguard, he observes that the results which he has obtained "might fairly be used as an argument against condemning water owing to the mere presence of B. coli or gas-forming bacillus coli-like microbes, as has been the practice in the past to a large extent irrespective of their relative abundance in the samples, seeing that in this instance water was being drunk without obvious detriment to health which uniformly contained B. coli or bacillus coli-like microbes in 100, in 10, and sometimes even in 1 c.c."

With this quotation we must terminate our first notice of this highly interesting volume. In our second and concluding notice we shall draw attention to Dr. Houston's experiments as to the fate of the bacillus pyocyaneus when introduced with sewage into certain biological purification processes and to his bacteriological examinations of unfiltered sea water and of water and oysters obtained from certain localities on the littoral.

MEDICINE AND THE LAW.

The Substitution of Fish Oil for Cod-liver Oil.

At Southwark police-court a herbalist named Lardent was fined £1 with £10 10*s.* costs under the Sale of Food and Drugs Act for selling, to the prejudice of the purchaser, "cod-liver oil" which was shown by analysis to contain at least 90 per cent. of fish oil. Evidence was given of the serious aspect of such substitution in the case of so useful and widely used an article as cod-liver oil, taking into account the not only useless but detrimental qualities of fish oil. For the defence it was urged that both the defendant and the wholesale firm who had supplied him had purchased the oil as cod-liver oil, and a representative of the wholesale firm gave evidence in corroboration of this. It was pointed out in the course of the case that the bottle containing the stuff bore the inscription "Pure Selected Cod-liver Oil." The wholesale value of cod-liver oil was given as 15*s.* 2*d.* per gallon and that of fish oil as 2*s.* 2*d.* The large profit which can be realised by successful fraudulent dealing in such an article shows that those purchasing it wholesale would do well to ascertain personally the nature of what they buy and not to put implicit faith in guarantees of quality without demanding that they have been founded upon analysis. To rely upon such guarantees for a defence when other persons have made the analysis is scarcely prudent, even if the merchant only consults his own interest and disregards that of the public. The public, no doubt, regard a printed label of "Pure Selected Cod-liver Oil" as a guarantee and are not likely to be protected by any vigilance or science exerted on their behalf by the "herbalist," but substantial penalties inflicted in cases of the nature of that described may have some effect in relegating the sale of such goods as cod-liver oil to druggists who are the proper persons to deal in them.

METROPOLITAN STREET AMBULANCE ASSOCIATION.

A GENERAL meeting of the Metropolitan Street Ambulance Association was held at 20, Hanover-square, London, W., on May 2nd, the chairman being Mr. REGINALD HARRISON who in his opening remarks said that the Metropolitan Street Ambulance Association had been founded in January, 1904, by some members of the medical profession practising in London, who appointed a president and council to initiate its proceedings. The objects of the association were to endeavour to secure for London, with as little delay as possible, an efficient street ambulance service for accidents and medical casualties and, further, to promote the movement generally in various ways. That action had been taken not with any idea of undervaluing or supplanting efforts that had been made by persons and bodies to promote and to provide ambulance work, but, on the contrary, the association had all along recognised the importance of the voluntary work that had been done, particularly by the St. John Ambulance Association, and by Mr. H. L. Bischoffsheim, in addition to the first-aid services rendered by the Metropolitan and City police. The association, however, felt that the influence of a large and united body of the medical profession, practically acquainted by daily observation with existing ambulance services for the streets and holding definite views as to how these might be improved, was likely to afford valuable assistance to the authorities of the metropolis and the country in bringing arrangements relative to that important subject to a definite issue. Within a short time after its formation more than 1000 members of the profession, engaged in hospital and private practice, had joined the association on those broad lines and they were met together for the purpose of giving effect to the programme thus announced and so warmly responded to. If further testimony in support of the objects of the association was required it would be found in the words of Sir E. C. Perry of Guy's Hospital, in his report to the London County Council, "That it was very painful to watch the arrival of accidents at hospitals under the present system," and also in the statement of Sir W. J. Collins, chairman of the ambulance subcommittee, in his prefatory note to the same report, "That nearly 70 per cent. of the casualties at present conveyed to hospitals by some vehicle or other are taken in cabs and carts and not in ambulances." On that latter basis it had been calculated that from 8000 to 10,000 severe accidents were taken to London hospitals and elsewhere annually in cabs or other unsuitable conveyances. It had to be remembered that those figures mainly represented persons constituting a large mass of the population—artisans and labourers—who were the most liable by reason of their occupations to sudden accidents: those, in fact, who were least able to provide against emergencies of that kind and who, along with their families and dependents, suffered the more when thus overtaken and especially when, from lack of proper attention at the time of the accident, their recovery and wage-earning power were unnecessarily delayed. On the other hand, it was not to be forgotten entirely that the well-to-do citizen of Greater London might in like manner be suddenly struck down and rendered unconscious in the street and thus have cause to remember with gratitude the preservation of his life or limb by the timely arrival of a well equipped ambulance at the moment when the bystanders were wondering who he was and where he came from. The present state of the London streets by the large addition of "motor" and tram traffic was not calculated to lessen those liabilities. Relative to those statements he would say that about 1881, in connexion with the movement which resulted in the introduction of hand ambulances and subsequently of horse ambulances into Liverpool, he had made some extended observations as to what really happened to persons who "were brought to hospitals in cabs and carts and not in ambulances." He (Mr. Harrison) was at that time resident surgeon, and subsequently visiting surgeon, to one of the largest hospitals in that city which received annually many hundred accidents from the docks, city, and suburbs. He found that a large proportion of the fractures involving limbs which were originally simple had been rendered compound by improper methods, or the absence of methods, of removal to hospital, and, further, that where the injury or medical casualty had been attended with much shock, such, for instance, as in concussions caused by falls down a ship's hold or from aloft, in cases of severe burns and scalds, or by apoplectic, cardiac, and other seizures by which persons were suddenly rendered more or less unconscious, the conveying of them in cabs or carts in a sitting position had been not infrequently followed by speedy death after their arrival at the hospital. The deaths of patients on their way to the hospital and within 24 hours after admission were often associated with that mode of conveyance. Thus an unnecessary loss of both limb and life could be accounted for. The almost entire absence of provision of horse or motor ambulances for street accidents in London also called for comment. Without those conveyances no system for a large city could be regarded as even approaching a state of efficiency. The number of horse ambulances required for the metropolitan area could not at present be determined and must be the result of experience. New York, with its population of over three and a half million people, seemed efficiently worked with about 56 of those conveyances. Though a proportion of street accidents in the immediate vicinity of hospitals were dealt with by hand ambulances or litters which were often used for other police purposes there could be no doubt that they compared unfavourably with the horse or motor conveyance which was a necessity when the distance to the hospital was greater. Minutes, not to speak of seconds, were of the first importance, relative to antiseptic treatment, when a wound was present. Women who had met with accidents or other casualties in the streets had often complained very bitterly of their recollections of the hand ambulance and their transit along crowded streets, though under the protection of the police. Contrast that with their unobserved removal in a comfortable and smooth-running horse ambulance with a trained attendant by their side. The street ambulance service of London at the present time might be said to be carried on partly by the police, as representing what was generally known as "first aid," and partly by volunteer efforts. Whether a much divided authority was desirable, which that arrangement implied, without any guarantee for the continuance of efforts which were purely voluntary, was a matter deserving consideration. Whatever conclusion might be arrived at in reference to that point it was obvious that the time had come when a central or undivided authority which could bring into unison the various constituent parts of an ambulance had become a necessity so far as London was concerned. The constituent parts of an ambulance included the police as "first aid" on the spot, the telephone, the conveyance and its motor power, the hospital or ambulance depôt, and, if necessary, the skilled medical attendant with some appliances, all capable of concerted action for one object with as little delay as possible. When London could secure those conditions there would be no difficulty in providing it with an efficient and complete ambulance service. The chairman then called upon the secretary to state what steps had already been taken.

Dr. ARTHUR W. JAMES, the honorary secretary, said that the late London County Council had done much to forward the ambulance movement by the appointment of a subcommittee, under the chairmanship of Sir William Collins, and had issued a very valuable report in 1902. In consequence, it had been suggested, of the apparent indifference of the public no further steps had been taken in the matter. In those circumstances the Metropolitan Street Ambulance Association had been formed in order to secure the sympathy of all candidates for election to the new council and to interest the electors in a subject which so closely concerned every individual in the community. 110 medical men were appointed to act in the 58 constituencies as local honorary secretaries and these and their friends worked with great success everywhere. Letters explaining the objects of the association were sent to all the candidates with post-cards for reply asking each, "If elected to the London County Council will you interest yourselves in securing the establishment by the Council of an efficient street ambulance service for London?" Favourable answers were received in almost every case, the few exceptions being afterwards found chiefly among the unsuccessful contestants. Of the 118 newly elected councillors more than 104 were well disposed towards the movement and most of them knew that they could rely on the support in that matter of their constituents as well as of practically the whole medical profession in the metropolis. Many of those representatives were grateful for the manner in which that association brought the subject forward, as it was well known that no public body could establish an ambulance service in London without first obtaining the sanction of Parliament. It appeared to be recognised generally that the community as a whole was responsible for caring for, and properly removing, those cases of accident and sudden illness which became helpless in the public streets, though there was still some difference of opinion as to which representative body should undertake the necessary provision and administration. Their association was confident that the London County Council would accomplish that work better than any other central or local governing body, because of its representative constitution and because it appeared to have ready at hand such an efficient emergency service as the fire brigade. That brigade, with its 90 stations and resourceful staff of 1350 men, already possessed almost all the administrative machinery necessary and seemed to need little more than the addition of the required ambulances, horses, and men to make it an ideal ambulance service also. That addition of more men, especially in the smaller stations, would in all probability contribute greatly to the efficiency of the brigade, since just as firemen were now instructed in first aid work, so those primarily employed in the ambulance service could be practised in fire-drill and the two staffs made to a great extent interchangeable. In that manner both those emergency services would be mutually helpful, more efficient in consequence, and considerably more economical for London than any other arrangement. It was worthy of note that in Liverpool, which had the best street ambulance service in England and where the police, the fire brigade, and the ambulance services were all under one management and worked together, the fire brigade machinery had been utilised for ambulance purposes The drivers of the fire-engines were the drivers of the ambulances and the fire-alarm posts had been used for ambulance calls without any inconvenience. Those points, which appeared worthy of consideration, induced the council of their association to make the following suggestions as the possible basis of a plan for providing London with an efficient street ambulance service. 1. That there should be one controlling authority responsible for a uniform and well-organised ambulance service and that the London County Council, as the central representative body for the metropolis, was the one best fitted to undertake the work. 2. That London should be divided into districts or "accident areas" and a properly organised ambulance service arranged in each. This would necessitate the establishment of horse or motor as well as hand ambulances. 3 That the fire brigade and the ambulance services could be most advantageously carried out conjointly. 4 That it was desirable that some of the ambulances under the control of the London County Council fire brigade should be stationed at, or in immediate connexion with, the principal London hospitals. 5. That the police should be kept efficient in first-aid training and should be available, as at present, for rendering first aid to the injured, for summoning an ambulance, and for taking charge of the patient until the ambulance and attendant arrived, but should not necessarily be expected to accompany a patient to home or hospital. 6. That the 1000 fire-alarm telephone posts now existing and all other telephones should, if possible, be made available for calling the ambulances and the police should be instructed in their use. 7. That the experience gained in working such services for many years in New York, New Orleans, Chicago, Sydney, Copenhagen, Vienna, Paris, Liverpool, Bootle, Birkenhead, Manchester, Newcastle, Huddersfield, Bolton, Burnley, Hull, Sheffield, Leeds, and Wolverhampton was more than sufficient to justify the London County Council in undertaking the work in the metropolis on a scale large enough to provide adequately for the 13,000 to 15,000 street casualties requiring removal each year. 8. That there should be no charge for the use of the ambulance.

Dr. F. W. COCK said that from his experience of about 1000 ambulance calls at a New York hospital he was of opinion that in many surgical and medical cases much harm might have resulted if the patients had been brought to the hospital in the haphazard manner adopted in London. From 35 to 40 per cent. of the calls were for medical cases, the remainder being surgical. The ambulance was in the charge of hospital authorities but it had to be remembered that in New York the hospitals were more widely distributed than in London. In New York they were accustomed to see a medical man accompanying the ambulance but he did not think that that was necessary in London.

Sir WILLIAM S. CHURCH, President of the Royal College of Physicians of London, then proposed the following motion:

> That this association, having considered the present condition of ambulance provision in London for dealing with cases of accident and sudden illness in the streets and public places, is of opinion that there is urgent need of organisation under one body of an improved ambulance service, summonable by telephone, and provided with more rapid transport.

He said that there was great need for improvement in London of the ambulance provision for dealing with cases of accident and sudden illness in the streets and public places. The metropolis in this matter was behind many of the larger provincial towns of England. The association did not propose to initiate any scheme of its own but sought to combine the existing agencies so that they should act harmoniously and under central control. It was considered that the fire brigade was the best body with which an ambulance service should be united for the reason that such a scheme would be the most economical to adopt. Speaking as a physician he knew from experience that the present system by which many of the patients were brought to the hospitals in cabs did not in a great number of the cases give them the best chance of recovery.

Mr. TIMOTHY HOLMES, consulting surgeon to St. George's Hospital, in seconding the motion, agreed with the necessity for an improved ambulance service for the numerous accidents and cases of sudden illness that occurred in the streets of London. Under the present condition of things they must try to arrange for the conveyance of cases of accident or sudden illness to the hospitals as safely and as quickly as possible.

The motion was then put to the meeting and carried unanimously.

Mr. JOHN TWEEDY, President of the Royal College of Surgeons of England, then proposed the following motion:—

> That, having regard to the excellent ambulance services organised by municipal authorities elsewhere, this meeting is of opinion that the London County Council is the body by which such service should be provided and maintained.

He said that there was no body so competent as the London County Council to undertake the scheme. The London County Council was not unfavourable to the proposal and it was incumbent on those present to take care that public indifference should not be allowed to continue. The sympathy of the public must be stimulated and the medical profession must give expression to a united opinion that some improved system was necessary. There was no intention to dictate to the London County Council but the suggestion was made that the fire brigade seemed to be the best organisation to carry on the work, because it would provide the material and the *personnel* required for the efficient performance of the duties which would devolve on the ambulance service which they desired to see in London.

Sir ALFRED COOPER, Vice-President of the Royal College of Surgeons of England, seconded the motion which was then put to the meeting and carried unanimously.

Sir THOMAS BARLOW, physician to His Majesty's Household, then proposed the following motion:—

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He said that it must be evident to everyone that the ambulance service should be in the hands of a central official body with the power of levying taxes so that they could see that the work was properly done. Excellent as the various voluntary bodies were that interested themselves in the matter it was obvious that they were not adequate to discharge the important and vital duties that lay before them. The London County Council was the right body to undertake the duty and the medical profession should render every assistance to the London County Council. Any sanitary work that the London County Council had taken up had been well done and in his opinion the Council would perform its duty in regard to the ambulance service in a proper manner.

Mr. W. THORBURN (Manchester) said that in his town the ambulance service was entrusted to the City Council and the details were arranged by the Watch Committee which combined some of the functions of the police and the fire brigade. The fire brigade found the horses and the police force found the men. The improved ambulance service had been of the utmost value and had been the means of saving much misery and suffering.

Mr. G. H. MAKINS, surgeon to St. Thomas's Hospital and late consulting surgeon to the South African Field Force, in formally seconding the motion, said that it rested with the medical profession to impress on the public the importance of the movement which the association had at heart. The ambulance service was an emergency service and so also was the fire brigade and if the two could be worked on the lines suggested there was no doubt that it would result in great advantage to the public.

The motion was then put to the meeting and was carried unanimously.

Sir DYCE DUCKWORTH moved, and Mr. JOHN H. MORGAN seconded, a hearty vote of thanks to Mr. Reginald Harrison for presiding, which was passed with acclamation and this vote having received a suitable response the meeting terminated.

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 6, 1826.

The fact that certain vegetable substances produced an enlargement of the pupil was long ago observed, even so far back as the time of Pliny, who mentions the circumstance, and ascribes that effect to the anagallis. He says "Pupillas dilatat; ideoque solent inungi, quibus fit paracentesis."

From this observation it would appear, that the needle operation for cataract as at present performed is similar to what it was in his day. It was not, however, until the year 1799, when Himly, who is now Professor of Physic at the University of Gottingen, published a tract on the "paralysis of the iris, produced by the application of hyoscyamus to the eye," that the practice was known generally, and he is entitled to the merit of having drawn the attention of the profession to the subject. Whether hyoscyamus is preferable or not is doubtful; its influence on the iris is less powerful and more temporary, than that of the belladonna. It is however, recommended in Himly's tract, and generally used by the Germans, who are afraid of the more powerful belladonna, fancying that it injures the retina. Himly's tract was published in the French at Altona, under the title "De la paralysie de l'iris." You will find a good account of the circumstances connected with this subject, historical as well as practical, in the 11th vol. of the Edinburgh Medical and Surgical Journal, by Mr. Wishart. Himly has the merit of first seeing and clearly explaining the practical utility of this artificial dilatation, in various states of the eye. It is so important in internal inflammations, by preventing contraction of the aperture; in the distinction of cataract from other affections; in discriminating the several species of cataract; in facilitating some of our operations; in contractions of the pupil; and in many cases of leucoma, that this discovery of Professor Himly may be deemed an important epoch in ophthalmic surgery.[1]

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8844 births and 4785 deaths were registered during the week ending April 30th. The annual rate of mortality in these towns, which had been 18 4, 17·6, and 16·0 per 1000 in the three preceding weeks, rose again last week to 16·3 per 1000. In London the death-rate was 15·6 per 1000, while it averaged 16·7 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 7·5 in Reading, 8·3 in Willesden, 8·7 in Handsworth (Staffs.), 9·4 in Hastings, 9·7 in Ipswich and in Halifax, 9·8 in Walthamstow, and 9·9 in Leyton; while the highest rates were 20·8 in Wigan, 20·9 in Warrington, 21·0 in Plymouth, 21·8 in Liverpool, 21·9 in Coventry, 22·0 in Stockton-on-Tees, 22·7 in Middlesbrough, and 25·9 in Wallasey. The 4785 deaths in these towns last week included 527 which were referred to the principal infectious diseases, against 583, 530, and 556 in the three preceding weeks; of these 527 deaths 213 resulted from whooping-cough, 155 from measles, 49 from diphtheria, 41 from diarrhœa, 40 from scarlet fever, 21 from "fever" (principally enteric), and eight from small-pox. No death from any of these diseases was registered last week in Hastings, Reading, Northampton, West Bromwich, Smethwick, Grimsby, Preston, or York, while the highest death-rates from the principal infectious diseases were recorded in Hornsey, Great Yarmouth, Walsal, Birmingham, Wallasey, Warrington, Salford, and Stocton-on-Tees. The greatest proportional mortality from measles occurred in Hornsey, Brighton, Norwich, Wallasey, Manchester, Burnley, Rotherham, and Rhondda; from scarlet fever in Warrington; from diphtheria in Hanley and Barrow-in-Furness; and from whooping-cough in Great Yarmouth, Walsall, Birmingham, Warrington, Bolton, Salford, Blackburn, and Stockton-on-Tees. The mortality from "fever" and from diarrhœa showed no marked excess in any of the 76 large towns. Of the eight fatal cases of small-pox in registered in these towns last week three belonged to London, two to Halifax, and one each to Manchester, Newcastle-on-Tyne, and Tynemouth. The number of small-pox cases remaining under treatment in the Metropolitan Asylums hospitals, which had been 134, 144, and 123 on the three preceding Saturdays, had further declined to 104 on Saturday last, April 30th; 12 new cases were admitted during last week, against 25, 37, and 23 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1541, against 1505, 1523, and 1543 at the end of the three preceding weeks; 185 new cases were admitted during the week, against 141, 172, and 210 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 333, 295, and 254 in the three preceding weeks, further fell last week to 224 and were 60 below the number in the corresponding period of last year. The causes of 65, or 1·3 per cent., of the deaths in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Salford, Leeds, Hull, Newcastle-on-Tyne, and in 45 other smaller towns; the largest proportions of uncertified deaths were registered in Leicester, Liverpool, St. Helens, Manchester, Rochdale, Burnley, Halifax, Sunderland, Gateshead, and Tynemouth.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 20·3, 20·9, and 21·0 per 1000 in the three preceding weeks, declined again to 20 0 per 1000 during the week ending April 30th but was 3·7 per 1000 in excess of the mean rate during the same period in the 76 large English towns. Among these Scotch towns the death-rates ranged from 15 6 in Leith and 17·2 in Greenock to 22·3 in Paisley and 24·2 in Dundee. The 663 deaths in these towns included 22 from whooping cough, 19 from measles,

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[1] Excerpt from lecture on the Anatomy, Physiology and Diseases of the Eye, by Mr. Lawrence, delivered at the London Ophthalmic Infirmary, Moorfields.

13 from diarrhœa, seven from diphtheria, four from "fever," three from small-pox, and three from scarlet fever. In all, 71 deaths resulted from these principal infectious diseases last week, against 57, 65, and 79 in the three preceding weeks. These 71 deaths were equal to an annual rate of 2·1 per 1000, which was 0·3 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The deaths from whooping-cough, which had been 19, 20, and 29 in the three preceding weeks, decreased again to 22 last week and included six in Edinburgh, six in Aberdeen, five in Glasgow, and five in Dundee. The fatal cases of measles, which had been 14, 21, and 26 in the three preceding weeks, declined again last week to 19, of which ten were registered in Glasgow, three in Paisley, two in Dundee, and two in Greenock. The fatal cases of diarrhœa, which had been seven, 15, and 11 in the three preceding weeks, rose again to 13 last week and included eight in Glasgow and two in Dundee. The seven deaths from diphtheria were six in excess of the number in each of the two preceding weeks, and included five in Glasgow. The fatal cases of "fever," which had been three, four, and five in the three preceding weeks, declined again last week to four, of which two occurred in Glasgow. The three deaths from small-pox corresponded with the number in each of the two preceding weeks and were all registered in Glasgow. The fatal cases of scarlet fever, which had been two, one and four in the three preceding weeks, declined again last week to three, and included two in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 138, 152, and 115 in the three preceding weeks, rose again to 121 last week, but were slightly below the number in the corresponding period of last year. The causes of 24, or nearly 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 29 7, 24 4, and 23·3 per 1000 in the three preceding weeks, further declined last week to 20·8 per 1000. During the past four weeks the death-rate has averaged 24·6 per 1000, the rates during the same period being 16 7 in London and 18·4 in Edinburgh. The 151 deaths of persons belonging to Dublin registered during the week under notice showed a decline of 18 from the number in the preceding week and included eight which were referred to the principal infectious diseases, against 19, 17, and ten in the three preceding weeks; of these, three resulted from whooping-cough, two from measles, one from diphtheria, one from "fever," and one from diarrhœa, but not any from small-pox or from scarlet fever. These eight deaths were equal to an annual rate of 1·1 per 1000, the death-rates last week from the principal infectious diseases being 1·7 in London and 1·4 in Edinburgh. The fatal cases of whooping cough, which had been eight, 11, and five in the three preceding weeks, further declined last week to three. The deaths from measles, which had been four, four, and three in the three preceding weeks, decreased to two last week. The 151 deaths in Dublin last week included 27 among children under one year of age and 40 among persons aged 60 years and upwards; the deaths both of infants and of elderly persons showed a slight decline from the respective numbers recorded in the preceding week. Three inquest cases and two deaths from violence were registered, and 51, or more than a third, of the deaths occurred in public institutions. The causes of two, or 1·3 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Deputy Inspector-General of Hospitals and Fleets Evelyn Richard Hugh Pollard has been promoted to the rank of Inspector-General of Hospitals and Fleets in His Majesty's Fleet (dated March 7th, 1904).

In accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Surgeon Gerald Burton Brown has been placed on the Retired List (dated April 27th, 1904).

The following appointments are notified:—Fleet Surgeons: W. E. Bennett to the *Wild Swan* on commissioning; J. M. Rogers to the *President* for three months' hospital course; J. L. Thomas to the *Good Hope* and R. Miller to the *Rupert* and to the *Terror* on recommissioning. Staff Surgeon A. E. Kelsey to the *Andromache.* Surgeons: J. O'Hea to the *Ariadne* for the *Columbine* on recommissioning; E. R. Grazebrook to the *President*, additional for three months' hospital course; and A. F. Fleming to Chatham Yard, lent temporarily.

2nd Life Guards: Surgeon-Lieutenant R. M. Cowie to be Surgeon-Captain (dated April 11th, 1904).

Royal Horse Guards: Captain St. J. B. Killery, from the Royal Army Medical Corps, to be Surgeon-Captain (dated May 4th, 1904).

ROYAL ARMY MEDICAL CORPS.

Surgeon-Lieutenant-Colonel G. S. Robinson, Scots Guards, assumes charge of the troops and Station Hospital, Eastbourne, vice Lieutenant Colonel J. E. Fannin. Major R. E. Kelly (retired pay) on relief of his present duties by Lieutenant-Colonel P. B. Tuthill (retired pay) will be temporarily employed as medical officer in charge of the 3rd Battalion Royal Sussex Regiment during the annual training at Arundel.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant G. F. Whyte to be Surgeon-Captain (dated April 17th, 1904).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Sussex: Harold Harris E Scatliff to be Surgeon-Lieutenant (dated Jan. 23rd, 1904). 1st Banff: Surgeon-Major (Surgeon-Lieutenant-Colonel, Army Medical Reserve of Officers) W. L. Stewart resigns his commission with permission to retain his rank and to wear the prescribed uniform (dated April 30th, 1904); John Hector Stephen to be Surgeon-Lieutenant (dated April 30th, 1904). 1st Cinque Ports: Surgeon-Lieutenant W. L. Chubb resigns his commission and is granted the honorory rank of Surgeon-Captain, with permission to wear the prescribed uniform (dated April 30th, 1904). 1st Devonshire: Surgeon-Captain G. P. Barton resigns his commission (dated April 30th, 1904). 1st Durham: Surgeon-Captain D. Todd to be Surgeon-Major (dated April 30th, 1904).

Royal Engineers (Volunteers): 1st Aberdeenshire: Surgeon-Captain W. Sinclair to be Surgeon-Major (dated April 30th, 1904).

Rifle: The Cambridge University: Surgeon-Captain J. Griffiths to be Surgeon-Major (dated April 30th, 1904). 3rd Volunteer Battalion the Welsh Regiment: David Hepburn, late Major, Edinburgh Company, Royal Army Medical Corps (Volunteers), to be Surgeon-Major (dated April 30th, 1904).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

1st Lothian Bearer Company: Lieutenant A. A. Ross to be Captain (dated April 30th, 1904).

ROYAL JERSEY MILITIA.

The undermentioned Supernumerary Officers are absorbed into the Establishment:—*1st or West Battalion:* Royal Jersey Light Infantry: Surgeon-Major W. Falla (dated April 8th, 1904). *2nd or East Battalion:* Royal Jersey Light Infantry: Surgeon Captain F. N. Gaudin (dated April 8th, 1904). *3rd or South Battalion:* Royal Jersey Light Infantry: Surgeon-Major A. B. Voisin (dated April 8th, 1904).

THE WAR IN THE FAR EAST.

Everyone is following with extreme interest the course of events in the Russo-Japanese war which up to the present time is very favourable to the Japanese. The latest news from the Far East leaves no doubt of the nature of their success upon the Yalu, where the general staff of the Japanese army has achieved one of the most difficult and brilliant exploits in military history in crossing a river in the face of an opposing force and in successfully attacking and carrying the strongly defended positions held by the Russians. This success on land, following those on the part of the Japanese navy at sea, furnishes unmistakeable evidence of the nature and quality of the Mikado's forces. The relatively small losses on the part of both the Russian and Japanese armies in the late battles on the Yalu were a matter of surprise considering the numbers engaged, the nature of the fighting, and the military strength of the positions captured. But those on the side of the Russians turn out to have been much larger than originally reported and they seem to have principally occurred after they had given way and were in retreat. Turning, however, from these military considerations to those of a medical nature we may say that the Japanese are a most painstaking and up-to-date people in all their arrangements. They have excellent army hospitals and a good medical system and organisation. Lieutenant-Colonel W. G. Macpherson, C.M.G., of the R.A.M.C., a very competent officer, has been attached to the Japanese army to report on the medical arrangements.

In the preliminary report of the chief surgeon of the first Japanese army corps, referring to the recent operations on the Yalu, it is stated that there were 798 killed and wounded.

The Warsaw *Dnevnik*, discussing the importance of pure water for the soldiers, says the Lyao-che is a notoriously dirty river the water of which is simply of chocolate colour.

The Principal of the Russian Red Cross Society in the Maritime Province of Far Eastern Russia, Prince B. A. Vacilovitch, has advised the executive committee that the 2525 beds put at his disposition are not nearly enough. In view of this and to provide the necessary accommodation the committee proposes to fit up a number of buildings as hospitals to be ready at the end of autumn, when the war is expected to be at its height.

Besides the 63 medical men already sent to the seat of war from the Imperial Military Medical Academy a selection is about to be made from those still in the Academy of five surgeons and 12 assistants who will be specially detailed for duty for the hospital trains.

RUSSIAN LADY DOCTORS' ENTERPRISE.

On April 24th the Moscow "accoucheur gynæcological building" of the Women's Medical Institute was consecrated. This building, which has already cost 133,000 roubles (£13,300), collected with considerable difficulty in Moscow, is still incomplete as to its fittings and furniture and the task is still ahead of the Moscow branch to gather another 23,000 roubles to complete the equipment and to put the institution into working order. The house will contain 50 beds.

A YEOMANRY MASONIC LODGE.

A lodge of Freemasons in connexion with the Middlesex Yeomanry was consecrated under the name of the Middlesex Yeomanry Lodge at Freemasons' Hall by Sir Edward Letchworth, Grand Secretary, assisted by other Grand Officers on April 18th. This is the first Masonic lodge formed in connexion with the Yeomanry and its first Worshipful Master is Major W. Duncan, M.D., F.R.C.S., obstetric physician to Middlesex Hospital.

DENTISTRY IN THE RUSSIAN ARMY.

A committee appointed by the Russian Imperial Medical Academy to report on a better system of education in dentistry has concluded as follows: That the inclusion of dentistry in the Academy's curriculum is indispensable and will fill a blank in the education of military medical men. If need be new accommodation should be built and fixed remuneration for professorship should be provided, since at present such instruction in dentistry as is provided in the Academy is by a *privat-docent* without fixed fees.

Correspondence.

"Audi alteram partem."

THE CHOLERA AND ENTERIC FEVER EPIDEMICS AT HAMBURG.

To the Editors of THE LANCET.

SIRS,—I appreciate the honour you conferred upon me in writing a leading article on my paper about enteric fever and cholera at Hamburg and calling the attention of your readers to the facts contained therein. I am sorry to learn from your *exposé* that our opinions about the epidemiology of both diseases differ widely, yet I trust you will agree with me that not a prolonged discussion will be able to clear our theories but only the experiences derived from the next invasion of cholera in Europe. Nevertheless, I beg your permission to correct some statements of yours. You say Altona or a great part of the town is built on a hard rock. That is erroneous. Altona rests on the same formation of soil as the whole north-German geest and as the greater part of Hamburg too. Furthermore, at Altona away from the river there are no low-lying and poor districts where the death-rate from cholera was very much higher than in the upper parts of the town. It is true I omitted in my lecture detailed descriptions about the distribution of the cases of cholera in the geest districts and the marshland of Hamburg and Altona, also about the influence of the average wealth and of the density of population, &c. I was afraid to trespass the borders of my paper and I contented myself to state the geest was attacked as severely as the marsh. However, abundant information about all those conditions is published in my "Jahresbericht uber die Medizinische Statistik des Hamburgischen Staates, 1892," and by Gaffky in vol. x. of the "Veroffentlichungen des Kaiserlichen Gesundheitsamts." The figures you quote are taken undoubtedly from these sources. You will find there ample evidence why Gaffky and I attributed to the water-supply the prominent rôle in the spreading of the large epidemic of 1892. I cannot hope that our reasons might convince you but I trust you will see that all questions raised in your article are extensively investigated by us.

I am, Sirs, yours faithfully,

Hamburg, May 2nd, 1904. DR. REINCKE.

THE EAST LONDON MEDICAL SOCIETY.

To the Editors of THE LANCET.

SIRS,—A society bearing this name has been formed to deal with subjects of medical interest but primarily to press for a reform of the abuse of hospital charity. An open meeting will be held on Tuesday, May 17th, at 3.30 P.M., in King's Assembly Rooms, Cottage Grove, Mile End-road, near Burdett-road, E. Circulars are being sent to as many medical practitioners as possible in East and North-East London, but as some may not receive them will they be kind enough to accept this as an invitation to attend.

We are, Sirs, yours faithfully,

GEORGE BLACK,
EDWIN HASTINGS,
F. HARRIS WHITE,
} Honorary Secretaries *pro tem.*

White House, Tredegar-road, Bow, E., April 30th, 1904.

ON CONTINUOUS CLINICAL TEMPERATURE CHARTS.

To the Editors of THE LANCET.

SIRS,—Some years ago while house physician to Dr. J. K. Fowler at the Middlesex Hospital I was studying the different types of temperature charts met with in cases of pulmonary tuberculosis. To some of these, notably the inverse type, where the early morning temperature is higher than the evening temperature, being a continuation of the evening rise, Dr. Fowler attached some importance, for its appearance sometimes heralds the onset of acute general tuberculosis. *It then occurred to me that a continuous* record of a patient's temperature registered on an automatically moving chart might show recurring variations which by our present method of charting temperatures remain unobserved, but which, if observed, might throw some light on the nature or progress of an illness. Mr. Whipple of the Cambridge Scientific Instrument Company kindly placed one of Callendar's electric recorders at my disposal, and he also took considerable trouble in preparing suitable terminals for making clinical observations. Ultimately a glass bulb after the pattern and size of one of Messrs. Burroughs, Wellcome, and Co.'s enules was made and this, carrying the fine platinum wires, was used for taking either axillary or rectal temperatures. Dr. Fowler kindly gave me permission to use the recorder in his wards. The instrument yielded excellent and accurate results though there was some difficulty in standardising it. The patients, however, objected to the constant wearing of the bulb in the axilla which caused some discomfort after 24 hours. By making the bulb flat this inconvenience might be overcome. Shortly after this I took up practice here and had, therefore, to desist from further experiments, but I have been much pleased to read in THE LANCET of Feb. 27th, which arrived by the last mail, that Professor Ronald Ross has made some further experiments, apparently with the same apparatus. I sincerely hope that these experiments will be continued.

Records of continuous temperatures offer a new field for research and the results are likely to prove of value. Thus the sudden fall of temperature which usually follows a perforation of the bowel in enteric fever or the hyperpyrexia of rheumatic fever would be instantaneously and automatically recorded, or again the fall of temperature resulting from shock might be observed during the progress of a major operation. But besides *registering the temperature of a part* of the body at any particular moment Callendar's recorder may be made to register the difference between the temperatures of any two parts—e g., the difference between the axillary and the rectal temperatures. This is done by using two separate terminals, one of which is placed in the axilla and the other in the rectum; the difference in temperature between the two bulbs is recorded in a single curve. The difference between the axillary and the rectal temperature is sometimes considerable (as in cholera) and this is a subject that may repay further study. Should the investigation prove fruitful it is to be hoped that someone may devise an instrument of smaller dimensions and less cost.

I am, Sirs, yours faithfully,
O. Reissmann, M.A., M.D. Cantab., B.Sc.,
Adelaide, South Australia. M.R.C.P. Lond.

BRITISH HOME AND HOSPITAL FOR INCURABLES.

To the Editors of The Lancet.

Sirs,—Amongst your notices of "Donations and Bequests" I see the name of the late Mr. William Sutton, M.D., but you do not mention a legacy of £250 left to this institution by him. If only out of justice to the deceased gentleman I shall be glad if you will insert this in your next issue.

I am, Sirs, yours faithfully,
April 29th, 1904. Edgar Penman.

WELSH MEDICAL DINNER.

To the Editors of The Lancet.

Sirs,—It has been decided to hold a Welsh medical dinner at Prince's Restaurant, Piccadilly, London, W., on May 25th, 1904, at 7 for 7.30 P.M. Sir John Williams, Bart., has kindly consented to preside. Gentlemen intending to be present or to introduce guests are specially requested to give notice in writing to either of the honorary secretaries as soon as possible. A general meeting will be held at 6.30 P.M., at which all should endeavour to be present, to discuss the advisability of instituting an annual reunion.

We are, Sirs, yours faithfully,
T. P Beddoes, } Honorary Secretaries.
William Lloyd, }
63, Wimpole-street, Cavendish-square, W., May 3rd, 1904.

TESTING THE EYESIGHT OF THE NATION.

To the Editors of The Lancet.

Sirs,—With reference to a recent article in the *Times* newspaper under the above heading, which is commented upon in The Lancet of April 16th, I am authorized by my council to state that the Optical Society, which is mainly a scientific society, as I show in my subsequent quotation of its objects, does not at this stage commit itself to any definite opinion on the sight-testing question nor can it accept responsibility for the views of individual members; moreover, it does not organize or conduct examinations or grant "diplomas" of any sort whatever.

In the article I quote it is mentioned that the *Optician and Photographic Trades Review* is stated to be the official organ of the Optical Society. That journal is the official medium for the publication of the society's notices and proceedings but it is in no sense authorized to voice independently the opinions of the Optical Society as a body. Moreover, I have the authority of the editor of the *Optician and Photographic Trades Review* for the assertion that neither he nor the *Official Journal* had anything to do with sending out the so-called "circular communication."

As a matter of interest to your readers I shall be glad if you will permit me to state that the objects of the Optical Society (which was founded in the year 1899) are: (1) to promote intercourse between those interested in the science of optics in the United Kingdom, the colonies, or foreign countries; (2) to foster and to disseminate knowledge of optical matters among its members; (3) to arrange lectures, discussions, and demonstrations on optical science and optical instruments; (4) to provide its members with information on all optical subjects of interest; (5) to promote the establishment, adoption, and recognition of standard sizes, gauges, calibres, templets, and methods for universal use with all optical and other scientific instruments; and (6) to print, publish, sell, lend, or distribute the proceedings or reports of the society or any papers or communications on optical science or subjects connected therewith.

I am, Sirs, yours faithfully,
W. Salt, honorary secretary.
Hanover-square, London, W., May 3rd, 1904.

THE TENURE OF OFFICE OF THE MEDICAL OFFICER OF HEALTH.

To the Editors of The Lancet.

Sirs,—It is extremely satisfactory to note that the Local Government Board has recently in some instances signified to district councils its willingness to consider favourably applications made as to the reappointment of medical officers of health without limit of time where the officers in question have been in office some years and have discharged their duties satisfactorily. The duties which have to be discharged by a conscientious medical officer of health are so important and often so diametrically opposed to the views of some individual members of a district council that where after a trial of two or three years a medical officer of health has satisfied the Local Government Board as to his discretion and competency that body should certainly see to it that the public do not lose a valuable servant through the caprice of a district council.

The reappointment without limit of time is as essential for rural district medical officers of health as for urban if sanitary reforms, which are at the present time a pressing necessity, are to be satisfactorily achieved. I have in mind more particularly at this instant the cleanliness of our milk-supplies. It is a matter of common sense that reform in this direction should begin at the fountain head—in short, with the cow. Security of tenure is essential if the medical officer of health of a rural district council is fearlessly to enforce the provisions of the Dairies, Cowsheds, and Milkshops Order and of the Model Regulations framed by the Local Government Board under Art. 13 of that order. No district council should have the power to terminate the appointment of a medical officer of health except on the ground of his incompetency and then only with the approval or endorsement of the Local Government Board.

I am, Sirs, yours faithfully,
May 2nd, 1904. Public Health.

To the Editors of The Lancet.

Sirs,—In The Lancet of April 30th, p. 1239, one of your correspondents drew attention to the fact that the Dolgelly rural district council had fallen in with the suggestion of the Local Government Board and appointed its medical officer of health "without limit of time." Probably few of your readers are in a position to appreciate the great practical importance of what appears to be a small administrative detail. No apology need therefore be offered for emphasising the advantages that would accrue were the Local Government Board invariably to take this course and were all local authorities equally amenable to advice from headquarters.

Under present conditions the majority of provincial medical officers of health are appointed for a *short term* of years, usually, indeed, for one year only. This means that at the end of that term a medical officer who has refused to prophesy smooth things or has been in any way too active may be got rid of by the simple process of refusing to vote for his reappointment. It also means that every year the jerry-builder, the slum-owner, and the crank have a golden opportunity of making themselves more than commonly offensive by publicly objecting to the reappointment. In many districts this is a chance which is never missed, as the writer knew to his cost when medical officer of a small urban district. In such circumstances it can hardly be a matter for wonderment if the nature of the average official sometimes is subdued to what it works in, like the dyer's hand, and that annual reports tend to become too complacent. To take a concrete instance, it requires no small amount of force of character for the medical officer of a rural district to insist on dairy and cowshed regulations being strictly enforced when he *knows* that nearly every member of his authority is both by interest and by prejudice opposed to such enforcement, but it needs very considerable courage when the officer's very livelihood is imperilled if he tenders unwelcome advice. Fortunately that courage is frequently in evidence, but in any case there is a temptation to let things slide, which is bad for all concerned and especially for the public whose interests the medical officer is supposed to guard.

Now, Sirs, some of your readers are members of local authorities, while many others occupy positions of influence throughout the country, and I would suggest that they could render a greater service to public health by insisting that all appointments should be made "without limit of time." This would not only have the effect of diminishing opportunities for petty tyranny but would give security of tenure to those medical officers whose salaries are partly paid from Imperial sources, as such officers cannot be removed during the term of their appointment except with the consent of the Local Government Board. Will not THE LANCET again assist us by advocating such a far-reaching reform?

I am, Sirs, yours faithfully,

May 4th, 1904. HAUD IGNARUS MALI.

THE ORGANISATION OF THE PROFESSION.

(FROM OUR SPECIAL COMMISSIONER.)

THE MANCHESTER MEDICAL GUILD AND THE BRITISH MEDICAL ASSOCIATION.

THERE is nothing of a particularly sensational character to record in regard to the Manchester Medical Guild. During the last three or four years this organisation has kept on in the even tenour of its way. It has not retrograded nor has it made any notable step forward. If it is the best-governed people that have no history the Manchester Medical Guild may claim that, according to this axiom, it must be a model institution. If, however, there is nothing startling to record there has been much quiet, steady work done. To begin with, the monthly meetings of the guild have been regularly held and these very effectively help to keep the members in touch with each other; then for those who may fail to attend all these gatherings there is the *Medical Guild Quarterly* which constitutes a periodical official record of what has been done; but, not content with their monthly meetings and their quarterly publication, there is now a further effort being made so that the members may come into still closer and more constant association. A scheme brought forward long ago, but which fell through, has now been revived and it consists of creating a medical social and scientific club. The guild has more than 200 members and this would constitute a good nucleus for a club. But there are other medical societies to whom a common meeting place would be of use and they might join hands so as to have one great central meeting place for all the societies and organisations formed by members of the medical profession. Apart from ordinary accommodation, this club should have one or more fairly large committee rooms so that the various societies, such as the Medical Guild, the Medico-Ethical Association, and the Clinical Society of Manchester, might have their meetings at the club. The rent which these societies pay for offices or meeting places could then go to the maintenance of the club and all that is of interest to the profession could be concentrated in one single building. This evidently would be the best means of insuring success and it is to be hoped that individual predilections will not stand in the way of union for so useful and so agreeable a purpose.

Of course, though in a quiet way, the guild has helped to settle and to prevent disputes, and this not only in Manchester and Salford but also in outlying districts. For instance, at some large coal-pits in the Pendlebury district there was a dispute. The employers compelled all their men to insure against accidents but some of the miners had a society of their own and as neither organisation could agree as to who should pay the medical attendant the latter ran every risk of not being paid at all. The medical profession being organised, however, and able to present a united front was strong enough to enforce the acceptance of an agreement. It was then settled that the men's society should limit its action to the payment of benefits such as sick allowances, while the fund collected by the employers should serve to pay the fees of the medical attendants. There was, however, another difficulty. The agreement is that the colliery surgeons receive 15*s*. for every case of accident. Of course, this is remunerative only on condition that the trivial accidents are included but it had become the practice to send minor cases to the dispensing druggist. This has been altered and the colliery surgeons having now to attend the slight as well as serious cases the average of 15*s*. per case becomes reasonably profitable. When the colliery surgeons first insisted on these points there was an outcry. Threats were made that advertisements would be published inviting some outside practitioner to come to take the place of the old-established colliery surgeons but when it was found that the latter were really well organised all such resistance was abandoned and the colliery surgeons won their contention all along the line.

Though there has been comparative calm for some years now it seems very probable that a storm may burst at no distant day. The trouble which arose during the course of last year with the Manchester and Salford Provident Dispensaries Association has already been described.[1] These dispensaries are providing municipal servants with medical attendance for 3*s*. 6*d* per annum. Even the workmen themselves very generally recognise that this is not enough. Some three or four years ago an interview took place between representatives of the Manchester Medical Guild and officials from the local friendly societies and sick clubs. The discussion which ensued showed that the objection was not so much against an increase in the amount of the subscription paid but the fear that one concession if made would lead to agitations for further increase. If the medical profession could only decide once and for all—and this all over the country—what would be considered as permanently satisfactory there would be some prospect of coming to an understanding. The Manchester Medical Guild proposes to act upon this suggestion. There should be a minimum charge for contract work which should be recognised in every part of the country and enforced on every society. But this is beyond the power and scope of the medical unions that have been constituted to deal expressly with economic questions. These unions, though becoming more numerous, are still confined to certain counties, towns, and localities. Here, then, is an opportunity for the British Medical Association since its branches are established all over the country. Consequently the Manchester Medical Guild proposes to arrange so that at the next
Medical Association a motion
the minimum for contract wo
be 4*s*. per annum.

The new constitution of the British Medical Association has caused confusion and doubts to arise in the ranks of the various medical unions such as the Manchester Medical Guild which had been constituted to take action in regard to economical and ethical questions. It was but natural to imagine that these unions would merge in the new divisions and branches of the British Medical Association. Theoretically this seemed the best course to follow but for the time being at least it would not work in practice. The medical unions have gained substantial advantages. There is much that remains to be done but already very palpable benefits have been attained. To abandon these means of action could only be compared to the proverbial loss of the bird in the hand for the sake of two in the bush. The Manchester Medical Guild in any case, as one of its members stated, does not feel inclined to commit suicide for the sake of a paper constitution. Then there are fundamental differences. A medical union differs in the recruiting of its members from all other medical societies or organisations. Most societies are pleased to enrol men of standing and of the best repute. A medical union is also pleased to bring together those members of the profession who hold the best position; but its main object is, on the contrary, to get at the poorest of practitioners. It is from those who are on the lowest rung of the ladder that a disastrous competition may be feared. They tend to lower the standard of living and the dignity of the profession. Consequently it is most necessary to bring them under the discipline and moral control of a strong professional union. Then with these less fortunate members of the profession the question of subscription, which in many instances is not more than 5*s*. a year to cover the working expenses of the medical union, is a matter of consideration. Thus it happens that many members of the medical unions are not, and would have some difficulty in becoming members of the British Medical Association. If, however, this end is ultimately to be attained the British Medical Association must first prove that it thoroughly grasps the questions at issue and that it has the intelligence, the power of initiative, and the enterprise to grapple with them effectively.

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[1] THE LANCET, April 30th, 1904, p. 1236.

The proposal which the Manchester Medical Guild hopes to see brought forward at the Oxford meeting of the British Medical Association will serve as a preliminary test. It will be a splendid opportunity, for this is a matter that could be settled more effectually by the British Medical Association than by the medical unions even if they were all unanimous. It is quite natural that the friendly societies and other such bodies should say that they first of all want to know what it is the medical profession really does desire. The Manchester Medical Guild may answer that they desire a minimum of 4*s.* for contract work, but it may be shown that at Southampton and elsewhere the payment of 5*s.* and even 6*s.* has been enforced. While in some places medical men have accepted as little as 2*s.* 6*d.* per annum they have asked double and treble as much elsewhere. The friendly societies and sick benefit clubs may well complain that the medical men do not know what they want. But the gathering at Oxford will afford a unique opportunity of getting something like uniformity introduced in regard to the demands that shall be brought forward in the future.

One of the greatest objections that can be made against the medical unions as they exist to-day is their isolation. They have to deal with bodies that are not isolated. The great friendly societies are national institutions governed by central committees with branches all over the country and the colonies. This gives them a distinct advantage which the action of the British Medical Association might effectively counteract if that body could prove itself competent to deal with such questions.

In the meanwhile, though hoping to make the minimum for contract work a national question, the Manchester Medical Guild is pushing the matter forward as a local question. In 1899 a pledge was circulated asking the local practitioners to promise that they would not accept any contract work for less than 4*s.* a year. This had a good effect at the time and many clubs raised their rate of payment accordingly. But some club medical officers feared to take action, giving as their excuse that the pledge had not been unanimously accepted. Others while agreeing with the principle did not like the idea of signing a pledge. Then there was the competition of the "sixpenny doctors" who had been neglected and who would offer to do the club work whenever any difficulty arose between the clubs and their usual medical officers. Indeed, this question of the "sixpenny doctors" is an important matter which has been too readily set aside. Just as it is necessary to establish a minimum rate of subscription for contract work, so also there should be a minimum fee for consultations. In the meanwhile exception may be taken to the minimum proposed by the Manchester Medical Guild. It should be not 4*s.* per annum but 1*d.* per week—that is, 4*s.* 4*d.* per annum. As only poor people should be allowed to contract at such rates they must pay by the week and 4*s.* a year would mean that during four weeks no collection would be made. If a man can pay 1*d.* during 48 weeks the probability is that he can do so during the whole of the 52 weeks into which the year is divided. It would in any case be an excellent measure to fix on some such limit and it is to be hoped that the Manchester Medical Guild will not fail to press the matter forward.

LITERARY INTELLIGENCE.—Messrs. H. K. Lewis are just issuing the eleventh edition of Martindale's Extra Pharmacopœia, revised by Mr. W. Harrison Martindale, F.C.S., and Dr. W. Wynn Westcott. The book has been considerably remodelled, many of the older drugs, chemicals, and preparations having been omitted and 300 new remedies being included. The sections on antitoxins and organotherapy have been almost entirely rewritten. —*The Electrician* Printing and Publishing Co., Salisbury-court, London, announces that it will issue early in May an important work by Mr. F. Soddy, M A., entitled "Radio-Activity: an Elementary Treatise from the Standpoint of the Disintegration Theory." This is intended as a text-book for students and others interested in the fascinating research work connected with radium and other radio-active substances.

THE GERMAN SURGICAL CONGRESS.[1]

(FROM OUR BERLIN CORRESPONDENT.)

(*Continued from p. 1236*)

Operations on the Brain.

PROFESSOR MADELUNG (Strasburg) described the case of a boy, nine years of age, who received a gunshot wound of the brain three years ago and had since suffered from amaurosis, slight hemiparesis, and general disfigurement from excessive adiposity. From the situation of the wound and from the appearances presented by skiagrams he concluded that the hypophysis had probably been injured.

Dr. STOLPE (Breslau) said that in a man 40 years of age who had suffered from acromegaly and general adiposity he had found adenoma of the hypophysis and a metastatic deposit in the right occipital lobe.

Professor VON EISELSBERG (Vienna) said that he had made experiments on the hypophysis of cats and had found that complete removal of it always caused the death of the animal.

Dr. BORCHARD (Posen) mentioned the case of a girl, nine years of age, who, three years after a serious injury to the skull, showed symptoms of mental impairment. The skull was trephined and an abscess was opened, with the result that the psychical troubles disappeared. Dr. Borchard was of opinion that they were due to local irritation of the brain.

Dr. FRIEDRICH (Leipsic) said that he had seen a patient who, after a traumatic lesion of the brain ten years ago, suffered from mental disturbance but recovered after removal of a large growth in the frontal lobe.

Professor HILDEBRAND (Basle) reported the case of a patient who, two days after an operation on the nose, in the course of which the galvano-cautery was used, suffered from marked pyrexia, slow pulse, paresis of the nervus abducens, protrusion of the eyeball, œdema of the eyelids, and mydriasis. As there probably was thrombosis of the cavernous sinus he gave several injections of Tavel's antistreptococcic serum. Notwithstanding the development of slight erysipelas at the place of the injection all the symptoms eventually disappeared, the paresis of the nervus abducens being the longest maintained.

The Function of the Thyroid Gland.

Dr. LANZ (Amsterdam) read a paper on the procreative faculty of animals whose thyroid gland had been removed. He found that the loss of this gland produced in moderately young animals sterility which was but little influenced by feeding with thyroid gland or by the administration of iodine. As to the human genus he alluded to the case of a male cretin, aged 28 years, in whom sexual desire had been absent previously to the administration of thyroid gland but thereupon it appeared at once. He afterwards married but had no children. In a female cretin menstruation made its appearance only after thyroid feeding.

Intrathoracic Operations.

Dr. SAUERBRUCH (Leipsic) read a paper on a pneumatic apparatus devised by him for the prevention of pneumothorax in intra-thoracic operations. It consisted of a kind of chamber in which the pressure was reduced by an air pump. It was first tried in operations on animals; the animal was put into the chamber so that only its head was outside and an air-tight junction was made by means of a caoutchouc ring. The operator and his assistants were inside and the anæsthetist was outside the chamber. The principal feature of Dr. Sauerbruch's apparatus was that the respiration continued to be normal after the thorax was opened, the difference of pressure between the bronchi and the pleural cavity being kept constant.

Professor VON MIKULICZ (Breslau), in whose clinic Dr. Sauerbruch had made his experiments, confirmed the statements contained in the paper and expressed his views as to the future of intra-thoracic operations with the aid of Dr. Sauerbruch's apparatus.

Professor PETERSEN (Heidelberg) recommended instead of Dr. Sauerbruch's method the subjecting of the bronchial system to increased atmospheric pressure. For this purpose he used an apparatus similar to Waldenburg's pneumatic apparatus, by means of which compressed air was respired.

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[1] For this report we wish to tender our thanks to the editor of the *Deutsche Medicinische Wochenschrift*, through whose courtesy it has been forwarded to us by our correspondent.—ED. L.

Abdominal Surgery.

Professor VON MIKULICZ discussed some methods of increasing the resistance of the peritoneum against infection in operations on the gastro intestinal organs. He explained that a trustworthy disinfection of the peritoneum was very difficult and that prophylactic injections of serum were useless, the efficacy of the antistreptococcic sera being hitherto rather doubtful. The best method was to produce artificial hyperleucocytosis by the administration of nucleic acid; 12 hours previously to an operation 50 cubic centimetres of a 2 per cent. solution were given. Of 34 patients suffering from serious diseases of the stomach and intestines none died from the operation, a result which Professor von Mikulicz attributed to the above proceeding. Administration of a saline solution was likewise efficacious.

Dr. BRUNNER (Munsterlingen) read a paper on the difference of virulence of the contents of the duodenum and the colon. He said that perforation of the duodenum was much more dangerous than that of the colon and that the bactericidal action of the peritoneum showed great differences in individual cases. He then gave an account of experiments made on animals for the purpose of destroying the bacteria of the intestines, especially bacterium coli; he found injections of acids to be the most efficacious method.

Dr. KADER (Breslau) expressed the opinion that peritonitis might be avoided by giving an injection of antistreptococcic serum ten hours previously to an operation. He even recommended the giving of prophylactic injections to every soldier 24 hours before a battle.

Professor KUSTER recommended in septic peritonitis the making of a small incision through which a drainage-tube or a strip of gauze might be introduced; the patient must then be kept permanently on the back even when the dressing was changed. This position was, of course, very tiresome and even insupportable to certain patients.

Professor FRIEDRICH (Greifswald) read a paper on subcutaneous feeding of patients operated on for gastro-intestinal diseases or for peritonitis where the administration of food by the mouth or rectum was unavailable. He recommended the injection of about 60 or 70 grammes of glucose and of the same quantity of olive oil; to meet the want of albuminous substances he recommended injections of a pepsin-peptone solution. In this way a patient might be sustained for some time.

Dr. PAYR (Graz) drew attention to thrombosis of the veins of the intestine, the mesentery, and the peritoneum which sometimes produced profuse hæmorrhage from the gastro-intestinal vessels and might occur in strangulated hernia and in appendicitis.

Professor RIEDEL showed specimens of perforated gastric ulcers. The prognosis of peritonitis in those cases was rather bad, and an early diagnosis of ulcer was therefore essential from a surgical point of view. The ulcer was in the majority of cases situated on the small curvature and on the pylorus; pain was as a rule felt on the left side and usually appeared so early that by careful dietetic treatment the patient might sometimes be saved

Dr. FRANKE (Altenburg) showed a patient suffering from cancer of the pylorus in whom he had first performed gastro-enterostomy and four weeks afterwards resection of the growth. He explained the advantages of this proceeding.

Dr. SEEFISCH (Berlin) said that three years ago he had performed gastro-enterostomy for stenosis of the pylorus in a child now four and a half years of age. The Murphy button was found to be present in the stomach one and a half years after the operation; by a recent radiogram it was, however, ascertained that the button had in the meantime been spontaneously discharged.

Dr. BORCHARDT (Berlin) mentioned the case of a patient suffering from aneurysm of the aorta who showed uncertain symptoms of dilatation of the stomach after a grave injury of the abdomen. The patient died on the fifth day and the necropsy revealed volvulus of the stomach and complete obstruction of the pylorus and the cardia.

Dr. LAMPE (Bromberg) discussed the functional troubles of the gastro-intestinal canal following gastro enterostomy according to the method of Wolfler and Lucke. They were, he said, caused by œdema and might be avoided by introducing an absorbable drain into the anastomosis.

Dr. VON BECK (Carlsruhe) said that he had investigated 500 cases of colitis, of which 170 occurred in men and 330 in women. They were a sequel to different abdominal diseases—perityphlitis, enteroptosis, cancer, tuberculosis, and actinomycosis of the colon. In six of his own cases he cut out the entire colon from the circuit by joining the ileum to the sigmoid flexure—i.e., performing an ileo-sigmoidostomy. One of his patients died but the others recovered.

Dr. BUNGE (Berlin) spoke on the causation of subcutaneous ruptures of the intestines, which arose either from direct crushing or from bursting or from distension. The rupture happened in the majority of cases between the ileum and the cæcum or between the sigmoid flexure and the rectum. Rupture of the mesentery was particularly dangerous.

Professor WULLSTEIN (Halle) said that he had made numerous experiments on resection of the intestines and the stomach without opening the lumen. The principal feature of his method was that the serosa was sutured first over an absorbable button, the walls of the intestines being then compressed by a special instrument. This method of splanchnotripsy was used in invagination, in appendectomy, and in gastro-enterostomy.

Dr. RIESE (Britz) mentioned two cases in which after an operation gauze compresses had been accidentally left in the peritoneal cavity. In one case the compress was in the intestine, in the other it was in a mesenteric cyst. Both cases were successfully treated by laparotomy. No inflammation ensued, the gauze being aseptic.

(To be continued.)

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Medical Arrangements with the Tibet Mission.—The Plague Epidemic.

THE medical arrangements with the Tibet Mission not only provide for our own sick and casualties but also as a civilised power for medical aid to the Tibetans. It must be borne in mind that there are hosts of followers engaged in road making and transport to be provided for and that from the base at Siliguri at the foot of the Himalayas the road goes through the tropical Teesta Valley and then upward for 150 miles or more through the most difficult and inhospitable mountains in the world. Up to the present the daily sick list has averaged 100 fighting men and about 200 followers. The medical establishment is under Lieutenant-Colonel L. A. Waddell, C.I.E., I.M.S., and consists of 16 executive officers, 31 assistant surgeons and hospital assistants, a large staff of nursing orderlies, and assistants with ambulance, transport, tentage, stores, comforts and other impedimenta in abundance. At each chief stage of the journey there has been established a section of a hospital and at small intervening posts a hospital assistant with medicines. Hospital huts are now being built to replace the tents. The ambulance transport is a host in itself. Besides eight stretchers per regiment there are about 50 doolies each carried by six bearers and also ambulance chairs, riding ponies, and for the road up the Teesta Valley a dozen bullock tongas. As the Indian doolie-bearer is no good for the mountains and the cold, some 300 Tibetans and Sikhimese were engaged as bearers but many of these deserted. At the action at Guru, after our own wounded had been attended to, the medical officers rendered help to the enemy's wounded and about 180 were carried from the battlefield to Tuna and Guru villages.

The plague returns for the week ending April 2nd show 46,320 deaths compared with 39,975 in the preceding week. The provinces were affected as follows: Punjab, 19,322 deaths, against 12,594; United Provinces, 8610, against 8776;
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week, the remaining provinces nearly all showing a decline. After being free from the disease for so many years plague has broken out in Madras city. Ten indigenous cases are reported partly in the city itself and partly in an adjoining village.

April 15th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Food Adulteration in the City.

THE report of the borough analyst shows that this form of dishonesty is on the decrease in Birmingham. The total number of analyses last year was 1660, of which 1303 were conducted under the provisions of the Sale of Food and Drugs Acts and the remaining 357 under applications from the various Government departments. The samples submitted under the Acts represent only 2·4 per 1000 inhabitants, this being a smaller proportion than in the preceding year. It is also a much smaller proportion than that in London where the number of analyses amounts to 4 per 1000. 532 samples of milk were dealt with during the year with the result that 450 of these samples proved to be genuine. Of 368 samples of butter examined adulteration was found to have taken place in 21. The worst sample of milk examined was taken from a milk-cart and contained 29 per cent. of added water, 20 per cent. of skim milk, and a small quantity of boric preservative.

The Arley Small-pox Outbreak.

This outbreak, which originated at Arley near Nuneaton, has not only affected the union at that place but also those of Atherstone, Foleshill, and Meriden. About 30 cases have been notified and the majority of these are under treatment at the isolation hospital at Binley. The medical officer of the Nuneaton rural district council, which authority will have to bear the bulk of the cost of dealing with the epidemic, has prepared a special report which shows that in one house in Arley there were six children, of whom four were vaccinated and two unvaccinated; the two latter contracted small-pox whilst the four others escaped. In another house there were six children, three vaccinated and three not. The three who were vaccinated escaped small-pox and the three who were unvaccinated contracted it. In another instance there were in one house six unvaccinated and three vaccinated persons and only the latter escaped the disease. The medical officer thinks that there may be a few further odd cases but he does not expect any serious development of the epidemic. Mr. W. H. Boon, the chairman of the rural district council, has intimated that when the epidemic is over he will call attention to the greatly increased cost to the ratepayer incurred through persons refusing to be vaccinated and subsequently falling a prey to small-pox.

The New Women's Hospital.

The foundation-stone of the new hospital was laid a few days ago by Mr. Arthur Chamberlain, the president of the institution. The present building, which is situated in Stratford-road, Sparkhill, has long been too small for the needs of the city and district and the new building which is being erected at Showell Green-lane, Sparkhill, will be of much larger size. The hospital grounds abut upon the Sparkhill Recreation Ground, which is 17 acres in extent, so that there will always be a certainty of abundant fresh air. Prior to the stone-laying ceremony the annual meeting of the supporters of the institution was held and the report of the committee was read. During the year 1903 3450 cases had been treated at the out-patient department, this being an increase of 161 on the previous year. The total number of new and old cases treated had been 19,370, being 1292 more than in 1902; 444 patients had been admitted to the in-patient department, an increase of 18; the number of operations had been 426, an increase of 14; and the number of cases involving abdominal section had been 250, 16 more than in the previous year. Of these 10 had died, giving a death-rate of 4 per cent. as compared with 1·28 per cent. on 234 operations in 1902. From the founding of the hospital in 1871 up to Dec. 31st, 1902, there had been 3610 operations; of these 218 patients had died, giving a death-rate of 6 03 per cent. The amount which the new hospital is to cost is £40,000, towards which the treasurer has up to the present received £32,000. The new hospital will be in the main a two-storey building of brick. The elevation will be of an unobtrusive character and will not be adorned with any terra-cotta and with but little stone. In the centre is the administrative block with entrance hall, matron's and medical officers' rooms, nurses' and servants' dining rooms, &c. On the first floor, which is approached by two wide fire-resisting staircases, are the sleeping rooms and bath rooms for the matron, medical officers, and servants. At the back of the administrative block are placed four ward units, two on each floor, having a total provision for 48 beds. These are approached from the administrative block by a central corridor on the ground floor. Leading out of this corridor are a dispensary, surgical store, storeroom for patients' clothes whilst they are inmates of the hospital, sewing room, mattress store, and a sitting room for the sister in charge of the floor. There is also a staircase, with low steps, which incloses a lift-shaft in which is an electric lift capable of containing a patient in bed and with a nurse in attendance. On the first floor immediately opposite the lift is the operating department, consisting of an anæsthetic room, two operating rooms, and sterilising rooms, with a sitting room for the sister in charge. Each ward unit is to consist of an associated ward for ten beds, with an isolation ward for two beds, duty room, pantry, a room for washing mackintoshes, and two sanitary annexes placed cornerwise, with balcony between, from which there is a fire-escape to the ground. There is also a bathroom placed near the main staircase, in which patients will be received before they are taken into the wards. The ward buildings are to be constructed on piers and arches allowing of a free air space below the ground floor under the whole area of the buildings as a protection against damp and ground air. A narrow balcony will run along each side of the wards on the first floor, giving patients a chance of sitting in the sun and also affording a means of cleaning the windows from without. The wall and ceiling surfaces throughout these buildings will be painted with a special enamel paint upon plaster and care is being taken as far as possible to avoid any corners in which dirt might be harboured. At the south end of the administrative block is placed a detached nurses' home containing on three floors 20 nurses' bedrooms, three sisters' bedrooms, sick-room, and on the ground floor a recreation room, small kitchen and pantry, bathrooms, &c., and a staircase at the end of the corridor. At the north end of the administrative block is a detached building for the laundry and engineering departments containing on the basement floor boiler and engine room fitted up with complete plant for an electric lighting installation, together with room for accumulators and steam disinfecting room. On the ground floor there are a washhouse and a laundry with up-to-date machinery, also a delivery and receiving rooms. In addition there is a mortuary consisting of post-mortem rooms and friends' waiting room. The administrative ward and laundry buildings are connected below ground by a subway in which will be carried the steam, water, and gas mains and electric cables. The heating will be on what is known as the "atmospheric" system. The convalescent home will be a two storey building containing on the ground floor an entrance and corridor leading to the day room, dining room, matron's sitting room, kitchen with larder, pantry, and scullery, and also a room for patients' clothes, bathroom, &c. On the first floor there will be two dormitories for patients, each containing five beds, and two for two beds, the matron's bedroom, linen room, and sanitary annexe. There will be an external fire-escape staircase from the first floor to the ground floor. It is expected that the convalescent home will be ready for occupation by September and the main buildings in the early part of next year.

Worcester and Warwick Volunteer Bearer Company.

The annual supper and distribution of prizes to this company has recently taken place, Colonel W. P. Whitcombe, the commander of the company, presiding. Colonel A. W. Duke, R.A.M.C., principal medical officer of the north-western district, was also present, as was Captain Roscoe Badger, Colonel Whitcombe's subordinate officer. Colonel Duke, in responding to the toast of his health, pointed out that his district extended from Carlisle in the north to Hereford in the south. In that district there were many volunteer brigades and many bearer companies. The company he was addressing was now only a little over one and a half years old and he had seen nothing like the results which they had achieved in any other bearer company in the midland district. There was no work in England that he looked upon as more important than the work which they were doing. Supposing this country were invaded they all knew what a great number of men might be wounded in a very few minutes. It would be impossible for the Royal Army Medical Corps of themselves to deal with them; therefore they were trying to form companies of men like them who were willing to learn how to help the wounded and the sick when they fell. The great difficulty which they found in forming such companies was the want of assistance from the civilian part of the population. Some brigades were badly in want of such help. In Birmingham they seemed to have received considerable encouragement and he should like to see the people in other places encouraging the men who formed such companies by attending at their gatherings and offering prizes for their competitions. He thought that the greatest credit was due to Colonel Whitcombe and Captain Badger for what they had done.

May 2nd.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

"Tramp Factories."

AT a conference of women guardians held on April 28th in the Manchester town-hall, under the presidency of the Lord Mayor, Mrs. Higgs of Oldham made some strong remarks on the need of re-moulding the present system of dealing with the homeless. By the Poor-law of Queen Elizabeth's time it was proposed that every worker should be anchored to a parish and nobody should be idle. But to-day the decline of agriculture and the growth of "industrialism made it necessary that labour should flow readily from one manufacturing district to another," and such migration should be facilitated. In tramp wards the "tramp" proper and the genuine seeker for work should be distinguished and the latter, man or woman, should be allowed to stay in a town long enough to look for work. Mrs. Higgs spoke from personal experience of tramp wards and common lodging-houses. She said that women who entered a tramp ward scrubbed floors "and for their night's lodging did a day's work worth at any rate 2*s.* and good food. Yet they emerged from the ward half starved and worn out after a long, weary, foodless day." As it is undoubted that the chronic tramp is one of the chief agents in spreading small-pox and other diseases it is desirable that he should be dealt with differently from the genuine seeker for work, however difficult the separation of the two classes may be. The tramp question came up at a meeting of the Cheshire Standing Joint Police Committee held at Chester Castle on April 30th. The Northwich Union wrote calling attention to the tramp nuisance and suggested that a warning issued some years since by the Chief Constable (Colonel Hamersley) "not to relieve tramps or render them any assistance" should be widely distributed. The Chief Constable suggested that when tramps were brought before [illegible] them. It was decided to [illegible] doubt that besides being a [illegible] tramp is a serious danger [illegible].

Sir Henry Roscoe's Graduation Jubilee.

Although Sir Henry Roscoe cannot be claimed as a member of the medical profession it may perhaps be permissible to notice the very general congratulations on the occasion of the fiftieth anniversary of his graduation at Heidelberg as a doctor of philosophy. There was a large gathering in the Whitworth Hall of the Owens College on the evening of April 22nd of the old students of the Owens College, of university professors from all over the kingdom, and of representatives of scientific and philosophical societies, and addresses were read from these and from colonial and foreign universities. It is 47 years since Sir Henry Roscoe became connected with the Owens College when it was located in a dwelling-house in Quay-street. For 30 years he taught at the Owens College, for the last 17 years he has had the title of emeritus professor of Victoria University, while for eight years he has been Vice-Chancellor of the University of London. During his long residence in Manchester Sir H. Roscoe has always shown much interest in questions affecting the public health and medical men everywhere will join in congratulating him upon his graduation jubilee.

The Water-supply.

The annual report of the Manchester Waterworks Committee contains some interesting facts. The reservoirs, watercourses, and subsidiary works at Longdendale, representing the old supply before Thirlmere was tapped, have been maintained in good order and condition. The work of the committee has included the laying of 19 miles of iron piping and connexions made to 4991 additional houses. The full supply of water has been maintained throughout the year. The new 36 inch main from the reservoirs at Prestwich for distribution in the city of the second instalment of the Thirlmere water is nearly completed. The level of the lake itself is being raised 15 feet above the present height and this will considerably increase the storage capacity. This increase is necessary in view of the demand that will be made when the second line of pipes from Thirlmere is completed, as it soon will be. The hydraulic power supply has been well maintained and is extending. The average weekly output of water for the year is 3,590,900 gallons, as against last year's average of 3,565,900 gallons, an increase of 25,000 gallons per week. How long the present supply will suffice is of course as yet unknown, but if the population continues to increase it will be a matter for careful calculation. It will be difficult to find another Thirlmere unappropriated.

"Clean Heads."

We English think ourselves a clean people but we might be cleaner. In some sections of the population the tolerance exhibited towards parasitic pests is something marvellous. In a discussion at a meeting of the Clitheroe education committee Mr. W. E Musson, an old practitioner there, said he had examined as many as 60 children and found that not more than six or seven had absolutely clean heads. He spoke of the hardship it was to have to send children among those of negligent parents, for no amount of care would keep children's heads clean if they were among others who were unclean. A motion was adopted that where slates were used in schools the practice of spitting should be rigorously suppressed and that the education committee should encourage the use of paper instead of slates as far as practicable. Presumably if the committee suppresses spitting it will supply water, with rags or sponges, for cleaning the slates and paper if used will be burned when done with. It was also decided to recommend the town council to allow its medical officer to visit each school once in three months to examine the eyes, hair, and teeth of the children and that his present salary should be increased by £15 a year. It is to be hoped that the town council will agree to this modest request and some such arrangements should be general, though three-monthly examinations give too much time for parasites to run riot.

Death from Anthrax.

An inquest was held on April 28th on the body of a butcher living near Nantwich who was suspected to have died from anthrax. The evidence showed that on March 31st he dressed the carcass of a cow that was afterwards sent to Manchester market. He became ill and died on April 25th. The owner of the cow said that it died after a few hours' illness and the veterinary surgeon told him from "milk fever," that he said the cow was a good bit of beef, and advised him to make the best of it. The evidence showed that the cow was dead before the veterinary surgeon saw it and that at his suggestion it was dragged out of the shippon and bled. Mr. Frank E. Mathews said that death was due to anthrax. From this case and from others it is evident that there is a great deal of ignorance or carelessness or both with regard to this most dangerous disease, and that the veterinary profession, whose responsibilities in the matter are extremely serious, are not always alive to them. In this case the coroner is reported to have said "it was perfectly scandalous that cows which died from disease were stuck for the purpose of being sent to market and sold for human food." Although there may be some consolation in knowing that when well cooked no ill consequences may befall those who eat it, however nasty the idea may be, still the risk incurred by those who handle the raw meat must be considerable. The verdict was that "Death was due to accidental inoculation from anthrax bacilli," and the jury "expressed dissatisfaction with the veterinary surgeon's evidence and with the way in which he had handled the case." The matter is serious for Cheshire and every care ought to be taken that no more disastrous blunders are made. Cremation of the carcass seems to be the only satisfactory mode of dealing with these cases.

May 3rd.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Vaynor and Penderyn Health Report.

Vaynor and Penderyn form a rural district with a population of 4957 persons situated in Breconshire but adjoining Merthyr Tydvil and this proximity no doubt accounts to some extent for the high death rate of 19 3 per 1000 recorded for 1903. The birth-rate during the same period was 31 per 1000 and the infantile mortality-rate was equal to 189 per 1000 births. This large number of deaths among young children quite justifies the statement contained in the annual report of the medical officer of health, Mr. T. J. Webster, that the milk-supply of the district requires to be supervised carefully for now that infants are so much bottle-fed it is more than ever essential that the milk should be pure, unadulterated, and plentiful.

Llandaff and Dinas Powis Health Report.

The rural district of Llandaff and Dinas Powis is contiguous to Cardiff and is probably affected by the good sanitary conditions which prevail in that town. The population of the district is 24,205 and Dr. Richard Prichard in his annual report for 1903 gives the birth-rate as 29 per 1000, the death-rate as 12 per 1000, and the infantile mortality-rate as equal to 98 per 1000 births. It is one of the few districts in which whooping-cough has been included in the schedule of notifiable diseases for any lengthened period and although Dr. Prichard does not express any very definite opinion as to the value of the practice he gives some very instructive statistics relating to the disease. During the past 14 years 1496 cases have been notified and 86 deaths have occurred. In the first seven years there were 746 cases and 50 deaths, giving a case-mortality of 6 7 per cent., and in the second seven years there were 750 cases with 36 deaths, or a case mortality of 4·8 per cent. There would appear, therefore, to have been some beneficial influences at work and they probably include the visits of the sanitary inspector with the printed instructions of the medical officer of health to the infected houses. The high rate of mortality from the disease among very young children is well shown in the figures for 1903. Of the 37 children under one year old who were attacked eight died, while of the 168 who were over one year only one died. The scheme of voluntary notification of cases of phthisis which was adopted in the district two years ago has been discontinued.

Carmarthen Asylum.

At the end of the first quarter of this year there were 680 patients in the three counties asylum at Carmarthen and the weekly charge for maintenance for pauper patients is now 9*s*. 0½*d*. The superintendent of the institution (Dr E. Goodall) is pressing forward the question of superannuation for the officials and the asylum committee has passed a resolution approving the principle.

Talgarth Asylum.

At the Breconshire and Radnorshire joint asylum at Talgarth, which was opened last year, the weekly rate of maintenance for pauper patients is 12*s*. On March 25th last there were 245 patients in the institution.

Swansea General Hospital.

The corporation of Swansea has subscribed £100 to the funds of the Swansea General Hospital. The subscription from this source in former years has been 50 guineas.

Memorial to the late Mr. W. M. Barclay, F.R.C.S. Eng.

In the chapel of the Bristol General Hospital a brass tablet has recently been erected in memory of the late Mr. W. M. Barclay who was for many years connected with the institution. The inscription was the last composition of the late Canon Ainger, Master of the Temple, London, and is as follows:—

of Wilfred Martin Barclay, F R.C S., born

[illegible]

and personal charm which endeared him to his colleagues and to all with whom he was associated in the work of this institution.

Bristol Royal Infirmary.

The committee of the Bristol Royal Infirmary has expressed much regret at receiving the resignation by Sir Charles Cave, Bart., of the presidency of that institution. Sir Charles Cave has occupied the position for 25 years, a longer term than any of his predecessors, and has performed much useful work for the infirmary.

May 3rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Death of Dr. G. W. Beattie.

THE death occurred at Peel House, Failsworth, on April 25th of Dr. George Watson Beattie, medical officer of health of Failsworth, near Manchester, medical officer of the Prestwich union, and public vaccinator for Failsworth. He graduated M.B, C.M. at the University of Aberdeen in 1870 and proceeded to the M.D. degree in 1872. He was a member of the British Medical Association. Prior to settling in Failsworth Dr. Beattie was in practice in Ballater.

The University of Aberdeen: Commencement of the Summer Session.

The summer session at the University of Aberdeen commenced on April 26th. The attendance of students was apparently quite equal to that of former years, although the details of the numbers at the various classes have not yet been compiled. In connexion with the medical session, intimation is made of a course of instruction in anæsthetics to be conducted by Dr. A. Henderson at the Royal Hospital for Sick Children. In connexion with the lighter side of university life it is announced that the recreation park at King's College is now in first class condition for cricket and that practice at the nets may be had at any convenient time. The attention of newly matriculated students particularly is drawn to the cricket club, as it gives them an excellent opportunity of playing on the best cricket pitch north of the Tweed. The Wanderers' Club season started on April 30th with a match against the Aberdeen Royal Asylum team. It is also announced that the lawn tennis club courts are now ready for play.

Aberdeen Royal Infirmary.

It is announced that the property known as Sim's square, situated opposite the Aberdeen Royal Infirmary, has been purchased by the directors for a sum between £6000 and £7000, with a view to probable extension of the institution at some future date. There is no doubt that the policy of looking ahead in the case of a public institution like this is highly important, for it seems inevitable, considering the way in which the infirmary has grown within recent years, that development and extension will have to be made in the future and it is well that the buildings should be as much together as possible.

May 2nd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Irish Dispensaries.

THE report of the Local Government Board for Ireland recently presented to Parliament dealt not only with the position of the dispensary medical officers, as reported in THE LANCET of April 30th, but included a very important proposal for the reorganisation of the service. As a preamble it is stated that for the reasons already mentioned a reduction of the staff of medical officers is not only feasible but is called for in the circumstances, and, moreover, that such a diminution in the number of officers would enable a board of guardians without adding to the charge on the union funds to deal liberally as regards extra remuneration with those members of its medical staff to whom increased duties would be assigned. The report of the Local Government Board then states that "on the occurrence of vacancies in future in the dispensary medical staff they propose to consider in each instance whether the then vacant post could be abolished, and if so whether the other dispensary medical officers in the union could be placed in the charge of the extended areas and in the possession of increased salaries and their positions thereby substantially improved without inflicting any real hardship on the sick poor or imposing further burdens on the ratepayers."

National Association for the Prevention of Consumption and other Forms of Tuberculosis: Dublin Branch.

At a meeting of the committee of the Dublin branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis held at the Royal College of Physicians on April 22nd the methods of administering the oath in courts of law were considered. The committee looks upon the custom of kissing the Testament as dangerous to health and has addressed letters to the Recorder of Dublin and to the city divisional magistrates asking them to discountenance the practice in their respective courts and expressing the hope that the method of taking the oath with the uplifted hand will in future be followed more frequently.

Royal Victoria Hospital, Belfast.

The report of the working men's committee for the year ending Dec. 31st, 1903, has been published. The total amount of the working-class subscriptions for the year amounts to £3627 2*s.* 5*d.*, the largest sum ever received from the working men of Belfast and perhaps one of the largest working-class contributions in aid of any other similar institution in the United Kingdom. It is to be hoped that the employés in the shipyards will all subscribe a penny per week so that instead of £666 given by 20,000 of them more than £4300 may be contributed next year.

Seagulls and Herrings.

At a meeting of the Belfast Natural History and Philosophical Society held on April 26th Mr. John Brown, F.R.S., read a paper on the National Expenditure on the Maintenance of Gulls. He referred to the destruction of herrings by these birds and taking for his basis the hypothesis that each gull ate 200 fry in one day it would, in the two months of which its playtime lasted dispose of 12,000 fry. On the assumption that, if let alone, these baby herrings would all have matured and that the average price of herrings on the pier is about £1 per 1000 the keep of each gull for two months cost the nation £12. In the "play" of the gulls there would be about 100 birds engaged and supposing there were five "plays" per mile of coast, taking the coasts of the three kingdoms and adjacent islands, but omitting the smaller inlets, at 4000 miles they had a total of 2,000,000 birds whose keep for two months on herrings would cost 24 millions sterling. Some of the speakers in criticising the paper thought that the damage done by the gulls had been over-estimated. Probably if the herrings were left alone the sea would be overrun by them.

Public Health of Belfast.

In the report presented to the Belfast corporation on May 2nd it is stated that in the four weeks ended April 16th there were 70 deaths from zymotic disease and 111 and 204 respectively from phthisis and diseases of the respiratory organs, making a total of 315 from the two latter causes. The number of cases of infectious disease notified during the four weeks was 132, being an increase due to cases of erysipelas and "simple continued fever." Four cases of small-pox were notified, the last 16 days ago. There were 47 deaths from whooping-cough. It is owing to diseases of the respiratory organs that the death-rate (25 per 1000) is rather higher. It is hoped that the two bodies—the Poor-law guardians and the city corporation—will take joint action in reference to a consumption sanatorium.

May 3rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Cause and Prophylaxis of Miners' Anæmia.

ON April 19th M. Fabre read an interesting paper before the Academy of Medicine on Miners' Anæmia. From various researches which he carried out in the coal districts of France and Belgium he had come to the conclusion that miners' anæmia is only a symptom of disease and not a disease in itself (*entité morbide*). It has occurred in different mines at different periods and as epidemics of anæmia. Towards the end of the eighteenth century there was an epidemic of miners' anæmia in the district of Chemnitz in Hungary, in an argentiferous [illegible] was due to lead poisoning. [illegible] teenth century an epidemic oc[illegible] of Fresne and Vieux-Condé. Here it was apparently due to "gassing" by sulphuretted hydrogen and to other causes. The epidemic ceased on the shutting up of certain galleries in which the men affected worked and on a change being made in the methods of working. A few years later an epidemic broke out at the mine of Vanneaux near Wasmes in Belgium due to "gassing" by sulphuretted hydrogen, carburetted hydrogen, and other deleterious gases. At Ville-bœuf near Saint-Etienne an epidemic occurred in 1859 due to asphyxia by bad air. The epidemic came to an end when improved methods of ventilation were employed. There is, then, no form of anæmia peculiar to miners, but they, like everyone else, are exposed to different and ordinary causes of anæmia. These causes M. Fabre has tried to classify under the following headings: anæmias due to general influences, those due to occupational influences, and those due to individual influences either congenital or acquired. Prophylaxis consists in the establishment of good ventilation, in strict attention to cleanliness, both of the workings and of the men who work in them, and the supply of good food. All excesses must be avoided and the hours of work must not be too long. M. Blanchard said that the question of the ankylostoma in France was one of great gravity. They all knew the ravages which it had caused in Belgium and in other countries and the danger for France was also serious. M. Blanchard considered that the Academy should institute a commission of inquiry into the subject. M. Roux considered that it would be very interesting to open a general inquiry throughout the mining districts so as to discover what is the frequency of ankylostomiasis in France. An inquiry dealing with the northern districts, under the presidency of M. Calmette, had already been opened and it would appear that ankylostomiasis is very widespread in the mining districts. M. Fabre, however, said that he had examined 300 miners for ankylostomiasis and had only found one case. M. Chauveau stated that in the district of Saint-Etienne miners' anæmia was very prevalent. Perroncito has just completed an inquiry into the question so far as it affects the Saint-Etienne basin and has found numerous cases of ankylostomiasis. M. Chantemesse said that in Liège the disease was very common, so much so that the socialist societies, such as, for instance, the Ligue Populaire, had started campaigns against ankylostomiasis. When any miner offers himself for work at a mine he is not allowed to go below until he has been certified as free from ankylostoma by the medical officers of the league. The Academy eventually decided to appoint a commission of inquiry.

Local Cocaine Anæsthesia in Abdominal Operations.

M. Chaput recently read a paper before the Academy of Medicine in which he laid great stress upon the advantages of the above-mentioned method of producing anæsthesia. It does not entail the chance of death during the operation, it does away with shock and with post-operative vomiting, and the patient can take food immediately after the operation. In patients who are not very fearful the surgeon can carry out most abdominal operations under local anæsthesia. The method is always indicated when general anæsthesia would be risky; it is the method of election for all superficial laparotomies and has very real though less obvious advantages for deep laparotomies. If the patient be very nervous chloroform may be given for the continuing of the operation and the previous administration of cocaine in no way interferes with the chloroform. Under cocaine M. Chaput has performed 25 major abdominal operations, such as those for appendicitis, hysterectomy, ovariotomy, and gastro enterostomy. Most of the patients could not have taken chloroform.

Choline and Affections of the Nervous System.

At the meeting of the Neurological Society which was held on April 14th Dr. S. A. K. Wilson of Edinburgh communicated some results of a research upon choline which he has been carrying out in the wards under the care of M. Pierre Marie. Dr. Wilson stated that the presence of choline in the cerebro spinal fluid was always an indication of a nerve degeneration more or less acute. For instance, he demonstrated its presence in a case of cerebral hæmorrhage, in ten out of 12 cases of tabes dorsalis, and in epilepsy, both in the form known as "tardive" and in Jacksonian epilepsy. Choline was not found in cases of [illegible] secondary syphilis or where there was no [illegible] nerve degeneration. Dr. Wilson pointed [illegible]ss of this clinical symptom, the technique for demonstrating which is by no means complicated. He had been unable to trace any definite relations between

Conjoint Examinations in Ireland by the Royal College of Physicians and the Royal College of Surgeons.—The following candidates have passed the third professional examination as undernoted :—

Passed all Subjects.—A. Honours: P. V. Dolan. *B. Pass:* J. Bradley, M. J. Coyne, V. J. Cullen, Miss J. C. Hargraves, F. P. J. Leyrand, Leonard Lucas, J. J. McNelis, P. J. Rooney, W. Walsh.

Completed the Examination.—Israel Allsun, T. A. Bennett, W. W. Boyce, T. W. Browne, F. J. Cairnes, C. Cooper, F. A. Flynn, T. J. Galligan, J. M. Hayes, F. W. Matthews, R. A. Murphy, W. T. Morton, E. C. Mulligan, D. de C. O'Grady, A. L. O'Keeffe, M. O'Keeffe, W. J. O'Sullivan, H. E. Redmond.

Institute of Chemistry of Great Britain and Ireland.—At the Final Examination for the Associateship (A.I.C.) held in April the following candidates were successful :—

James John Ellis, B.Sc. Lond., Arthur Gordon Francis, B.Sc. Lond., James Henry Pizey, Louis John Eczekiel Riley, Reginald Tyler, Reginald William Lane Clarke, Oliver Charles Minty Davis, B.Sc. Lond., Bernard Farmborough Howard, Harold Frederick Barke, Cyril Dickinson, B.Sc. Vict., Ernest Garratt, B.Sc. Vict., Charles Edgar Male, and John Robert Stubbs, M.Sc. Vict.

Portishead Urban District Council.—At the meeting of the Portishead (Somerset) urban district council held on April 29th Dr. Charles Arthur Wigan was unanimously re-elected chairman.

Water-supply of Ilfracombe.—The new waterworks of Ilfracombe have taken two years to construct at a cost of over £50,000 and it is expected that they will be completed by the end of May. The water will be brought from the heights of Exmoor, 13 miles distant.

Death of a Notable Russian Alienist.—The *Sviet* reports the death of Dr. I. V. Constantinovski, one of the oldest Russian alienists. He had been chief physician of the Preobrezhenski Infirmary. His best known scientific work was "Russian Law on Insanity: Its History and Relation to Foreign Laws."

Munich Gynæcological Society.—Dr. H. MacNaughton-Jones, formerly university professor of obstetrics and gynæcology in the Queen's University at Queen's College, Cork, and ex-president of the British Gynæcological Society, has been elected a Corresponding Fellow of the Munich Gynæcological Society.

Donations and Bequests.—Under the will of Mr. Jean Nicolas Eugene Pierson of Heaton Chapel, Lancashire, the Manchester and Bowdon Hospital for Consumption and Diseases of the Throat and Chest will receive £400.—By the will of Mr. Joseph Pover a legacy of £200 is bequeathed to Chester Infirmary, payable on the death of the testator's widow.

University of Oxford.—The examinations for the degree of Bachelor of Medicine will commence in the Examination Schools on Thursday, June 16th. The time-table of the examinations has been published in the *University Gazette* of April 26th. The names of candidates, accompanied by the proper certificates and statutable fees, must be sent in to the secretary to the Boards of Faculties, Clarendon-building, not later than 10.30 A.M. on Wednesday, June 1st. Forms of entry, with certificate forms, can be had on application to the secretary. The examination for the degree of Master in Surgery will commence at 10 A.M. on Thursday, June 23rd.—Names must be sent in not later than 10.30 A.M. on Saturday, June 4th.

Royal College of Surgeons in Ireland.—At a meeting of the President, Vice-President, and Council held on May 3rd the following examiners were elected :—Anatomy: Ambrose Birmingham and Alexander Fraser. Surgery: F. Conway Dwyer, Andrew Fullerton, Thomas E. Gordon, and R. Lane Joynt. Physiology and histology: E. L'E. Ledwich and Charles Coppinger. Biology: John J. Burgess. Ophthalmology: Arthur H. Benson and Patrick W. Maxwell. Pathology and bacteriology: Arthur Hamilton White. Pathology: Robert Allen. Midwifery and gynæcology: Frederick W. Kidd. Sanitary law and vital statistics: Caleb J. Powell. Engineering and architecture: J. Charles Wilmot. Dental surgery and pathology: Daniel L. Rogers and William G. Story. Mechanical dentistry: George M. P. Murray and William Booth Pearsal[illegible] Lapper and Robert J. [illegible] Woodroffe. Mathematics, physics, dictation, and English essay: J. W. Tristram.

Royal College of Surgeons of England.—Mr. John Tweedy, the President, and the Council of the Royal College of Surgeons of England entertained at dinner on April 28th a number of distinguished guests, notably the Portuguese Minister, the Earl of Onslow, the Bishop of St. Albans, the Bishop of Stepney, Sir Herbert Maxwell, Mr. Justice Grantham, Sir William S. Church, Sir Lambert H. Ormsby, Sir William H. Broadbent, Sir James Reid, Sir Thomas Smith, Sir Patrick Manson, Sir Harry Johnston, Sir John Kirk, Sir Halliday Macartney, Sir William H. White, Major-General Sir Frederick Maurice, Mr. C. F. Gill, Mr. Almeric Fitzroy, Mr. Briton Riviere, Mr. H. G. Wells, and Dr. Roswell Park of Buffalo. The following members of the Council were present in addition to the President—viz., Mr. Henry Morris and Sir Alfred Cooper, Vice-Presidents, Mr. Thomas Bryant, Mr. J. Langton, Mr. A. W. Mayo Robson, Mr. H. T. Butlin, Mr. Edmund Owen, Mr. R. J. Godlee, and Mr. W. Watson Cheyne, and the secretary, Mr. S. Forrest Cowell.

Royal National Pension Fund for Nurses.—The annual meeting of this society, of which Her Majesty the Queen is the president, has just been held. Mr. Thomas Bryant presided in the absence of the chairman and moved the adoption of the report for 1903. In the pension branch the number of policies issued during the year was 953, which is the largest total for any year since the fund was established in 1887. In the last quarter of the year annuities were being paid at the rate of over £10,000 per annum under 708 policies. The actuary's report showed that the profit bonus for the quinquennium ended Dec. 31st, 1902, amounted to £27,944, or two and a half times greater than in the previous quinquennial period and this surplus was divided amongst policy-holders. The amount distributed in sick pay was £1764. The expenses of management were 3·77 per cent of the premium income. The total funds at the end of the year amounted to £820,792, an increase during the year of £86,610. The actuary's investigations again give prominence to the fact, previously established at former valuations, that nurses as a body are longer lived than women in other walks of life. The actuary, it may be mentioned, is Mr. George King, F.I.A., F.F.A., vice-president of the Institute of Actuaries of Great Britain and Ireland and editor of the *Journal of the Institute of Actuaries.*

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Government Shop Hours Bill.

The Government measure to provide for the earlier closing of shops, which was printed on April 29th, has been already met by a hostile motion in the House of Commons from Sir Charles Dilke. This motion is in the following terms: "That in the opinion of this House the proposed measure for the early closing of shops is unduly hampered by restrictions and, not providing for the regulation of the hours of shop assistants, fails to satisfy the terms of the unanimous resolution of this House." In the Bill power is given to the local authority to make an order fixing the hour on the several days of the week at which shops are to be closed. This order must be confirmed by the central authority. Seven o'clock is mentioned as the earliest hour that may be fixed except on one specified day, when it is not to be earlier than one o'clock. The order may prohibit either absolutely or conditionally the carrying on of any retail trade after the closing hour in any place not being a shop within the area under the jurisdiction of the local authority. A number of trades and businesses are scheduled and it is provided that to none of these shall any order apply. The exemptions are post office business, the sale of medicines and medical and surgical appliances, the sale by retail of intoxicating liquors for consumption on or off the premises, the [illegible] refreshments for consumption [illegible] the sale of premises, the sale of [illegible] newspapers, and the [illegible] railway refreshment room. Persons contravening [illegible] be liable to fines varying from £1 to £20.

A Shops Bill Withdrawn.

Lord Avebury's Bill dealing with the Sunday closing of shops came on for second reading in the House of Lords on April 28th but it was withdrawn after a brief discussion. It was contended by Lord Avebury that the opening of shops on Sunday is rapidly increasing. Lord Belper, however, speaking on behalf of the Government, questioned whether a *primâ facie* case had been made out and he backed up this expression of opinion by statistics relating to 1902

In that year there were 5293 prosecutions for Sunday trading and of these 4072 arose in one borough not of [illegible] third [illegible] whole [illegible] local authorities. The inference he drew from these figures was that either over the greater part of the country shops were not open on Sunday or that local authorities did not think it expedient to institute prosecutions. Had Lord AVEBURY resolved to proceed it is very questionable whether he would have obtained a majority for the second reading and in any case there would have been no hope for the Bill in the House of Commons.

Sir Michael Foster and Ventilation.

A feature of a somewhat rambling debate on the domestic affairs of the House of Commons on April 28th was a speech by Sir MICHAEL FOSTER in which he made use of the sentence: "Few things seem to me to want ventilation more than the science of ventilation itself." The debate had turned on the question of the ventilation of the chamber. Sir MICHAEL FOSTER gave it as his opinion that from a chemical point of view the air of the chamber differed very little from the fresh air outside. When they came to regard it from the bacteriological point of view they were dealing with a difficult subject because the knowledge of bacteria was far smaller and less exact than the knowledge of the chemical constituents of air. In the recent investigation he had expected that a larger number of micro-organisms would have been found in the House. Here he interjected a word of warning. "Some of these bacteria are our friends and some are our foes and we do not always know which are our friends. If, therefore, a too zealous committee were to deprive the air of all its micro organisms it is, at all events, possible—I think I might even say probable—that the House would suffer very considerably." And he concluded with an important suggestion. He thought there should be a large inquiry into the whole subject of ventilation, not making experiments upon the House, but using the remarkable circumstances existing there as an example by which to work and to advance the study. Unfortunately, the Commissioner of Works cannot take up the suggestion. He intimated, through his deputy later in the debate, that while he is prepared to allow further bacteriological experiments to continue he cannot find money to make the House the field for extensive scientific investigation.

HOUSE OF COMMONS.

THURSDAY, APRIL 28TH.

The Committee on Nursing.

Mr. SCHWANN asked the President of the Local Government Board what steps, if any, had been taken to deal with the report of the Departmental Committee on Nursing, which was made in November, 1902, and whether the recommendations of the committee in that report were to be adopted as they stand.—Mr. LONG replied: As stated in the reply given to the honourable Member by my honourable friend, the Secretary to the Local Government Board on [illegible], after [illegible] taken in the matter.

Flogging a Boy.

Sir WALTER FOSTER asked the President of the Local Government Board whether his attention had [illegible]

[illegible] the police medical officer, [illegible] of Cruelty to Children, in the sense stated in the [illegible] sed was similar to that used [illegible] istrument is four and a half [illegible] al Government Board with [illegible]

[illegible] as an instrument of punishment shall be abolished and which contains other suggestions with a view to preventing excessive chastisement in future. The action taken by them will, I hope, have the effect desired.

Mr. JOHN O'DONN[illegible] Lieutenant of Ireland [illegible]

[illegible] for vaccination [illegible] and which the [illegible] owing to the number of persons in that union who presented themselves for revaccination,

[illegible] purpose of defraying this charge.

MONDAY, MAY 2ND.

Treatment of Inebriates.

Mr. LLOYD MORGAN asked the Home Secretary whether his attention had been calle[illegible] committed by the magi[illegible] to two years' detention [illegible] the consent of the magi[illegible] home after being detain[illegible] arrested for drunkenness; [illegible] of prohibiting the release of any such offender before the expiration of the term of detention without first obtaining the consent of the magistrate who committed the prisoner.—Mr. AKERS-DOUGLAS replied: Yes, sir, and the facts of the case are as stated in the question. It is much to be regretted that this person, whose [illegible]

[illegible] on the concurrence of the com[illegible] in an equally good position for [illegible] careful conditions might be in[illegible]

Position of Army Nurses.

[illegible] to £350. The pensions depend on the rates of pay and are accordingly increased in proportion.

Irish Poor-law Medical Officers.

[illegible]

Deaths from Burns.

Mr. ARTHUR [illegible] Secretary whether he would give [illegible] aths in the United Kingdom during [illegible] ving resulted from burns caused by [illegible] open fire grates under five years of ag[illegible]

[illegible] formation supplied with the Coroners' [illegible] to procure and the [illegible] could grant would relate only to England and Wales.

State Registration of Nurses.

[illegible] in Poor-law institutions. I am not in a position to give the consent asked for in the question

Unwholesome Teas.

Sir SEYMOUR KING asked the Chancellor of the Exchequer whether his attention had recently been called to the fact that the importation [illegible] Customs regulations over 66,000 pounds of tea were condemned in 1903. I do not think that any alteration in the existing system is required.

TUESDAY, MAY 3RD.

Small-pox in East London.

Sir Thomas Dewar asked the President of the Local Government Board whether in view of the recent outbreak of small-pox in East London he could state to what cause it was attributed and how many patients had been removed for treatment from the various districts of London by the Metropolitan Asylums Board.—Mr. Long replied. I am unable to specify the precise causes to which the outbreak referred to is to be attributed but I may state that several cases occurred in some common lodging houses and seamen's boarding houses in Stepney and Poplar and the earliest of these cases seem to have been those of some cattlemen who came from America. The number of patients removed to the hospitals of the Metropolitan Asylums Board from the various districts of London from March 1st to April 29th was 242.

Fumigation of Vessels.

Sir Thomas Dewar asked the President of the Local Government Board whether he was aware that vessels entering French ports from plague-infected ports were not allowed to load until the owners had had such vessels fumigated for the purpose of securing the destruction of any rats which might be on board; and having regard to the remarks contained in the last annual report of the medical officer of health of the Port of London and the prevalence of plague in the Far East, whether the question of adopting regulations similar to those in force in France would be considered.—Mr. Long said: I am aware of the decree made by the French Government with regard to this matter. That decree was, however, issued before the recent International Conference at Paris took place. The provisions on this subject included in the Convention made as the result of the Conference are less stringent than those of the decree. The Convention is now under the consideration of the Governments concerned. It has been the practice of my department to recommend the destruction of rats on board vessels coming from plague-infected ports when the vessels are empty but it has not been thought necessary to make this compulsory.

BOOKS, ETC., RECEIVED.

Baillière, Tindall, and Cox, 8, Henrietta-street, Covent-garden, W.C.

Medical Laboratory Methods and Tests. By Herbert French, M.A., M.D. Oxon., M.R.C.P. Lond., Medical Registrar, Guy's Hospital. Price 3*s.* 6*d.* net.

Bale, John, Sons, and Danielsson, Limited, 83–91, Great Titchfield-street, W.

Patent Foods and Patent Medicines. Two Lectures by Robert Hutchison, M.D., F.R.C.P., Assistant Physician to the London Hospital and to the Hospital for Sick Children, Great Ormond-street. Price 1*s.* net.

Diseases of the Appendix Vermiformis and their Treatment. By F. G. Lloyd, M.R.C.S. Eng., L.R.C.P. Lond., late Resident Medical Officer, West London Hospital. Being a Reprint and Enlargement from papers by the same author in The Lancet and *West London Medical Journal*, 1904, and read before the West London Medico-Chirurgical Society. Price 2*s.* net.

Churchill, J. and A., 7, Great Marlborough-street, W.

A Manual of Dental Anatomy, Human and Comparative. By Charles S. Tomes, M.A., F.R.S., F.R.C.S. Sixth edition. Price 12*s* 6*d.* net.

The Closure of Laparotomy Wounds as Practised in Germany and Austria. Including Detailed Methods and Views communicated by over Fifty Leading Surgeons. Edited and translated by Walter H. Swaffield, F.R.C.S. Ed., M.D. Ed., Fellow of the Obstetrical Society of London. Price not stated.

Clay, C. J., and Sons, Ave Maria-lane, E.C.

A Manual and Dictionary of the Flowering Plants and Ferns. By J. C. Willis, M.A., Director of the Royal Botanic Gardens, Ceylon. Second edition, revised and rearranged in one volume. (Cambridge Biological Series; General Editor—Arthur E. Shipley, M.A.) Price 10*s.* 6*d.*

Collingridge, W. H. and L., "City Press" Office, Aldersgate-street, E.C.

The City of London Directory for 1904. Price 12*s.* 6*d.*

Hodge, William, and Company, Edinburgh and Glasgow.

The Medical Inspection of School Children: a Text-book for Medical Officers of Schools, Medical Officers of Health, School Managers and Teachers. By W. Leslie Mackenzie, M.A., M.D., M.R.C.P.E., D.P.H., F.R.S.E., Medical Inspector to the Local Government Board for Scotland, assisted by Edwin Matthew, M.A., M.B., C.M., M.R.C.P.E., Assistant Physician, Leith Hospital; Clinical Tutor, Edinburgh Royal Infirmary. Price 10*s.* 6*d.* net.

Lehmann, J. F., Munich.

Bericht uber 137 Gallensteinlaparotomien aus dem letzten Jahre (6.10.1902 bis 6.10.1903) unter gleichzeitiger Berucksichtigung der nicht operierten Falle. Von Prof. Dr. Hans Kehr in Halberstadt. Price M.5.

Der Einfluss von Boden und Haus auf die Haufigkeit des Krebses, nach Detail-untersuchungen in Bayern. Von Dr.med. Karl Kolb in Munchen. Price M.4.

Longmans, Green, and Co., 39, Paternoster-row, E.C.

The Meaning of a Modern Hospital. By W. Bruce Clarke, M.A., M.B. Oxon., F.R.C.S., Surgeon to St. Bartholomew's Hospital. Price 1*s.* net.

Macmillan and Co., Limited, London.

Notes on the Composition of Scientific Papers. By T. Clifford Allbutt, M.A., M.D., LL.D., D.Sc., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge. Price 3*s.* net.

Office of the Superintendent of Government Printing, Calcutta.

Census of India, 1901. [illegible] Report. Volume IA., Part II., Ta[illegible] C.I.E., Officer of the French Aca[illegible] Berlin Anthropological Society, and E. A. Gait, I.C.S., Fellow of the Royal Statistical Society, Anthropological Secretary to the Asiatic Society of Bengal. Price, Part I., Rs.5 or 7*s.* 6*d.*, Part II., Rs.4 or 6*s.*

Rudeval, F. R. de, 4, Rue Antoine Dubois, Paris.

Guide Pratique et Formulaire pour les Maladies de la Bouche et des Dents. Suivi du Manuel Opératoire de l'Anesthésie par la [illegible] Par G. Viau, Chirurgien-Dentiste [illegible]aris, Professeur à l'Ecole dentaire [illegible] Price Fr.6.

University Press, Manchester. Sherratt and Hughes, 59, Long Acre, W.C.

Sketches of the Lives and Work of the Honorary Medical Staff of the Manchester Infirmary from its Foundation in 1752 to 1830, when it became the Royal Infirmary. By Edward Mansfield Brockbank, M.D., M.R.C.P. Price 15*s.* net.

Walter Scott Publishing Company, Limited, London and Newcastle-on-Tyne.

Man and Woman: A Study of Human Secondary Sexual Characters. By Havelock Ellis. Fourth edition, revised and enlarged. Price not stated.

Wiley, John, and Sons, New York. Chapman and Hall, Limited London.

Elements of Water Bacteriology, with Special Reference to Sanitary Water Analysis. By Samuel Cate Prescott, Assistant Professor of Industrial Biology, and Charles Edward Amory Winslow, Instructor in Sanitary Bacteriology in the Massachusetts Institute of Technology. Price 6*s.* 6*d.* net.

A Laboratory Manual of Physiological and Pathological Chemistry. For Students in Medicine. By Dr. E. Salkowski, Professor in the University and Director of the Chemical Laboratory of the Pathological Institute, Berlin. Authorised translation from the second revised and enlarged German edition. By W. R. Orndorff, A.B., Ph.D., Professor of Organic and Physiological Chemistry in Cornell University. Price 10*s.* 6*d.* net.

A Method for the Identification of P[illegible] Systematic Analytical Procedure [illegible] and Chemical Reactions. Vol. I. [illegible] tions of about 2300 of the more import[illegible] with Hydrogen and with Hydrogen and Oxygen. By Samuel Parsons Mulliken, Ph.D., Instructor in Organic Chemistry and Organic Analysis at the Massachusetts Institute of Technology, Boston, Mass. Price 21*s.* net.

Immune Sera. Hæmolysins, Cytotoxins, and Precipitins. By Prof. A. Wassermann, M.D., University of Berlin. Authorised translation by Charles Bolduan, M.D. Price 4*s.* 6*d.* net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Birmingham, W. P., M.D. Dub., has been appointed Honorary Consultant to the Fremantle Public Hospital, Western Australia.

Burgess, Mildred M., M.B. Lond., has been appointed House Surgeon to the Royal Free Hospital, Gray's Inn-road, London, W.C.

Clarke, William, M.B. Toronto, has been appointed Clinical Assistant to the Chelsea Hospital for Women.

Coventry, Charles, M.B., Ch.B. Vict., has been appointed Officer, Subiaco Local Board of Health, West Australia.

Ellis, L. Erasmus, M.D. Brux., M.R.C.S. Eng., L.R.C.P. Lond., L.S.A., has been appointed Clinical Assistant to the Hospital for Consumption and Diseases of the Chest, Brompton, London, S.W.

Falkner, Edgar Ashley, M.B. Durh., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed an Official Visitor for the Hospital for the Insane, Toowoomba, Queensland.

Gow, P., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Senior House Surgeon of the Stanley Hospital, Liverpool.

Hayman, Charles Augustine, M.D. St. And., F.R.C.S., L.R.C.P. Irel., L.D.S. R.C.S. Eng., has been appointed Honorary Assistant Dental Surgeon to the Bristol Royal Infirmary.

Hingston, Charles Arthur, M.B., B.Sc. Lond., M.R.C.S., has been re-appointed Honorary Physician to the Crownhill Convalescent Home, near Plymouth.

Hunt, Albert William Dunning, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Chagford District by the Okehampton (Devon) Board of Guardians.

McCash, James, M.B., C.M. Glasg., has been appointed House Surgeon to the Royal Eye Hospital, Southwark.

McEvoy, John Joseph Stuart, M.B. Syd., has been appointed Medical Officer at Beenleigh, Queensland.

Morris, Bedlington Howel, M.B., B.S. Durh., has been appointed Medical Officer of the Adelaide Gaol, South Australia.

Randell, A. E., M.B., B.S. Melb., has been appointed Officer of Health, Victoria Park Local Board of Health, Western Australia.

Robertson, *Monica L. M., M.B.*, B.S. Durh., has been appointed House Physician to the Royal Free Hospital, *Gray's Inn-road*, London, W.C.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

[illegible] at rate of 52 guineas per annum.

BURY ST. EDMUNDS, WEST SUFFOLK GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and lodging.

[illegible] Salary £[illegible], with board, residence, and washing.

GLASGOW PARISH COUNCIL BARNHILL POORHOUSE, Springburn.—Resident Medical Officer. Salary £250 per annum, rising to £350, with board and lodging.

HASTINGS, ST. LEONARDS, AND EAST SUSSEX HOSPITAL, Hastings.—Physician.

INDIAN MEDICAL SERVICE, India Office.—13 Commissions in Indian Medical Service.

[illegible] [illegible]cer. Salary £80 per annum, [illegible]

[illegible] [illegible]PTION AND DISEASES OF THE [illegible], Middlesex.—Surgeon Laryn[illegible]

No[illegible] [illegible]unmarried.

No[illegible] [illegible]E.—House [illegible] Salary at rate of £60 per annum with board residence and laundry [illegible]

[illegible] Resident [illegible] each for [illegible] [illegible]ard, resi[illegible] [illegible] annum, [illegible] Salary [illegible]

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Surgeon. Salary £100, with board, residence, and washing.

ROYAL FREE HOSPITAL, Gray's Inn road, W.C.—Clinical and Assistant Pathologists and Junior Obstetric Assistant (female).

ROYAL LONDON OPHTHALMIC HOSPITAL, City road, E.C.—Third House Surgeon. Salary [illegible]

[illegible] road, N.W.—[illegible] [illegible]dicine. [illegible]s. Salary £90 [illegible]

[illegible] [illegible]edical Officer, [illegible], with board, [illegible]

[illegible] S.W.—House [illegible], [illegible]th board and lodging.

WESTMINSTER GENERAL DISPENSARY.—Resident Medical Officer. Salary at rate of £120 per annum, with rooms, gas, coal, and attendance.

YORK COUNTY HOSPITAL.—House Physician. Salary £100 per annum, with board, residence, and washing.

Births, Marriages, and Deaths.

BIRTH.

STYLE.—On April 21st, at South Brent, Devon, the wife of F. W. Style, M.R.C.S., L.R.C.P., of a son.

[illegible] [illegible]ch, New Malden, [illegible] daughter of the [illegible], Wallington, by [illegible]er of the bride [illegible]le, father of the bridegroom, and the Rev. J. M. Blake, M.A., minister of the church, John Easton Scott, M.A., M.B., Ch.B. Edin., to Edith Willey, daughter of Mr. and Mrs. John Willey, of Kenley, Surrey.

DEATH.

MICKLE.—Deeply regretted, George Mickle, M.A., M.B., C.M., eldest son of the late Dr. David Mickle, of Kirklington, Yorkshire, on April 20th.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

ENTERPRISE.

To the Editors of THE LANCET.

SIRS,—I inclose a copy of a notice recently posted up at the gateway of one of the Central Marine Engine Works, West Hartlepool, and should be glad to hear whether in your opinion the action of the medical gentleman in question is in accordance with professional etiquette. He is engaged in practice in Hartlepool as a "specialist on diseases of the eye, ear, and throat" (the description is his own).

I am, Sirs, yours faithfully,
March 28th, 1904. H. I. L.

[INCLOSURE.]

IMPORTANT NOTICE TO WORKMEN AND APPRENTICES.

A meeting will be held in the Dining Hall on Friday, March 4th, at 5 P.M. prompt.

Business

To move the following resolution:—That the offer of Dr. —— of West Hartlepool *to undertake the treatment of all eye cases* of workmen and apprentices employed in these works at *the rate of 7d. per head per annum be accepted;* and that Dr. —— *be appointed eye specialist on the terms stated above.*

The Doctor's Committee desire a *large* attendance at this important meeting.

The Central Marine Engine Works,
West Hartlepool, 3rd March, 1904.

*** We think that the medical man's enterprise in making such an offer is in doubtful taste. We do not see that he has pursued any courses of study or held any appointments entitling him to style himself a specialist in ophthalmology, otology, or laryngology.—ED. L.

A GARBAGE MONGER FINED.

ON April 28th a butcher named Heileman was fined £20 with £3 3s. costs for exposing diseased meat for sale. In addition to the evidence as to the condition of the meat the suggestion was made on behalf of the prosecution that the meat was destined for the manufacture of sausages, a means of disguise upon the danger of which it is not necessary to dwell. The defence was of a not unusual character in such cases. It was stated that the character of the meat was known (presumably no butcher could have failed to recognise it), but that "by accident" it had not been thrown away.

DESIGN OR ACCIDENT?

To the Editors of THE LANCET.

SIRS,—What makes a young child almost invariably put its first pieces of bread and butter or bread and jam into its mouth with the butter or jam side downwards? You may reply that it is because the child can taste the butter and jam better thus. If that be so, is it the best way perhaps, after all? Or is there any special advantage gained in lubricating the roof of the mouth by eating in the ordinary fashion? I do not think it can be that a certain twist of the hand explains the action of the child.

Perhaps other things can be learned by watching the first actions of children attentively.

I am, Sirs, yours faithfully,
London, April 29th, 1904. TARTINE.

THE PNEUMATIC SADDLE COVER.

WE have received from the Pneumatic Saddle Cover Co., Birkbeck-road, Kingsland, London, N.E., a specimen of their covers which are made to fit over the ordinary bicycle saddle. The cover is easily inflated to the required height by the mouth after it is fixed over the saddle and it is not necessary to use a pump. We have given the cover a trial and find that it forms a very comfortable addition to the ordinary saddle, affording a pleasant feeling of resilience and lessening the ordinary little shocks of the motion of the bicycle. We think that the cover would prove of service to the older generation of bicycle riders, as they would be able to obtain the exercise on which they lay store with less sensation of muscular fatigue. The price of the cover is 3s. 6d.

A NEW SPARKLET SYPHON.

THE sparklet system of aerating water is a great convenience not only to the householder but to the medical practitioner and the best apparatus for the purpose is the recently introduced improved syphon. This has a capacity of about four tumblers. A decided advantage of the method is that water of known purity may be employed, while various medicaments when desired may be added, such as lithium carbonate, piperazine, sodium carbonate, and so forth. The syphon costs only 2s. and the sparklet for charging it a fraction over a penny. It is perfectly simple in construction and the preparation of the aerated water is very easily carried out. The amount of gas contained in one bulb is sufficient to aerate the water and just serves to expel it from the syphon on opening the tap. We find only one drawback to the new syphon and that is that traces of iron, probably from the spout, appear after a time in the aerated water, with the result that on mixing the water with wine or with spirits containing some tannin a slightly inky-looking mixture is formed. It would be a great advantage, though we are aware that it would add much to the cost, if the spout of the syphon were porcelain-lined. The makers are Aerators Limited, Angel-road, Edmonton.

"WHAT IS THE TRICK?"

"ANONYMOUS" writes with regard to the note under this heading in THE LANCET of April 30th, p 1249 "If the baron succeeds in getting the names of any 'distinguished ladies' in an 'interesting' condition, blackmail might easily be the next step. It is possible he suspects a particular lady of being pregnant and adopts this method of obtaining more certain knowledge about her, with a view of blackmailing her in particular." We have received a similar solution from other correspondents.

HOLMAN TESTIMONIAL FUND.

THE following further list of contributions has been forwarded to us by the honorary treasurer of this fund, Dr. John H. Galton, Chunam, Sylvan-road, Norwood, S.E., by whom or by the secretary, Mr. W. A Berridge, Oakfield, Redhill, Surrey, subscriptions will be received:—

	£	s.	d.		£	s.	d.
Mr. R. Clement Lucas	2	2	0	Dr. M. Cecil Hayward (O E.)	1	1	0
Dr. T. Armstrong Bowes	0	10	6	Dr. S. Squire Sprigge ...	1	1	0
Dr. Guthrie Rankin...	2	2	0	Dr. H. M. Stewart	1	1	0
Dr. G. H Savage ...	2	2	0	Mr. Reginald Harrison ...	1	1	0
Dr. Arthur O Latham	2	2	0	Mr. W. Wilson Coltart ...	1	1	0
Mr. Edred M. Corner (O.E)	1	1	0	Mr. E. C. P. Hull	2	2	0

In the list published on April 30th, "Mr. W. D. Cropley" should read Mr. W. D. Crossley.

PEGAMOID WATERPROOF SHEETING.

ACCORDING to the results of a number of tests which we have made with this material it would appear to make an excellent substitute for rubber sheeting in medical and surgical practice. We have tried the effect of various reagents upon it and we find that the material withstands successfully the action of corrosive antiseptics such as carbolic acid, mercuric chloride, ammonia, and, further, the material may be immersed in boiling water without harm. Pegamoid waterproofing has a very clean appearance and it is practically free from objectionable smell. It evidently contains a waxy substance of high melting point, some of which we found is extracted by chloroform. Samples differing in thickness and quality were submitted to us by the New Pegamoid Co., Limited, of 144, Queen Victoria-street, London, E C.

DR. J. T. C. CONRY'S DEFENCE FUND.

To the Editors of THE LANCET.

SIRS,—Since our last communication, which you inserted in THE LANCET of April 23rd, we have received as under.—

	£	s.	d.		£	s.	d.
Amount then acknowledged	28	12	0	Dr. G. Schorstein	2	2	0
Mr. B. F. Smallman ...	0	5	0	Dr. W. Henry White ...	1	1	0
Dr. Swanton	1	1	0	Total	£33	1	0

We are, Sirs, yours faithfully,

EDWIN T. ENSOR.
WALTER L. ROBERTS.

162, Ladbroke-grove, W., May 3rd, 1904.

THE S. Y. P. PATENT TEAPOT.

THERE have been many modifications suggested in the construction of a teapot all directed towards eliminating as far as possible an excess of tannin in the infusion. The method adopted in the S. Y. P. teapot is certainly one of the simplest. In its normal position the tea-infuser is at the top of the pot and just under the dome. It consists of a small metal cage. Into this the tea is put, the teapot having first been placed in such a position that the tea-infuser is situated perpendicularly and the spout is at the top Hot water is then poured in. After a few minutes' extraction the teapot is put back to its normal position and thus the tea leaves are brought out of the liquid and no further extraction can take place. The design is a successful one and is calculated to obviate the physiologically bad effects due to the drinking of tea containing an excessive amount of tannic acid. The manufacturers are Messrs. J. S. Barwick and Co., 6, Strand-on-Green, Chiswick, London, W.

AN INCOME TAX QUESTION.

To the Editors of THE LANCET.

SIRS,—Please tell me:—I have rooms in town (Manchester) and live outside. If I go by tram car or train or take a cab to my place of work can I set the cost down to my working expenses for income-tax purposes?

I am, Sirs, yours faithfully,

A SURGEON.

*** No.—ED. L.

the front portion are given a calendar from July, 190[illegible] tables of holidays, postal rates, and the sizes of [illegible] and a rough comparison of the metric weights and measures. [illegible] last table we were astonished to see that "1 like equals 1[illegible] date-book will doubtless be especially useful to lecturers, [illegible] speakers, secretaries of societies, and entertainers who are [illegible] to make engagements a long time in advance. The book, including an insurance policy of £100 in case of accident available during 12 months, is 1s., or post free 1s. 1[illegible]

◆

Colonial Doctor.—There are several systems which appear [illegible] proved successful in some cases and not in others. [illegible] spondent details the case more exactly, describing the severity of the affection, we could publish the letter [illegible] some of our readers could help him. He might refer [illegible] Stammering in the "Encyclopædia Medica."

Sweated writes: Can anyone give me some particulars [illegible] provident dispensary in a town of from 5000 to 10[illegible] should be *properly* worked? I want to know about [illegible] the system of quarterly payments, and the collect[illegible] *Should members of such a provident dispensary be [illegible] sick clubs as well?*

J. W. (Hull).—*We do not* think that there will be any [illegible] announcement of the lectures being inserted in the [illegible] the terms mentioned in our correspondent's letter.

Hopetoun must consult his medical man when he [illegible] that the malformation is trivial and the remedy [illegible]

Medical Diary for the ensuing

OPERATIONS.

METROPOLITAN HOSPITA

MONDAY (9th).—Londo [illegible] St. Barthol[illegible] Thomas's (3.30 P.M.), [illegible] Middlesex (1.30 P.M. [illegible] Samaritan (Gynæcologica[illegible] (2 P.M.), Royal Orthopædic (2 P.M.), City Orth[illegible] Gt. Northern Central (2.30 P.M.), West London [illegible] Throat (9 30 A.M.), Royal Free (2 P.M.), Guy's (1.30 [illegible]

TUESDAY (10th).—London (2 P.M.), St. Bartholomew[illegible] Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex [illegible] minster (2 P.M.), West London (2.30 P.M.), U[illegible] (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P[illegible] (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.[illegible] (9 30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 [illegible] Throat, Golden square (9.30 A.M.), Soho-square (2[illegible] (2 P.M.).

***WEDNESDAY* (11th).—*St. Bartholomew's* (1.30 P.M.),** (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.[illegible] (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. [illegible] National Orthopædic (10 A.M.), St. Peter's (2 [illegible] (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 [illegible] Central (2.30 P.M.), Westminster (2 P.M.), Met[illegible] London Throat (9 30 A.M.), Cancer (2 P[illegible] (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (12th).—St. Bartholomew's [illegible] (3.30 P.M.), University College (2 P.M.), [illegible] George's (1 P.M.), London (2 P.M.), King's C[illegible] (1.30 P.M.), St. Mary's (2.30 P.M.), Soho square [illegible] London (2 P.M.), Gt. Northern Central [illegible] Metropolitan (2.30 P.M.), London Throat (9.30 [illegible] (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (13th).—London (2 P.M.), St. Bartholome[illegible] Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middle[illegible] Cross (3 P.M.), St. George's (1 P.M.), King's [illegible] (2 P.M.), Ophthalmic (10 A.M.), Cance[illegible] Northern Central (2.30 P.M.), We[illegible] Throat (9.30 A.M.), Samaritan (9.[illegible] Golden-square (9.30 A.M.), City O[illegible] (2 P.M.).

SA[illegible] [illegible]

At the Royal Eye Ho[illegible] (10 A.M.), the Royal [illegible] Central London Opht[illegible]

[illegible]d., M.R.C.S., has been [illegible] Crownhill Convalescent [illegible]

[illegible].C.P. Lond., M R C.S., has been [illegible] the Chagford District by the Oke[illegible]

MONDAY [illegible] Guardians.

[illegible] Ch Glasg., has been appointed House Sur[illegible] Hospital, Southwark.

[illegible]H STUART, M.B. Syd., has been appointed [illegible] at Beenleigh, Queensland.

[illegible]TON HOWEL, M B., B.S. Durh., has been appointed [illegible]

ITY (Boling Paper:—

ra:—Dr J lated with e Physical

)—8 P M Discussion ssaries

CAL, AND Chandos-

street Cavendish-square

Ray Treatment in Recurrent n and Dr C U Aitchison ses of Tumours of the Left

ATIONS, &c

AND POLYCLINIC Payne Clinique. of the Lymphatic

Hospital Hammersmith road, W)—5 P.M. Dr R H Cole: Sedatives in Mental Diseases.

TUESDAY (10th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W C)—4 P M Dr T H Green: Clinique (Medical.) 5 15 P M Dr G H Savage: The Relationship of Syphilis to Insanity

POST-GRADUATE COLLEGE (West London Hospital Hammersmith road, W)—5 P M Mr C Williams: X Rays (illustrated by lantern slides)

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Queen W C)—3 30 P M Dr Ferrier Paraplegia

Births, Marr

Style.—On April 21st at South L M R C S, L R C P, of a son

t Chris the Rev J Hope Scott M A., of Liverpool groom assisted by the Rev John Scott of Har bridegroom and the Rev J M Blake M A church John Easton Scott M A M B Ch B Willey, daughter of Mr and Mrs John Willey, of Ken

DEATH

Mickle.—Deeply regretted George Mickle M A, M B C M, e son of the late Dr David Mickle of Kirklington, Yorkshire, April 20th

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N.B —A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths

IAL NOTICES.

B t communications relating to the LANCET should be addressed s," and not in any case to any

d to be connected with the necessary that attention be

igence of local events desirable to bring sent direct to

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be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager"*

We cannot undertake to return MSS. not used

MANAGER'S NOTICES.

TO SUBSCRIBERS

Will Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies &c, should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices

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FOR THE UNITED KINGDOM				TO THE COLONIES AND ABROAD.			
One Year	£1	12	6	One Year	£1	14	8
Six Months	0	16	3	Six Months	0	17	4
Three Months	0	8	2	Three Months	0	8	8

Subscriptions (which may commence at any time) are payable in advance Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, MR. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W C.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions Any demand for increased rates, on this or on any other ground, should be resisted The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a m. by Steward's Instruments)

THE LANCET Office, May 5th, 1904

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rainfall.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
April 29	29 97	S W		70	57	51	51	53	Overcast
" 30	29 88	S W	0·07	78	61	52	53	54	Overcast
May 1	30 01	W		113	63	49	49	52	Cloudy
" 2	29 71	S W	0 18	73	54	48	47	50	Raining
" 3	30 01	W	0 21	107	59	42	45	51	Fine
" 4	30 08	N W		112	60	41	46	51	Cloudy
" 5	30 04	S W		108	60	49	48	51	Fine

During the week marked copies of the following newspapers have been received —*Midland Counties Tribune, Bolton Evening News Western Daily Press, Evening Leader (Newcastle), Reading Mercury Herts Advertiser, Aberdeen Weekly Free Press, South Wales Echo Westminster Gazette, Dublin Daily Independent Dublin Express, Hertfordshire Mercury Exeter Express Dublin Evening Telegraph, Echo Bradford Observer, Daily Express, Globe, Windsor and Eton Express, Westmeath Independent, &c.*

Blood changes.—The characters of the blood are of special interest (*vide* Table III.). The red corpuscles are always reduced in number but rarely to an extreme degree. From two to three millions per cubic millimetre is the common figure and I have never seen a case in which they fell below one million. Fowler records a case in which they were normal in number, but I have never met with such myself. The hæmoglobin is always reduced but not necessarily in proportion to the reduction of red cells, and bearing in mind the low ratio of hæmoglobin which is normal to infancy the percentage may be only slightly reduced. As in all severe anæmias in childhood the red corpuscles are apt to vary a good deal in size, large forms being often met with. More or less of poikilocytosis is usually present, but it is seldom of extreme degree.

Much importance has been attached to the presence of nucleated corpuscles in the blood in this disease. They are certainly usually present but it must be remembered that, as already pointed out, nucleated cells are apt to appear in all severe cases of anæmia in young children and I am not sure that they form a more striking feature in the blood of this disease than in grave secondary anæmias. The majority of them are normoblasts, the nuclei of which often exhibit signs of division, but megaloblasts are also met with. Fowler found them in 13 out of 20 cases and they certainly do not have the same grave significance as attaches to their presence in the blood of the adult. It is difficult to know indeed what importance can be attached to the occurrence of nucleated red corpuscles in the anæmias of childhood. In the cases under consideration at all events they exhibit no constant relation either to the total number of red cells or to the degree of leucocytosis. A reference to the table will show that nucleated red cells may be abundant even although the red corpuscles themselves are not greatly reduced, and a high degree of leucocytosis is not necessarily accompanied by the presence of a high proportion of normoblasts. A leucocytosis is usually present in these cases but not invariably. A reference to the table will show that in a considerable number of cases the total number of white cells is actually reduced. An increase, however, is commoner, but the tendency is to over-estimate it, forgetting that between the ages of one year and 18 months, at which the majority of these cases is met with, the number of leucocytes is normally from 12,000 to 14,000 per cubic millimetre. In order to avoid confusion on this point I have calculated the absolute numbers of granular and non-granular cells per cubic millimetre in each case (see table). It will be observed that in a few cases an absolute increase in the granular cells occurs. In some instances this is undoubtedly due to an ordinary leucocytosis called out by the existence of complications, such as broncho-pneumonia, but in others no such cause could be discovered. More usually the increase is chiefly to be ascribed to an augmented number of non-granular cells in the blood. One can see in this an exaggeration of the normal characters of the blood of infancy and another illustration of the tendency for the adenoid tissue to be affected specially at this time of life. The increase in the non-granular cells tends particularly to affect the larger lymphocytes and the large mononuclears, but every intermediate grade between those and the ordinary small lymphocyte is met with, so that exact differential counting becomes difficult. There is, in fact, a marked polymorphism in the leucocytosis in these cases just as there is in cases of myelogenous leukæmia. Myelocytes are usually present, perhaps in all if carefully looked for. The highest proportion I have seen has been 13·8 per cent. (Case 18); usually they number 2 per cent. They are often small in size and exhibit but sparse granulation. The eosinophiles never appear to be affected but in a few cases I have found mast cells markedly increased. The bearing of the blood changes on theories as to the nature of the disease will be discussed later; meantime it may be pointed out that clinically they are chiefly of importance from the point of view of prognosis. In this respect they afford more trustworthy criteria than any other feature of the disease. The degree of splenic enlargement, for instance, appears to be of little import; on the other hand, the lower the number of red cells and the higher the number of white cells the more severe must the condition be regarded. Further, the more polymorphic the blood—that is to say, the greater the number of large lymphocytes and myelocytes present—the worse is the outlook.

PATHOLOGY.

In proportion to the amount of clinical interest which cases of this group have excited but little attention has been paid to their morbid anatomy and pathology and the descriptions of those who have written upon the subject are mainly confined to the changes met with in the spleen. So long ago as 1886 Stilling[5] described changes in the spleen of rickety children with anæmia, changes which, he said, he had never found in the spleen of an adult. The centres of the Malpighian bodies in these cases showed the presence of areas of epithelial cells of varying size, with protoplasm for the most part homogeneous but containing a few granulations at the periphery and sometimes fat droplets or pigment grains. These cells stained badly and presented a large round or oval nucleus. The mass of lymphocytes surrounding these cells was often so broad as to suggest to this observer an over-activity of the follicle. Sometimes the follicles were very small and not visible at all to the low power but on more careful examination were found to be represented only by small masses of the above cells which had undergone degeneration and vacuolation, the whole appearance giving the impression of a degenerative process. In true cases the follicles are often sharply marked off from the spleen pulp by many concentric layers of densely packed spindle-shaped cells, which form a sort of capsule for the degenerated Malpighian body. Stilling thinks that those appearances indicate an attempt on the part of the spleen to form new cells but that the regenerative elements have undergone degeneration before perhaps they have had time to divide.

Luzet[6] gives a fairly detailed description of the morbid anatomy in one case. He notes in the spleen the existence of perisplenitis but the absence of any increase in thickness of the trabeculæ. The Malpighian bodies were absent but he gives no detailed description of any change in them. He attaches much importance to the absence in the pulp of the large multinuclear cells which he believes to be normally the originators of red corpuscles and concludes from this that the spleen in spite of its size is not taking any active share in the regeneration of the blood. He lays great stress upon the appearance of the liver in his case which presented the fœtal characteristics of indistinct lobulation and showed numerous nucleated red corpuscles between the columns of hepatic cells. Here and there large cells were to be found with nuclei which were often spindle-shaped, exhibited signs of segmentation, and possessed granular protoplasm. These cells he regards as hæmopoietic in nature and on the strength of their presence he considers the essential visceral change in the disease as a resumption of blood-forming functions on the part of the liver. He found the marrow of the femur to be red and rather diffluent. It did not appear to him that the multiplication of red cells in it was very active. Fat was only present in the marrow of the medullary cavity. Mya and Trambusti in a paper published in 1892[7] refer to the changes found by Cardarelli and Fedé[8] and describe the morbid anatomy of two cases of their own. They regard the changes in the spleen as resembling those described by Banti in splenic anæmia—viz., chronic splenitis with hypertrophy of the usual connective tissue of the pulp, much of which had undergone hyaline degeneration. The pulp contained numerous normoblasts with nuclei undergoing mitosis. The Malpighian bodies were atrophic and some of them were converted into mere fibrous knots. The liver in these cases was fatty and they describe the presence in the liver capillaries of multinucleated cells such as those to which Luzet attaches so much importance. They found a great formation of new capillaries in the lymph glands. Fedé,[9] in the joint paper which he wrote with Somma, in dealing with the pathology of the disease stated that the glands were normal or slightly enlarged, that the liver was often enlarged from congestion and that there were slight increase of connective tissue and cloudy swelling; fatty degeneration and atrophy of the liver cells might be present in some cases. The spleen, he said, was very large firm, and dark red on section, its connective tissue was increased, the pulp was rich in lymphatic cells, and the follicles were hyperplastic. Glockner[10] in 1898 described the microscopical characters of the spleen in four well-marked cases of the splenic anæmia of childhood. He summarises his observations thus. There is a varying degree of thickening of the capsule and also of the septa. There is also a general thickening of the reticular framework, forming a network of enlarged and coarse fibres with definite meshes Where this process is most advanced the fibres fuse together into more or less homogeneous bundles There is marked thickening of the adventitia of the smaller arteries in every case and a general anæmia of the whole organ is also striking The Malpighian bodies, apart from thickening of their reticulum, show no marked changes and are well defined The specific elements of the pulp also exhibit in only a few places any real hyperplasia, much more generally some degree of atrophy Only two elements are evidently overgrown—the epithelioid cells of the pulp and, to a less extent, the endothelia of the vessels The former are probably derived from the fixed cells of the connective tissue and as they increase so does the pulp atrophy

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[5] Virchow's Archiv, Band ciii.

[6] Etude sur les Anémies de la Première Enfance, Paris, 1891.

[7] Lo Sperimentale, vol. xlvi., p. 359.

[8] Atti del Primo Congresso Pediatrico Italiano, Napoli, 1891.

[9] Quoted by Wentworth, Boston Medical and Surgical Journal, No. 17, 1900.

[10] Reference in Schmidt's Jahrbuch, Band cclv., 1897, p. 187.

Fowler[11] reports upon three cases but remarks that the results do not throw much light on the nature of the disease In one of them the spleen was markedly congested but the Malpighian bodies were distinct and there was a considerable excess of eosinophile cells in the pulp sinuses In a second case the spleen was anæmic, the Malpighian bodies were distinct, and there was an even more marked eosinophilia In the third case the pulp was much hypertrophied and the Malpighian bodies were correspondingly obscured, the condition indeed being not unlike that met with in myelæmia. In this case there was no eosinophilia. In none of the three cases could he find in the liver the hæmopoietic cells to which Luzet attaches so much importance The bone marrow was satisfactorily examined in one case only and appeared to be normal Hunt[12] describes two cases of "splenic anæmia with internal hæmorrhages in infants" In both the spleen was dense, the Malpighian bodies were replaced by fibrous tissue, and the fibrous tissue of the pulp was increased, but not so much as the trabeculæ The enlarged spleen of mere rickets exhibits, he thinks, more change in the trabeculæ and less in the pulp than in these cases, whilst the Malpighian bodies are normal or even exaggerated Ewing[13] in a case of so called von Jaksch's anæmia in a child 20 months old found the pulp cells of the spleen overgrown and the follicles much reduced in size and number Throughout the pulp were numerous collections of small cells with compact or mitotic nuclei Many of these were normoblasts. There was commencing increase of connective tissue and many of the sinuses were obliterated. The liver showed many small intracapillary foci of cells, many of them undergoing mitosis of which the majority were normoblasts, but others were much larger and granular Occasionally they were fused together into a mass resembling the multinucleated masses of Luzet The marrow contained no fat, all its cellular constituents were in a state of hyperplasia. Nucleated red cells were very numerous but eosinophiles were not increased.

I have made careful examinations of the organs in five cases of this disease (Cases 1, 16, 17, and 21 in Table III and in one unrecorded case) The histological changes were neither constant nor identical in all of them In three of them the spleen showed a diffuse overgrowth of the supporting reticulum of the pulp which tended to encroach upon the Malpighian bodies from their periphery so that the outlines of these were lost and in one case at least (Case 16) they were converted into mere knots of fibrous tissue The overgrowth of the pulp stroma in each of these cases was accompanied by thickening of the capsule and trabeculæ of the organ which sometimes reached a high degree In two of the cases, on the other hand (Cases 17 and 21), the Malpighian bodies were large and well defined and there was no overgrowth of the pulp stroma. The pulp spaces were often much congested, but in none of my cases could I find any satisfactory evidence of the resumption of blood forming functions by the spleen nor was there any excess of eosinophile cells present nor any marked overgrowth of the endothelium lining the pulp spaces or venous sinuses.

The marrow was examined both by films and sections in three cases (Cases 16, 17 and 21 in Table III). In every case it was abundant and fleshy and showed evidences of great cellular activity. Neutrophile and eosinophile myelocytes were present in large numbers as well as "lymphocytic" marrow cells but it was difficult to be sure whether these were more numerous than in normal marrow from a child of the same age There was abundant evidence of active red cell formation in all cases but few megaloblasts were observed The liver was examined in four cases In two of these it was practically normal In the others it showed merely fatty degeneration, but in one of an extreme degree I could find no evidence of the presence of Luzet's hæmopoietic cells In none was there any decided increase of the interlobular connective tissue The lymphatic glands were examined in three cases In two of these no change could be discovered In one (No 16) the capsule was much thickened and there was a great overgrowth of the supporting tissue of the reticulum at the expense of the gland parenchyma so that the whole section was solid and fibrous-looking The change was not like that observed in Hodgkin's disease, there being more fibrous tissue formation and less overgrowth of the endothelial cells of the lymph sinuses. It resembled much more the alterations already described as occurring in the spleen pulp in some of these cases.

Speaking generally, the chief change in the spleen in these cases may be spoken of as a chronic splenitis affecting chiefly the pulp but sometimes invading the Malpighian bodies There would seem to be no definite relation between the extent of the spleen changes and the degree of anæmia but the change seems to have gone on to the greatest degree of fibrosis in the cases of longest standing The fatty degeneration of the liver is comparable to that which one finds in all advanced anæmias whilst the condition of the marrow is probably merely compensatory. In the one case in which glandular changes were found the condition seemed to be a chronic adenitis comparable to the chronic splenitis already described

Before proceeding to discuss the relation of the pathological changes to the clinical symptoms in this disease it may be well to indicate briefly the views as to its nature which have been put forward by those who have written on the subject Gretsel[14] writing so long ago as 1866 was the first to apply the term "splenic anæmia" to cases of this group He used the term for convenience and without any theory as to their pathology but simply in order to bring the disease into line with leukæmia splenica and lymphatica as these terms were then used Italian writers early directed their attention to cases of anæmia associated with enlargement of the spleen in infancy Somma[15] in 1884 described a series of cases and applied to them the term "anemia splenica infantile" He was followed by Di Lorenzo[16] who first introduced the term "infective" (infettiva) in connexion with these cases, a term which was subsequently adopted by Somma and by Fedé, Cardarelli, and some other Italian writers who have described cases of this group Most of these writers regarded the disease as due to bacterial infection and describe different forms of micro-organisms found in the spleen which they believed to be the specific cause. Meanwhile von Jaksch[17] described cases of anæmia with splenic enlargement in children which he thought were characterised by reduction of red cells and hæmoglobin, high and persistent leucocytosis, enlargement of the spleen and sometimes of the lymphatic glands and to a less degree of the liver To these cases he applied the term "anæmia pseudo-leukæmica infantum." Von Jaksch's account, probably because it was published in German and at a time when diseases of the blood were beginning to be studied more accurately than ever before, attracted considerable attention and most subsequent writers have followed his terminology To later communications it would be unnecessary and tedious to make any special reference as they add but little to our clinical knowledge of the disease, and the pathological facts which they contain have already been described, but an excellent summary of them will be found in a series of exhaustive papers by Wentworth in vol cxlv of the *Boston Medical and Surgical Journal*. It is to be regretted on every ground that the term "pseudo-leukæmia" was ever applied to these cases by von Jaksch as it has been the means of introducing great confusion into the descriptions of the disease For almost everyone who has devoted special attention to the subject must agree with the conclusion of Wentworth a conclusion which has also been arrived at by the majority of recent writers that the "anæmia splenica infettiva dei bambini" of the Italian writers and the "anæmia infantum pseudo leukæmia" of von Jaksch are

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[11] Brit Med Jour Sept 6th 1902.

[12] Transactions of the Pathological Society of London, vol. l, p 219, 1899.

[13] Clinical Pathology of the Blood, p 237.

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[17] Wiener

Wochenschrift, 1890

TABLE III.—CASES OF SPLENIC ANÆMIA OF INFANCY.*

No.	Sex and age.	General clinical characters.	Rickets.	Congenital syphilis.	Spleen.	Glands.	Red corpuscles.	Hæmoglobin per cent.	Total white cells per cubic millimetre.	Absolute number of uninuclears per cubic millimetre †	Absolute number of polynuclears per cubic millimetre.†	Differential count (percentages).					Result.
												Polynuclears.	Large mononuclears and transitionals.	Lymphocytes.	Eosinophiles.	Myelocytes.	
1	F., 24 months.	Ill for a few weeks; marked pallor; hæmic murmurs.	Very slight.	(?)	To umbilicus.	Slightly +	1,800,000. Many microcytes and oval forms. No nucleated red cells.	26	1,800	885 (–5715)	887 (–4273)	49·3	7 6	41·6	1·5	—	Died from noma ten months after first coming under observation.
2	M., 12 months.	A twin; always delicate; chlorotic complexion; hæmic murmurs.	Marked head bosses.	–	" "	Definitely +	3,200,000. Unequal in size; some poikilocytosis, a few nucleated.	25	10,920	7469 (–651)	3276 (–2324)	30	68·4		1·5	Very few.	Death from broncho-pneumonia.
3	M., 11 months.	Ailing since bronchitis seven months before; wasted, pale.	Marked.	–	Two fingers' breadth below the umbilicus.	(?)	2,324,000	30	16,000	5280 (–2840)	8960 (+3360)	56	3	30	—	3	Improving when lost sight of.
4	F., 18 months.	Ill since measles three months before; pale but not yellow; hæmic murmurs.	Bossed head.	+	To umbilicus.	–	3,600,000. Some poikilocytosis, a few normoblasts.	32	20,000	14 500 (+7900)	5180 (normal)	25·9	74·3		—	—	Died. No post-mortem examination.
5	F., 13 months.	Very pale; wasted.	+ Head bossed.	(?)	Four fingers' breadth below the costal margin.	Slightly +	2,805,000	33	24,000	10 272 (+2152)	13,800 (+8200)	57·5	10·6	32 2	0·5	6·1	Died from bronchitis three weeks after admission.
6	M., 27 months.	Always delicate; no definite illness; olive complexion.	Moderate.	–	" "	(?)	3,580,000. A few nucleated red cells.	—	15,000	4050 (–1950)	8400 (+3240)	54	11	16	4	5	(?)
7	M., 17 months.	Never well since birth; repeated hæmorrhages; very pale; some purpuric spots.	+	–	Into pelvis.	Very slightly +	3,312,000	28	36,000	20 520 (+13,920)	13,824 (+8664)	38 4	8 6	48·4	0·1	3·5	Improving when lost sight of.
8	F., 9 months.	Wasting and anæmic, one month; following two attacks of diarrhœa and vomiting.	+ Head bossed.	–	To umbilicus.	–	1,040,000	—	34,000	21,030 (+12,950)	12 240 (+6640)	36	4	58	2	(?)	Improving.
9	M., 32 months.	An eight months child; never strong, extreme waxy pallor; hæmic murmurs.	Slight; no bossing.	+	Easily palpable.	–	1,600,000	—	14,000	10,024 (+54.4)	3570 (–1630)	25 5	10·38	61·3	2·7	—	(?)
10	M., 12 months.	Pale and wasting for four months, complexion pale but not yellow, hæmic murmurs	Marked; slight bossing.	–	Half-way to the umbilicus.	–	3,190,000 Not much poikilocytosis; numerous nucleated forms, many of them megaloblasts.	—	35,000	11 900 (+3780)	22 050 (+16,450)	63	14	20·3	0 6	0 6	Died.

11	M, 9 months	Ailing since birth pale, badly nourished, general purpuric rash	Slight, no bossing	(?)	One finger's breadth below the umbilicus	Slightly +	3,700,000	—	18,600	12 210 (+4000)	4625 (−1000)	25	8	66	—	(?)	Died six months later.
12	M, 35 months	Ill off and on since severe diarrhœa six months ago, fairly nourished earthy complexion, hæmic murmurs	None, no bosses	Probable	Two fingers' breadth below the costal margin	—	3 000 000	—	25 000	12 500 (+8000)	10,150 (+5000)	40 6	6	49 4	4	—‡	Improving when lost sight of.
13	M, 18 months	Ailing six months, yellowish complexion, well nourished	+ Moderate bossing	—	One finger's breadth below the umbilicus	Slightly +	2,760 000 No nucleated red cells	—	9 000	2970 (−3600)	5940 (slightly +)	66	33		1	—	Recovered.
14	F, 12 months	Ill two months, sallow complexion, hæmic murmurs	Slight, very slight bossing	—	"	Slightly +	2,750,000	—	52 000	31 720 (+25,120)	14 560 (+9100)	28	7	54	—	7‡	Died
15	M 18 months	Ailing since three months old, prolonged digestive disturbance, pale but not sallow, poorly nourished, slight hæmic murmurs	Moderate	—	Half way to the umbilicus	—	3 085 000 One normoblast to every 100 white cells	—	4,000	1560 (−5000)	2408 (−2700)	60 2	7	32	0 8	—	(?) Recovered
16	M, 36 months	Ill for three months, pale but not chlorotic, fairly nourished, liver enlarged and firm, some ascites	Slight	(?)	Very greatly enlarged	—	2 000 000 Some poikilocytosis, a few normoblasts	40	120,000	95,160 (+88,560)	11 400 (+6240)	9 5	79 3		6	4 2	(?)
17	M 10 months	Wasting since six months old, long standing constipation	Slight	(?)	One finger's breadth below the umbilicus	Palpable in the neck	3 835 000 Marked poikilocytosis, 14 normoblasts to 100 white cells, many showing mitosis	23	15 000	10 500 (+2380)	3780 (−1820)	25 2	18 8	51 2	1 6	3 2	Died from whooping-cough
18	F, 24 months	Ill for six months, chlorotic complexion, liver slightly enlarged	Distinct	+	—	Slightly enlarged all over	4 072 000 Moderate poikilocytosis, normoblasts numerous	32	52 000	31 200 (+24 600)	11 960 (+6300)	23 3	41 3§	18 7	2 8	13 8	Died
19	M, 11 months	A twin, pale since birth bottle-fed, has frequent diarrhœa	Distinct slight bossing	—	Four fingers breadth below the ribs	Slightly enlarged in the neck	1 910 000 Marked poikilocytosis and many normoblasts	34	16 100	8320 (normal)	7280 (+1650)	45 5	52		2 0	0 5	(?)
20	M, 11 months	Co-twin of the above, same history and symptoms	"	—	Three fingers breadth below the ribs	"	3 260 000 Poikilocytosis and many normoblasts	36	18,700	11 220 (+3100)	7106 (+1506)	38	60		—	2	(?)
21	M, 12 months	A seven months child, pale since birth, bottle fed suffers from head nodding	Slight	+	Four fingers breadth below the ribs	—	1 765 000 Poikilocytosis well marked two normoblasts to 100 white cells	26	4 500	2430 (−5690)	1935 (−5665)	43	54		3	—	Died
22	M 13 months	A seven months child, yellowish complexion, general œdema	Slight, head bossed	Probable	Enormously enlarged	(?)	2,585 000 Considerable variation in size, some poikilocytosis, 13 per cent. of normoblasts, many showing mitosis	23	9 350	6002 (−3118)	3459 (−2141)	37	12 5	41	—	9 5	(?)

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* Since this table was constructed a very similar one has been published by Dr J H Drysdale and Dr Hugh Thursfield in a paper read before the Royal Medical and Chirurgical Society on Feb 9th 1904 As both tables are based largely on the records of the Hospital for Sick Children Great Ormond Street many of the cases included in them are identical † The figures within brackets indicate the absolute excess or deficit of each kind of cell per cubic millimetre calculated on the basis of the normal numbers at different ages, as described in the first lecture ‡ A considerable number with basophile granulation § Most of these were large round cells with diffusely staining nucleus and protoplasm, the latter often with fine basophile granulation, some with mixed granulation

really different ways of describing the same condition. Von Jaksch, in fact, appears to have based his original description simply on a rather severe example of the disease already described by Italian authors. There is thus no real reason for writing as some do of von Jaksch's anæmia as if it were a special morbid entity and the term "splenic anæmia of infancy" is much less objectionable on all grounds than "pseudo-leukæmia infantum" and it is for that reason that I have made use of it in the present description of the disease.

NATURE OF THE DISEASE.

Granted, then, that there exists a clinical group of cases presenting the characters I have narrated and which may be conveniently described under the term "splenic anæmia of infancy," we have next to answer the question: Do such cases constitute a definite morbid entity as clearly marked off from other forms of anæmia as, let us say, myelogenous leukæmia? On the reply to be given to this question different writers hold very different views but they may be divided for purposes of discussion into four groups: 1. Those who hold with Wentworth, Fischl, Morse, and others that the splenic anæmia of infancy is not a definite disease but merely a secondary anæmia which owes its peculiar characteristics to the fact of its occurrence in the early years of life. 2. Those who regard it as merely an aleukæmic stage of a true leukæmia. This view has been specially advocated by Luzet and Troje. 3. Those who consider it to stand half-way between leukæmia and pernicious anæmia, a cross, as it were, between these diseases and partaking of the characteristics of both. This is apparently the opinion of Rotch and Ladd, Engel, and Ewing. 4. Those who consider that the disease is one *sui generis*, which is the position taken up by Alt and Weiss in Germany and by Fowler, Melland, and Drysdale and Thursfield amongst English writers. These different positions must now be briefly discussed.

1. Those who regard the disease as a mere secondary anæmia in which the enlarged spleen is, so to speak, merely an accident, base their position on the absence of any apparent connexion between the blood changes and the splenic hypertrophy. Cases with identical lesions in the spleen—namely, chronic hyperplasia—show varying degrees of anæmia. At times, they say, there are marked changes in the blood and at others the changes are very slight and the degree of leucocytosis shows similar variability. These differences cannot be explained by the duration of the condition in many cases and all that one is justified in saying is that in some of the secondary anæmias of infancy there is a chronic hyperplasia of the spleen and in others not. It may be admitted that many of these statements have much force. There is no definite relationship between the degree of splenic enlargement and the character of the blood in these cases, for the spleen may be very large with slight anæmia or the anæmia may be profound and the splenic hyperplasia by no means excessive. This is by no means so certainly the case as regards the leucocytosis however. I think we can say that there is at least a general ratio between the extent to which the spleen is enlarged and the increase in number of the leucocytes and that these usually vary together. It is the polymorphism of the leucocytosis, however, in these cases which is their most important feature and which distinguishes them, I believe, from the secondary anæmias, just as the polymorphism of the white cells in leukæmia distinguishes that disease from a severe leucocytosis. Even in severe secondary anæmias such as we studied in the last lecture such polymorphism does not occur. Great stress has been laid by the advocates of the view that the splenic anæmia of infancy is merely a secondary anæmia on the association between cases so described with rickets and congenital syphilis. That rickets is a very constant concomitant of these cases may be freely admitted, for all clinical statistics go to prove it. On the other hand, it is equally certain that in a few cases rickets has been absent (Case 12 of Table III.). Nor is there any definite relationship between the severity of the rickets and the degree of splenic enlargement or of blood change. Some of the severest cases show but slight evidence of rickets, whilst severe rickets is often enough accompanied by no appreciable degree of anæmia. Rickets therefore cannot *per se* produce the phenomena characteristic of splenic anæmia and it seems more reasonable to suppose that when the two coexist they are both the result of some common but as yet unknown cause which operates at one time chiefly in the direction of producing anæmia and at others exerts its effects chiefly upon the blood-forming organs.

The evidence in favour of a causal connexion between congenital syphilis and splenic anæmia is even less convincing. The statistics of my own cases showed that the former disease could be excluded in one half the number of the latter and other observers have arrived at very similar results. That congenital syphilis is capable of producing severe secondary anæmia we have already seen and that it can also give rise to splenic enlargement there can be no question, but the latter when due to the syphilitic cachexia is rarely great in degree and is characterised by its occurrence within the first six months of life (Carpenter), a time at which splenic anæmia does not occur. That congenital syphilis, like any other debilitating condition, may predispose a child to become the subject of splenic anæmia one can well imagine, but that there is any more direct relation between them cannot be admitted.

2. The view that the disease under consideration is merely an aleukæmic stage of a true leukæmia—a stage at which the hypertrophy of the spleen is still able to keep in check the excess of white cells produced by the marrow—has been advocated by Troje[13] but has little to commend it. That such aleukæmic stages do sometimes occur in the course of true leukæmias many recorded cases attest, but no one has ever described a case of splenic anæmia in a child which passed later into a genuine leukæmia. Further, it is to be remembered that, as we shall see later, true leukæmia, at least in the myelogenous form, is excessively rare in early childhood, whilst anæmia associated with enlargement of the spleen is by no means uncommon. That being so it is in the last degree improbable that the one is merely a stage of the other. Add to this that the appearances found after death in the two conditions are by no means similar and the proof seems complete that there can be no identity between them. That some of the severest forms of splenic anæmia in infancy do nevertheless suggest, as far at least as their blood picture is concerned, a mild leukæmia cannot be denied, but the appearance is much more that of a mixed myelogenous and lymphatic leukæmia than a pure form of either disease. To this point I shall return, however, when I come to speak of leukæmia in childhood.

3. The view that the so-called splenic anæmia of infancy stands intermediate between pernicious anæmia and leukæmia has not been put forward by its authors with any great degree of clearness. It is difficult especially to ascertain whether they mean to imply by it that these two diseases are actually to be supposed to be coexisting or whether it is merely that the blood picture suggests a mixture of anæmia of these two types. That a casual inspection of a typical blood film from a severe case of splenic anæmia might at first suggest a combination of pernicious anæmia and leukæmia may be admitted but the red cells in this disease are rarely reduced in number to the degree characteristic of pernicious anæmia, and from the mere presence of numerous normoblasts or even megaloblasts in infancy our study of the secondary anæmias showed us that no conclusions can safely be drawn, whilst the supposed resemblance to leukæmia has already been dealt with. Further, the post-mortem appearances are not those of pernicious anæmia. The presence of iron in the liver which is so characteristic of the latter disease is not found in splenic anæmia and to the mere presence of red marrow in the shafts of the long bones no importance can be attached, for, as we have seen, it is a normal occurrence during the earlier years of life, whilst the microscopical characters of the marrow do not at all correspond with those found in true pernicious anæmia. This view may also be dismissed as in no wise helping to elucidate the nature of the disease.

4. We come finally to the only remaining theory—viz., that splenic anæmia of infancy is a definite morbid entity—a disease *sui generis*. The grounds upon which the holders of this view base their opinion have already been considered incidentally when I dealt with the presumption that the disease is merely a peculiar form of secondary anæmia and consist, it will be remembered, in the peculiar type of blood change and, in particular, on the polymorphous character of the leucocytosis. It must be admitted, however, that there is more reason to class these cases by themselves clinically than pathologically, for the splenic anæmia of infancy has no pathological anatomy peculiar to itself. The histological changes in the spleen, though perhaps greater in degree, are still only the same in kind as are met with in many other cachectic conditions, notably in rickets and in congenital syphilis. The changes in the enlarged

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[13] Berliner Klinische Wochenschrift, No. 12, 1892.

spleen in rickets have been specially studied by Sasuschin[19] in 11 cases. To the naked eye he found that the spleen was firm, its capsule rather thickened, the surface pale, and the Malpighian bodies fewer than normal. The microscope showed a fibrous hyperplasia of the supporting tissue and trabeculæ and thickening of the walls of the arteries. The Malpighian bodies were diminished in size and showed an excess of fibrous tissue at their periphery. Towards their centres groups of endothelial cells, often undergoing degenerative changes, could be made out. The endothelial lining of the blood-vessels was often swollen. He regards the change as one of chronic inflammation which interferes with the function of the spleen as a blood former. It will be noted that these changes are practically identical *with those found in* [illegible] infancy. In the sple[illegible] very similar changes, [illegible] fibrous and the whole [illegible] in amount.

Nor are the changes in other organs any more characteristic. The presence of hæmopoietic cells in the liver which Luzet regarded as pathognomonic of the disease has not been confirmed by other observers and the changes found in the marrow are not sufficiently striking to justify one in regarding them as distinctive. None the less I side with those who would place these cases for clinical purposes in a category by themselves, for diseases cannot be classified entirely on their pathological anatomy, else would chlorosis cease to occupy a chapter by itself in our text-books. That it is difficult to draw any hard-and-fast line between these cases and those of secondary anæmia I admit, for at the lower end of the scale the milder cases merge with those of slight anæmia—usually of a more or less chlorotic type—sometimes met with in pure rickets.[20] At the upper end of the scale we find severe cases which stand, as far as their blood picture is concerned, very close to myelogenous leukæmia though never, I believe, really merging into that disease. It is to these severe cases that the descriptions of the so-called von Jaksch's anæmia specially apply but that they can be sharply distinguished from the milder forms cannot be admitted, for, as the table of cases shows, every intermediate degree of severity is met with. It appears to me that it is better to employ the term "splenic anæmia of infancy" to cover all the cases of every degree of severity rather than to use the description "pseudo-leukæmia infantum" introduced by von Jaksch. For the term "pseudo-leukæmia" is one open to objection on many grounds and has I venture to think been the means of introducing great and regrettable confusion into the whole subject. As to the real causal factor in the disease we are still completely in the dark and I confess I am unable to throw any light on the point. Although enlargement of the spleen seems usually, as a clinical fact, to precede the anæmia, it can hardly be regarded as the cause of the latter, for there is no definite *ratio, as we have seen, between the size of the spleen and the* degree of blood change and in cases which recover the anæmia may pass off long before the spleen has regained its normal size. It would be difficult to understand in any case, as Wentworth has remarked, how a mere fibrous hyperplasia of the spleen could produce by any means an increased destruction of the blood. I am aware that in the so-called splenic anæmia of adults excision of the enlarged organ has often been followed by cure of the disease, but these two disorders, as we shall see immediately, are really entirely distinct and what holds good of one does not necessarily apply to the other. In splenic anæmia of infancy at all events the crucial experiment of operative removal of the spleen is scarcely admissible, for the disease is not one which is inevitably progressive but, on the contrary, is often spontaneously recovered from. On all grounds it seems much more likely that the enlarged spleen and the anæmia are both the result of one common cause, some specific cachexia, possibly toxic in nature. Such a toxin might affect the spleen in the same way as the syphilitic poison does and at the same time induce an increased destruction of red cells or cause an interference with their formation. It has been suggested by Clive Riviere[21] that such a specific toxin as has been postulated may be of gastro intestinal origin and produced by an abnormal growth of micro organisms, the consequence of gastro intestinal catarrh and injudicious feeding. This ingenious hypothesis, however, can hardly be true of all cases, for in a considerable number, at least, one fails to find any history of diarrhœa, whilst, on the other hand, gastro-intestinal catarrh is of such frequent occurrence in infancy that one must always be very chary of assigning *to it a definite share in the production of* any given disease. It should be mentioned, however, that a similar theory has been advanced by Rolleston and others to explain the production of the enlarged spleen of adult splenic anæmia and Hamilton has suggested that the supposed toxin in such cases may owe its origin to an abnormal intestinal flora.[22]

The leucocytosis in this disease may be the consequence of an interference with the function of the spleen, an expression of its physiological incapacity, and an indication of the vicarious performance of its function by adenoid tissue elsewhere, just as happens after experimental removal of the organ. Adenoid tissue elsewhere, acting, so to speak, in a hurry, might easily turn out cells of an immature type such as we have seen to be commonly the case in this disease. It is probable that the changes in the marrow are also of the nature of a compensatory hypertrophy, for if the differentiation of function of the adenoid tissue and marrow is less complete in early life than in the adult it may perhaps be the case that the undifferentiated cells of the marrow in this disease develop into non-granular instead of into granular leucocytes. That the osseous changes in rickets have over-production of marrow as a secondary result is very likely, for we have already seen how closely bone development and marrow formation are related. The head bosses in particular which are so constant a feature in splenic anæmia involve a considerable increase in thickness and extent of the blood forming tissue and may really be as much a hypertrophy of marrow as a bone change.

RELATION OF THE SPLENIC ANÆMIA OF INFANCY TO THE SO-CALLED SPLENIC ANÆMIA OF ADULTS.

I have recommended the use of the term splenic anæmia of infancy to cover all the cases in the group we have just been considering and the only disadvantage of adopting such a nomenclature is that it is apt to lead to confusion with the so-called splenic anæmia of adults. This would be unfortunate, for the two conditions are really entirely distinct. It would be going beyond the legitimate scope of these lectures to discuss whether the splenic anæmia of adults *is a true pathological entity but most people will agree* that the term is at least one of clinical usefulness as covering a group of cases which present a clinical "symptom complex" in common. Many, indeed, would go further than this nowadays and, regarding splenic anæmia as merely the initial stage of what has been described as Banti's disease, would associate with it a constant course and a definite morbid anatomy. The splenic changes in Banti's disease indeed present many points of resemblance to those found in the group of cases peculiar to children which we have been considering. These changes have been summed up as follows:[23] 1. Atrophy of the Malpighian bodies, brought about either by an overgrowth of the connective tissue ensheathing the central artery or by an encroachment of fibrous tissue from the periphery. 2. Thickening of the capsule and the trabeculæ, the walls of the vessels and of the fine fibrous reticulum forming the walls of the spaces of the splenic pulp. 3. In a minority of the cases there is also a proliferation of the endothelium [illegible] ie pulp, the [illegible] large cells [illegible] ed nucleus, the cells in some instances completely filling the blood space.

Here, again, then one finds an overgrowth of supporting

[illegible] is probably due to [illegible] that race. It is [illegible] ed out so long ago [illegible] *rterly Journal* for [illegible] spleen in children [illegible] ave notes of seven cases whose average duration of suckling is 19 months." He adds that these patients are truly chlorotic and invariably exhibit pica.

[21] Transactions of the Royal Medical and Chirurgical Society vol. lxxxvii., 1903.

[22] See discussion on Splenic Anæmia, Brit. Med. Jour., Sept. 12th, 1903.

[23] Trevor: Ibid., Sept. 12th, 1903.

tissue in the Malpighian bodies and throughout the pulp, generally with an increase of fibrous tissue and a proportionate diminution of the adenoid constituents. It must be borne in mind, however, that but little diagnostic importance can be attached to fibrosis involving the trabeculæ and splenic pulp and to atrophy of the Malpighian bodies. As Rolleston[24] has pointed out, varying degrees of splenic fibrosis are met with in long-continued bacterial poisoning and fibrotic atrophy of the Malpighian bodies has been produced experimentally by Pilliet with metatoluylendiamin, paraphenylene, and sodium nitrate. With the morbid histology of the spleen, moreover, the apparent resemblance between Banti's disease or splenic anæmia ordinarily so-called and the splenic anæmia of infancy ceases. The blood picture in the two is totally different. In splenic anæmia of adults we have to deal with a slight diminution of red cells, a marked diminution of hæmoglobin, and a diminished number of leucocytes—a combination described by Senator as oligocythæmia, oligochromæmia, and leucopenia, which contrasts markedly with the great diminution of red cells, the presence of normoblasts, and the heteromorphous leucocytosis characteristic of the infantile disease. In addition to this the clinical course of the disorder is totally different. Splenic anæmia in adults is a very chronic condition which extends over years but is slowly progressive and, so far as we know, invariably leads to death. The splenic anæmia of infancy, on the other hand, is of much shorter duration and by no means progressively fatal but, on the contrary, is recovered from in a considerable proportion of the cases. If, then, these two conditions resemble each other only in the common factor of presenting some degree of anæmia along with enlargement of the spleen the next question which arises is: Does one ever meet in childhood with cases of splenic anæmia of the adult type? Occasionally, I think, one does. Hamill,[25] for instance, has reported the case of a boy, aged six years, who suffered from anæmia associated with great enlargement of the spleen and repeated hæmorrhages. The blood exhibited anæmia of the chlorotic type with leucopenia, but the relative proportion of the granular and non-granular cells varied at different examinations. He died four years later, death being preceded by the appearance of ascites. The necropsy showed fibrous hyperplasia of the spleen and an increase of connective tissue around the bile-ducts in the liver. Hamill does not attempt to classify this case but I think there can be no doubt that it must rank with the splenic anæmias of adult type.

Another case has been recorded by R. T. Williamson.[26] The patient was a boy, aged nine years, whose illness was of two years' duration. There was no evidence of syphilis or rickets. He presented great enlargement of the spleen but not of the lymph glands, with marked anæmia (3,030,000 red cells), and there was no leucocytosis (4000 per cubic millimetre, the lymphocytes being in slight relative excess). There was intermittent pyrexia. He died and the post-mortem examination showed that the Malpighian bodies in the spleen were fibrous, whilst the pulp contained many large cells inclosing red corpuscles. The marrow of the femur was dark red and "lymphoid" and there were some vegetations on the mitral valve and a few ulcers in the small intestine. This case also closely resembles the splenic anæmia of adults but it is difficult altogether to exclude ulcerative endocarditis which seems sometimes to be accompanied by great enlargement of the spleen without any leucocytosis.

In a very typical example of splenic anæmia terminating in Banti's disease described by Rolleston[27] and confirmed by a post-mortem examination the interesting statement is made that the patient, who was 20 years of age, had been an in-patient at the Hospital for Sick Children, Great Ormond-street, for a similar condition 11 years before. Cases of splenic anæmia of adult type do therefore seem to occur in childhood, but owing to the great rarity of that disease even in adult life it is difficult to say with what *degree of relative frequency. As far as I can discover*, however, such cases are not met with in infancy but only after the period of second dentition—that is to say, when the blood has assumed the adult characters. It is true that Hunt[28] has described two cases of splenic enlargement with anæmia in infants aged eight and 16 months respectively which he believes to have been examples of the adult form of the disease but the blood examination is not given in sufficient detail to enable one to form an exact judgment. So far as it goes one of them certainly seems to have been an ordinary splenic anæmia of infancy. It is true also that one meets with great enlargement of the spleen in infancy associated with more or less anæmia but no leucocytosis which present at first sight a resemblance to the splenic anæmia of adults. Examples of these have been given in Table III. There can be little doubt, however, that those are cases of the ordinary splenic anæmia of infancy on the way to recovery, for on following them out one can often find that the spleen gradually recedes behind the ribs until complete recovery is established. Others are probably merely examples of rickets associated with an unusual degree of splenic enlargement. In later childhood again one sometimes meets with puzzling cases in which there is enlargement of the spleen with more or less anæmia but which one hesitates to class as examples of ordinary splenic anæmia of adults. Some of these may possibly be examples of the primary splenomegaly—endothelial hyperplasia of the spleen—so well described by Bovaird,[29] but others are almost certainly of syphilitic origin. To the latter class the following cases probably belong.

CASE 1.—A boy, aged two and a half years, was said to have a lump in the abdomen since he was six months old. There was a definite history of inherited syphilis. He was only slightly anæmic, the red cells numbered 4,500,000, the hæmoglobin amounted to 55 per cent., and the white cells to 13,000 per cubic millimetre. There was a slight relative [illegible] spleen reached below the umbilicus and [illegible] of rickets and a slightly bossed head. [illegible] treatment the spleen rapidly diminished and ten months later had entirely disappeared.

CASE 2.—A boy, aged 11 years, had had an enormously enlarged spleen without other symptoms for upwards of two years. The family history was indefinite but a brother had s[illegible] "bad eyes." *There was no enlargement of the glands or* [illegible] were 4,360,000, hæmoglobin 56 per cent., and [illegible] nuclear and uninuclear forms were about equal. His subsequent history could not be ascertained.

CASE 3.—*A girl, aged 11 years, prese*[illegible] genital syphilis (notching of the teeth, [illegible] spleen was enormously enlarged; the [illegible] The glands were not affected. The re[illegible] normal. The white cells numbered 8000 and a differential count showed 65 per cent. polynuclears, 31·7 uninuclears, and 3 per cent. eosinophiles. She subsequently died rather suddenly when at home.

In the cases cited anæmia was not pronounced but in a series published by Chiari[30] in young adults anæmia was a marked feature and splenic anæmia was closely simulated. In all these cases the *symptoms* appeared to have come on about puberty.

LEUKÆMIA IN CHILDHOOD.

It cannot be said that recent work on leukæmia in the adult has tended to give a sharper definition to our knowledge of the diseases classed under that term or to clarify our notions of their pathology. On the contrary, the division of the leukæmias into two well-defined types which until recently was believed to hold good has been shown to be no longer tenable. The old division into splenic and lymphatic forms, based mainly on clinical differences, had to give way to the pathological classification of lymphatic and myelogenous leukæmia which rested upon the chief kind of cell found in the blood in each case and its supposed seat of origin. But these terms are tending in their turn to lose their applicability as the accumulation of cases and pathological material goes on. It seems no longer possible to speak of lymphatic leukæmia when in some quite typical clinical examples of that form of the disease the only pathological changes have been found in the bone marrow, whilst, on the other hand, the detection of "myelogenous" changes in the adenoid tissue in what seem at the bedside cases of pure myelogenous leukæmia render it difficult to assert dogmatically that this variety of the disease is always due to changes in the marrow alone. It would seem indeed as if the tendency of recent work were to show that the differentiation of function between the bone marrow and adenoid tissue was not so sharp as from the teaching of Ehrlich most people have been inclined to believe, and that in pathological conditions especially a considerable amount of vicarious action can take place in consequence of which the bone marrow no longer confines itself to the exclusive production of granular cells nor the adenoid tissue to the manufacture of non-granular cells and lymphocytes. If this be true of leukæmia in the adult one would expect *a priori* that it would apply with even greater force to leukæmia in childhood, for in the child, as we have already seen, there is reason to suppose that the normal differentiation of function on the part of the marrow and adenoid tissue respectively is less stereotyped than in the adult. We shall see, I think, that this expectation will prove to be correct. It will be convenient to consider first the two extreme and classical types of leukæmia, the myelogenous (so-called) and the lymphatic, and afterwards to glance at the atypical and intermediate forms of the disease.

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[24] Discussion on Splenic Anæmia, Ibid., Sept. 12th, 1903.

[25] Archives of Pediatrics, September, 1902.

[26] Medical Chronicle, vol. xviii., p. 103, 1893.

[27] Clinical Journal, 1902, vol. xix., p. 401.

[28] Transactions of the Pathological Society of London, vol. l., p. 209, 1899.

[29] American Journal of the Medical Sciences, October, 1900.

[30] Prager Medicinische Wochenschrift, No. 24, 1902.

MYELOGENOUS LEUKÆMIA.

[illegible] ildhood, with [illegible] well-defined [illegible] lults, it is of the most infrequent occurrence in the child and in the period of infancy is hardly met with at all. The statements in text-books on this point which sometimes seem to point to a contrary conclusion cannot be accepted, for they are apt to be based upon cases described prior to the introduction of modern methods of blood examination, many of which in all probability were really examples of lymphatic leukæmia whilst others no doubt belonged to the group of cases already dealt with under the title of splenic anæmia of infancy. The only case I have seen myself was one which was recently under the care [illegible] Hospital and which is to [illegible] resented an extreme and [illegible]

[illegible]

As far as I can discover this is the most marked case of myelogenous leukæmia in a young child yet described. I have collected the following probably genuine cases from the [illegible] 1898, states that the [illegible] less than a dozen in all. [illegible] er seven cases collected by Monti and Berggrun, none of which, however, can one regard as being quite certainly examples of the myelogenous form. Cassel adds an undoubted case of his own. The patient was a boy, aged eight years, who exhibited marked anæmia and great enlargement of the spleen but none of the liver or lymph glands. The blood showed 3,550,000 red corpuscles, 40 per cent. of hæmoglobin, and 500,000 white cells. Of these 69 per cent. were true myelocytes and 12 per cent. were eosinophiles. Polynuclears and mast cells were numerous but lymphocytes were very scanty. The patient was still alive when the paper was published. Baginsky[32] has described an undoubted case in a boy, aged nine years, who presented all the usual clinical features. The red corpuscles amounted to 2,133,000 per cubic millimetre and the white to 986,000. Of these 56·7 per cent. were myelocytes, 26·1 per cent. polynuclears, and 4·1 per cent. eosinophiles. The nuclei of the myelocytes stained deeply with tri-acid mixture and there were as a rule only indications of granules in the protoplasm. The case was lost sight of before its termination. Monti and Berggrun describe a case in [illegible] genuine. He was [illegible] and of rickets and [illegible] 0 and the white to 66,422. [illegible] to 28 per cent. Of the [illegible] large mononuclear forms [illegible] he eosinophiles were also [illegible] and lymphocytes were [illegible] In spite of the small total number of leucocytes in this case it was probably an example of true myelogenous leukæmia. Charon and Gratia[33] describe the case of a girl, aged eight years, who exhibited marked [illegible] and spleen. A [illegible] showed 880,000 [illegible] millimetre, of [illegible] ine examples of [illegible]

pure myelogenous leukæmia in childhood which a fairly complete search of the literature has enabled me to discover,[34] and it will be observed that only one of them belongs to the period of infancy. Even assuming that a certain number have been missed the result fully justifies the statement already made that pure myelogenous leukæmia hardly occurs in early life. This fact in the natural history of the disease is certainly a remarkable one, for there is nothing in the bone marrow in childhood which would lead one to expect that it would be less likely to become the seat of a leukæmic process than the corresponding tissue in the adult, whilst the ease with which myelocytes appear in the blood in early life even in comparatively trivial degrees of anæmia would have prepared one for quite the contrary result. Until we have some definite information as to the true cause of leukæmia no explanation of the rarity of the myelogenous form in childhood is likely to be forthcoming, but it suggests at least that, as is perhaps the case with pernicious anæmia, the exciting cause of the disease is not operative at this time of life.

LYMPHATIC LEUKÆMIA.

When we turn to the so-called "lymphatic" form of leukæmia we are met with quite the opposite state of things. The comparative frequency of this form in childhood is just as striking as the rarity of the myelogenous variety. It is only in quite recent times indeed that the frequency of lymphatic leukæmia has been recognised. McCrae[35] in 1900 described a case and gave references to other 13 cases which had been published as occurring in children below the age of ten years up to that time.

Table IV. contains some of the most important cases in children published since McCrae's summary was made, whilst one meets in the literature with casual references to many others which have never been published in detail. The records of authentic cases, moreover, are being added to almost daily.

Clinically these cases conform to the characters of the acute form of the disease and they may be roughly divided into the three types described by Guinon and Jolly:[36] (1) those which exhibit profound anæmia with general glandular enlargement with a hæmorrhagic tendency in the later stages; (2) those in which the hæmorrhagic tendency is exhibited from the outset, petechiæ appearing early so that the case may resemble one of infective purpura; and (3) "pseudo-scorbutic" cases in which lesions in the buccal cavity are the most striking feature. The type of cell which predominates in the blood is the so-called large lymphocyte, many of which are probably really identical with the "lymphoid cells" of Wolff. Pathologically they show the changes which have been so often described as characteristic of the lymphatic form of leukæmia—viz., overgrowth of adenoid tissue generally with the appearance of foci of it in situations in which such tissue is not normally visible and a replacement of the normal bone marrow by lymphoid tissue.

No satisfactory explanation of the frequency of the lymphatic form of leukæmia in childhood can be given any more than of the rarity of the myelogenous variety. The fact, however, may be correlated with that of the great extent and activity of the adenoid tissue in childhood, to which reference has already been made and which render it peculiarly liable to become the seat of pathological processes of all sorts of which leukæmia is only one form. One is tempted to find in it also some support for the infective origin of the disease which has so often been advocated when one remembers the peculiar liability of children to infection, particularly such as finds access by the throat. On the other hand, those who see in lymphatic leukæmia a process resembling the production of a malignant growth and who speak of it as a "sarcoma of the blood" might point with equal truth to the frequency of that particular form of malignant growth in the earlier years of life. It may be, too, that, as Parkes Weber has suggested,[37] lymphatic leukæmia is to be looked upon as a less differentiated form of the leukæmic process than the myelogenous form of the disease.

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[32] [illegible] 4, 1898 [illegible]

[33] [illegible] de Bruxelles, 1896, p. 63.

[34] References to other supposed examples—none of which, however, is sufficiently authenticated—will be found in Olive Rivière's paper, in the Transactions of the Royal Medical and Chirurgical Society, vol. lxxxvii., 1903.

[35] Gilbert and Weil in a paper in the Archives de Médecine Expérimentale, tome ii., p. 157, 1899, state that up to that time about 60 cases of acute leukæmia had been recorded, of which five were between the ages of one and ten and 17 between 11 and 20 years of age.

[36] Revue Mensuelle des Maladies de l'Enfance, June, 1893.

[37] Transactions of the Pathological Society of London, vol. liv., p. 226, 1903.

TABLE IV.—CASES OF LYMPHATIC LEUKÆMIA IN CHILDHOOD.

No.	Author and reference.	Sex and age.	Total duration.	Clinical characters.	Blood.
1	Thomson and Muir (International Journal of the Medical Sciences, April, 1891).	M., 7 years 11 months.	About 5 months.	Enlargement of the liver, glands, and spleen; general scabies; irregular pyrexia; hæmorrhages.	Red cells, 2,500,000 to 721,250; hæmoglobin 40 per cent.; white cells, 93,000 to 379,000, mainly small lymphocytes; very few polynuclears and eosinophiles; a considerable number of large lymphocytes towards the end.
2	Fowler (Edinburgh Hospital Reports, vol. xiii., 1898).	F., 9 years.	6 weeks.	Extreme anæmia; no enlargement of the spleen or of the glands; hæmorrhage into one retina.	Red cells, 510,000; hæmoglobin 15 per cent.; white cells, 100,000; almost no polynuclears; large and small lymphocytes and large cells with pale, indented nuclei, some with basophile granules.
3	Bradley (New York Medical Journal, vol. lxx., p. 923, 1899).	M., 8 years.	8 ,,	Anæmia; great enlargement of the spleen; slight enlargement of the liver; enlargement of the glands in axillæ and groins; bleeding from the gums.	Red cells, 1,850,000; hæmoglobin, 18 per cent.; white cells, 85,000; polynuclears, 3 per cent.; large lymphocytes, 69 per cent.; small lymphocytes, 28 per cent.
4	Reimann (Wiener Klinische Wochenschrift, No. 39, 1899).	F., 9 years.	6 ,,	The spleen from two to three fingers' breadth below the ribs; slight enlargement of the liver and glands; purpuric hæmorrhages and epistaxis; some swelling of the gums, with bleeding.	Red cells, 1,200,000; hæmoglobin, 20 per cent.; white cells, 350,000; polynuclears predominated at first (mostly eosinophile) but towards the end lymphocytes were in large excess.
5	Pollmann (Munchener Medicinische Wochenschrift, No. 2, 1898).	F., 14 days.	Apparently congenital (mother's blood normal).	Petechial hæmorrhages; the liver and spleen were both much enlarged; right-sided endocarditis; the glands were not enlarged.	Red cells, 2,500,000; white cells, one to eight; almost all uninucleated forms with large nucleus and moderate protoplasm devoid of granules.
6	Guinon and Jolly (Revue Mensuelle des Maladies de l'Enfance, tome xvii., p. 262, 1899).	F., 15 years.	40 days.	Profound anæmia; the liver and spleen were both enlarged (slightly); glands (?).	Red cells, 685,000; hæmoglobin, 20 per cent.; white cells, 28,000; lymphocytes, 93 per cent; polynuclears, from 2 to 3 per cent.; large lymphocytes, from 3 to 6 per cent.; eosinophiles, from 0·1 to 0·2 per cent.; large mononuclears, 0·6 per cent.
7	Geissler and Japha (Jahrbuch fur Kinderheilkunde, Band lii., p. 572, 1900).	M., 5 years.	8 weeks.	Pallor; the glands in the neck and groins were enlarged, not elsewhere; gradual increase in size of the liver and spleen till they reached the umbilicus.	Red cells, 158,000 (lowest count); white cells, 34,250 (highest count); in different counts 76 to 97 per cent. were uninucleated.
8	McCaw (Report of the Society for the Study of Disease in Children, vol. iii., p. 251, 1903).	F., 1 year 8 months.	5	No rickets or anæmia; the spleen was enormously enlarged; considerable general glandular enlargement; the liver was one inch below the umbilicus; subcutaneous hæmorrhages.	Red cells, 2,200,000; hæmoglobin, 39 per cent; white cells, 810,000, of which 99·2 per cent. were lymphocytes.
9	Author's case (unpublished).	F., 6 years.	11 ,,	Profound anæmia; gangrenous stomatitis; irregular pyrexia; the spleen was half-way to the umbilicus; the liver was three quarters of an inch below the costal margin; the glands were palpable all over; petechial and retinal hæmorrhages.	Red cells, 1,200,000; hæmoglobin, 10 per cent.; white cells, 170,000, of which 98 per cent. were lymphocytes (mostly small).
10	Author's case (unpublished).	M., 13 years.	7 months.	The spleen was just palpable; the liver was slightly enlarged; the glands were enlarged everywhere; hæmorrhages from mucous membranes.	Red cells, 2,000,000; hæmoglobin, 40 per cent.; white cells, 240,000, 98·7 per cent. being lymphocytes of varying size; polynuclears, 1·2 per cent.; occasional myelocyte and eosinophile cell seen; one normoblast to 105 white cells.
11	Einhorn (Medical Record, July 12th, 1902).	F., 9 years.	Several months.	The spleen was large and firm; the liver was two fingers' breadth below the ribs; the cervical and inguinal glands were enlarged.	Red cells, 3,360,000; white cells, 389,000, of which small lymphocytes were 48·7 per cent.; large lymphocytes, 49 per cent.; mononuclears, 1·3 per cent; polymorphonuclears, 1 per cent.
12	Carpenter (Brit. Med. Jour., August 29th, 1903).	(?)—3½ years.	4 weeks.	Began with sudden pallor; the spleen was from two to three fingers' breadth and the liver two fingers' breadth below the costal margin; the glands were not enlarged; there were a few bruises on the legs.	Red cells, 1,568,000; hæmoglobin, 15 per cent.; white cells, 130,000, of which 99·18 per cent. were lymphocytes (mainly small).

In other words, we may really be dealing in it with an overgrowth of the original mother cells which are believed to be the progenitors alike of lymphocytes and of the more highly differentiated type of cell known as myelocytes. Lymphatic leukæmia would then be a return to the fœtal stage in which myelocytes have not yet appeared and such a relapse into intra-uterine methods of blood formation may happen more easily in the child than in the adult.

Compared with the acute variety of the disease chronic lymphatic leukæmia is of comparatively rare occurrence in childhood but not more so probably than in adult life. One is met here with the practical difficulty of assigning a limit of duration within which a case shall be regarded as "acute." Any such limits indeed must of necessity be more or less arbitrary in nature. I have met, however, with one case which can be fairly regarded as falling outside the sphere of the more acute type of the disease. It is included in Table IV. (Case 10). Except as regards their duration these cases present no essential difference from those of the more acute form, but the preponderating type of cell in the blood tends to be rather the ordinary small lymphocyte than the larger form of cell met with in the more acute variety of the disease. These cases are chiefly of interest as forming a supposed link between true leukæmia and Hodgkin's disease but to this point we shall return when we consider that disease in detail.

MIXED FORMS OF LEUKÆMIA.

So long as it was believed that the two great seats of production of white cells—the bone marrow and adenoid tissue—were functionally entirely independent and that the former in any circumstances could produce only granular and the latter non-granular cells, so long was it believed that myelogenous and lymphatic leukæmia were two totally distinct conditions which did not coexist and between which no intermediate type was found. But later investigations into the mode of origin of the white cells have rendered it probable that this functional specialism on the part of the adenoid tissue and marrow is not so absolute as had been supposed. It is coming to be believed that both myelocytes and lymphocytes have originally a common parent type of cell and that although it is true that in the marrow the development of these is normally in the direction of producing granular cells (myelocytes) and in the adenoid tissue of producing non-granular cells (lymphocytes), yet upon occasion the parent cells may develop in one direction only in both situations, so that the bone marrow may also produce lymphocytes and the adenoid tissue myelocytes. Coincidently with the rise of this view clinical evidence has been accumulating which points to the actual existence of cases in which the blood presents the picture of a mixed form of leukæmia, both myelocytes and lymphocytes being present in large numbers. Wolff[38] has recently published a criticism of alleged cases of this sort and has come to the conclusion that some of them at least must be regarded as genuine examples of mixed types of leukæmia. Now, as has already been indicated, it is just in childhood when the division of labour between the blood-forming organs is presumably less highly specialised, when myelocytes so readily enter the blood stream, and when lymphocytosis is so common, that one might expect cases of mixed type to occur. Wolff, it is true, declines to admit cases in infancy as affording real evidence of the occurrence of mixed leukæmia because of the confusion and perplexity introduced by cases of the so-called von Jaksch's anæmia already considered. It appears to me, however, to be rather an arbitrary proceeding to rule out such cases. True myelogenous leukæmia is, as we have seen, almost unknown in infancy and it may be that when the disease does occur at this period of life it tends to assume not a pure but a mixed form. Case 16 of my series (Table III.) may perhaps have been of that nature. Morse[39] has reported an interesting case which raises a similar problem. It was that of a boy, one year of age, the exact duration of whose illness was uncertain. He was decidedly rickety and presented enormous enlargement of the spleen with some increase in size also of the liver and lymphatic glands. The blood contained 2,900,000 red cells per cubic millimetre and 48,000 white cells. The differential count showed 23·4 per cent. of small lymphocytes, 8·1 per cent. of large lymphocytes and transitionals, 21·4 per cent. of myelocytes, 46·5 per cent. of polynuclears, and 0·6 per cent. of eosinophiles. There was marked poikilocytosis and many nucleated red corpuscles were present, several of them being megaloblasts. The comparatively low percentage of lymphocytes and the high proportion of myelocytes in this case are certainly unusual even for a severe example of splenic anæmia of infancy, and one is inclined to agree with Morse that the case is rather to be regarded as a mixed form of leukæmia. Fowler[40] has recorded a very similar case in a girl, aged 13 months. There was only slight rickets but the spleen was enormous and the liver and lymph glands were also distinctly enlarged. Purpura and epistaxis were repeatedly observed. Repeated examinations of the blood gave red-cell counts varying from 2,950,000 to 3,950,000 per cubic millimetre, while the leucocytes varied between 23,400 and 58,000. The differential counts varied a good deal, the highest percentage of lymphocytes found being 46. Whilst the myelocytes on one occasion rose to 14 per cent. eosinophiles were not increased. Nucleated red cells were very numerous, nearly all of them being normoblasts. The post-mortem appearances are said to have been those of leukæmia. Fowler regarded the case as one rather of leukæmia than of splenic anæmia from the characters of the blood observed during life. Cabot mentions similar cases.[41] Even were one to admit that these cases are to be regarded as examples of severe splenic anæmia rather than instances of mixed forms of leukæmia the same cannot be said of very similar cases met with at a later period of childhood when splenic anæmia has ceased to occur. Stewart and Campbell[42] have recorded such a case in the person of a boy, aged six years, whose illness lasted only three weeks. He presented marked anæmia, with severe and repeated epistaxis. The spleen was not enlarged but there was some enlargement of the submaxillary glands noted. The blood, which was examined just before death and therefore after repeated hæmorrhages, contained only 750,000 red cells per cubic millimetre with 20 per cent. of hæmoglobin and 40,000 leucocytes per cubic millimetre. Of these 25 per cent. were small lymphocytes, 45 per cent. were polynuclears and the remaining 30 per cent. was made up of myelocytes, 3 per cent. being eosinophilic. The red cells showed considerable inequality in size but none in shape. There were no megaloblasts. A case such as this is obviously very difficult to classify. It is evidently one in which the bone marrow is mainly involved and is so far to be regarded as myelogenous but the high relative number of small lymphocytes would point to some implication of adenoid tissue as well. Another of Fowler's cases[43] is more conclusive. It was that of a girl, five years of age, with enormously enlarged spleen, slightly enlarged liver, and slight hard enlargement of all the superficial lymph glands in whom the illness ran a course of 14 weeks. The red corpuscles were below 3,000,000 and the white corpuscles from 240,000 to 257,000 per cubic millimetre. The differential counts showed: small lymphocytes, 7 to 13 per cent.; large lymphocytes, 32 to 57 per cent.; polynuclears, 16 to 22 per cent.; myelocytes, 12 to 27 per cent.; eosinophile myelocytes, 0·7 to 3·4 per cent.; eosinophiles, 0·6 to 2·6 per cent.; and mast cells, 3 to 3·4 per cent. This seems to be clearly an example of a mixed form of leukæmia and was so regarded by Fowler. Many similar cases could be quoted from the literature[44] but enough has been said to show that the frontiers of leukæmia in childhood are very ill defined. Cases occur intermediate in type between splenic anæmia on the one hand and true leukæmias on the other and also between the two classical forms of leukæmia themselves. Such cases may find an explanation if we regard the myelocytes and the lymphocytes as both arising from a common parent type of cell which we may speak of with Wolff as a "lymphoid" cell, which is probably identical with many of the so-called "large lymphocytes" spoken of in the above differential counts. To this common origin both types of leukæmia could be traced back, myelogenous leukæmia being due to the production from it of myelocytes in excess and lymphatic leukæmia to an excessive production of lymphocytes, whilst in the intermediate forms either the parent cells themselves enter the blood along with myelocytes or both myelocytes and lymphocytes are produced from the common cell in excessive number. The trend of opinion which is supported by such cases as those described is certainly in favour of attaching more importance to the type of cell found in the blood and less to its supposed seat of origin, and if I might venture upon a prophecy it is that in future the leukæmias will be classified on the former basis instead of as hitherto on the latter and that we will speak of myelocytic, lymphocytic, and mixed-cell leukæmias, rather than of myelogenous or lymphatic. At all events, it is only along such lines that order is likely to be introduced into the present confusion which surrounds the classification of those anæmias of children which are attended by a marked increase of white cells in the blood.

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[38] Zeitschrift für Klinische Medicin, Band xlv., p. 385, 1902.

[39] Boston Medical and Surgical Journal, vol. ii., p. 133, 1894.

[40] International Clinics, vol. ii., 1901, series ii., p. 125.

[41] Clinical Examination of the Blood, fourth edition, p. 454.

[42] Montreal Medical Journal, May, 1902.

[43] International Clinics, vol. iii., 1903, series xiii.

[44] Examples of mixed leukæmia in the adult have been published by Simon (American Journal of the Medical Sciences, 125, p. 984, 1903) and by Wilkinson (THE LANCET, June 20th, 1903, p. 1739), but in both of these the case began as apparently one of myelogenous leukæmia and ended by assuming the lymphatic type. Other examples are referred to by Fowler (loc. cit.).

ALEXANDRA HOSPITAL FOR CHILDREN WITH HIP DISEASE.—A festival dinner in aid of this well-known hospital in Bloomsbury was held on April 27th at Prince's Restaurant, Piccadilly. The Duke of Marlborough presided. A large and distinguished company assembled, including the Duke of Beaufort (president of the hospital), the Duchess of Beaufort, the Marchioness of Lansdowne and the Marchioness of Granby. In proposing the toast of "The King" the Duke of Marlborough said that His Majesty had displayed interest in the hospital by opening one of its wings and had indirectly contributed towards its welfare, as a large annual subscription was received by the hospital from King Edward's Hospital Fund. During the existence of the Alexandra Hospital, which was opened in 1867, many young people had been made healthy and strong who would otherwise have been hopeless cripples. The hospital was in a sense an institution of national importance as the patients came from all parts of the country. It possessed nearly 100 beds and in order to maintain them an expenditure of nearly £6000 a year was entailed. Mr. W. H. Whitfield, the chairman of the committee of management, stated that the income from invested funds amounted to only £300 a year. As a result of the dinner subscriptions and donations amounting to £3600 were announced.

The Erasmus Wilson Lectures

ON

ACUTE INFECTIVE GANGRENOUS PROCESSES (NECROSES) OF THE ALIMENTARY TRACT.

Delivered before the Royal College of Surgeons of England on March 21st, 23rd, and 25th, 1904,

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LECTURE I.

Delivered on March 21st.

MR. PRESIDENT AND GENTLEMEN,—In his presidential address to the Clinical Society of London in 1896 Dr. Buzzard,[1] among other things, discusses whether "those who follow the profession of medicine have no right to speak of their work as science." I should like to point out that through the practice of the art of surgery the surgeon has many opportunities of making numerous scientific observations on man. The subject to which I wish to direct your attention in these lectures is that of acute infective necrosis, or gangrene, of the various regions of the alimentary tract. The life or death of a part of the intestinal canal is one of the greatest importance, especially in abdominal surgery, and through the action of the swift process, already mentioned, are brought about some of the most terrible tragedies in the annals of life.

Every surgeon in the practice of his profession as an operator is in a position to make observations on his cases in a way similar to those which the physiologist and pathologist make on the animals upon which they experiment in the laboratory. Be it, however, clearly understood that the similarities rest on the opportunities and not on the methods. For the surgeon does his work to cure or to alleviate the condition for which his services are required, whilst the others plan their experiments without regard to any benefit which might accrue to the subject thereof. The results of the latter, however valuable, are applied by inference, or indirectly, to man; those of the former have the great advantage of being directly applicable to the subject on which they were made. Every surgeon is in a position to note the results of operations as well as the pathological conditions for which he did the operations. In many cases the results are those of formal procedures and may be of small value, but no one can fail to add to this, especially through the medium of abdominal work, in the way of meeting the unexpected, being the victim of circumstances, mishaps, misfortunes, and lastly, but by no means the least, mistakes. The evidence upon which these lectures are based has been derived in such ways from the study of man during the last five years. And, further, I would like to acknowledge yet again my thanks to the staff of St. Thomas's Hospital for the opportunities of observation which have been so freely accorded me. And rather with the object of emphasising this line of research, which is the peculiar property of the surgeon, I have abandoned the more popular method of experimentation and have performed no operations on animals. But please understand clearly that I in no way under-estimate the very great value of such methods of research. As my observations have been made on the living subject at the operating table I am naturally unable to produce specimens to show; my statements will find evidence in ordinary surgical experience.

THE CLINICAL IMPORTANCE OF ACUTE INFECTIVE NECROSIS IN ACUTE ABDOMINAL WORK.

The death or gangrene of part of the alimentary tract forms one of the most important fields which, by reason of the recent rapid advances, abdominal surgery has taken within its scope. The resulting catastrophes, such as appendicitis, perforations of ulcers, &c., have long been known, as well as the enormous mortality which accompanied them. With increase of our knowledge of the pathology of these cases and improvements in operative technique, the death-rate has of later years been very considerably lowered. Unfortunately, the clinical signs, by means of which we must try to recognise the internal progress of the pathological process are, by their very nature, relatively coarse, late, and inexact means of gaining that urgently required information the possession of which is of vital importance to the patient. The manifestations of an acute abdominal disease are, unfortunately, often very obscure as to their origin, and much valuable time is lost before the decision is made as to whether the abdomen must be opened or not. The tremendous change in the mortality made by such delay is not even yet quite fully appreciated.

All acute abdominal crises begin similarly with shock, collapse, vomiting, &c., which symptoms have been called by Sir Frederick Treves "peritonism." This may be termed the first stage. Later, in the second stage, the diffuseness of the manifestations ceases and localising signs and symptoms appear. But it must be remembered that though the outward appearances become more local the inward infection may be spreading. *At this period a diagnosis may be made.* Later, as the infection becomes more and more diffuse, the signs again become more and more general and the diagnosis is again impossible. It is, in consequence, a difficult task to obtain figures which can give anything like a truthful idea of the practical importance and frequency of the disease which is the subject of these lectures. To help to meet this disadvantage, during the years 1900, 1901, and 1902 a careful record was kept of every acute abdominal case which was admitted to St. Thomas's Hospital. In this way I have obtained a series of 456 consecutive cases quite unique in that the diagnosis was verified in every case by operation or by post-mortem examination. Practically every case came either under the personal observation of my colleague Dr. A. E. Russell or myself. It is our good fortune to be able to place before the medical profession a large and unique series of acute and consecutive abdominal cases spread over a period of three years. The distribution of these cases may be briefly reproduced:—

Table of Acute Abdominal Cases.

Appendicitis	37 per cent.
Intestinal obstruction	24 ,,
Intussusceptions	15 ,,
Perforations	11 ,,
Gynæcological	6 ,,
Peritonitis of unknown origin	2 ,,
The rest	5 ,,

Cases of gangrene or necrosis of the alimentary tract vary considerably in their severity—that is to say, acute, subacute, and more or less chronic clinical varieties are recognisable. As it is the first of these classes to which I wish mainly to direct attention an attempt has been made to estimate the relative practical importance of the pathological factor of acute necrosis in these acute abdominal cases. Briefly, it forms, as a primary process, as in appendicitis, &c., 50 per cent. of these cases and is also secondarily associated with many of the other causes. The large percentage of 50 indicates the great frequency of this necrobiotic process as a primary change, and its occurrence in instances of acute abdominal disease as a secondary change still further emphasises the vast importance of the process. A number of cases are lost and the patients die in consequence of this secondary change, and in abdominal work one must guard against its occurrence just as surely as we try to cure the primary lesion. It is desirable that the full practical import be recognised before the more scientific aspect of the question is touched upon. As a primary affection it may be seen in the perforation of gastric, duodenal, and other ulcers, of carcinomatous ulcers, appendicitis and diverticulitis, &c.; as a secondary process in strangulated herniæ, volvulus, intussusception, strangulation by bands, perforation of the cæcum in intestinal obstruction lower down in the large intestine, &c.

To proceed to its more strict definition the process may be defined as one of death or necrosis of the tissues of the gut, dependent in the acute cases mainly on the action of septic organisms, and in subacute or chronic ones mainly upon the interference with the blood-supply. In the former the organisms act primarily on the tissues, and through inflammation and thrombosis secondarily cause interference with the blood stream; in the latter the blood-supply is interrupted primarily and then the organisms act. Mr. W. Watson Cheyne, in his excellent article in Sir Frederick Treves's "System of Surgery," divides the causes of gangrene or necrosis into three classes—the direct, the indirect, and the specific. But, unfortunately, such a classification can only stand so long as inquiries into it are not prolonged or pertinent. For then is seen the impossibility of dis- [illegible] divisions, I would like to [illegible], two extremes exist: 1. In [illegible] is due to the deprivation of the tissue of blood, aseptic death. 2. In this class the necrosis is due to the action of micro-organisms, septic death. In between these two extremes there exists every variety of mean or intermixture of the factors. The above may, from the point of view of the tissues, be termed the local factors. But the general condition of the individual will take a more or less important secondary part in the process of local death. The flora of the intestines and the fluid of the peritoneal cavity are such that pure anæmic or dry gangrene is unknown there. The omnipresence of moisture and organisms renders the gangrenes in this situation of the moist variety. In reality the tissues of the alimentary tract are subject to the same laws of life and death as are those of the rest of the body and it is my intention to apply to them the above general principles. The branch of inquiry with which this first lecture will deal is the relationship between the integrity of the gut and interference with its blood-supply. Upon this subject surgery has a good deal to say. And an endeavour must be made to reduce the subject into the compass of these lectures. It will therefore be unnecessary to apologise further for any omissions.

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[1] Transactions of the Clinical Society of London, 1896, vol. xxix., p. 53.

The great clinical difference that is noticed between gangrene or necrosis due to cutting off of the blood supply and that due to activity of bacteria is the different times taken by these factors to produce that result. The former is slow in action, the latter very rapid; and between these extremes there are all varieties of the intermixtures of the factors which are naturally by far the most common and an attempt has been made to investigate the first to begin with and then to pass on to consider the second class.

THE EMBOLISM AND THROMBOSIS OF THE VISCERAL VESSELS OF THE ABDOMEN.

Embolism and thrombosis of the abdominal visceral vessels form an obvious line of inquiry into the nature of the relationship which exists between the integrity of the intestinal wall and interference with the blood-supply. At the first it was my intention to serve up this subject neatly and completely with its literature. But the number of the cases recorded of late has increased so wonderfully that the time has now passed when this would be worth the print and paper, except perhaps in a monograph on the subject. Dr. J. Moyes[2] in 1880 reported on 64 cases; Watson[3] in 1894 collected 27 cases; Deckart[4] in 1902 66 cases; Koebling,[5] also in 1902, 64 cases; but the most extensive is by Gallavardin[6] in 1901 whose zeal enabled him to unearth 126 cases. Since these authors a large number of further examples have been published and a few unpublished ones referred to, so that the actual number will be about 150. With the exception of a few instances, such as those of Elliott,[7] Gordon,[8] and Anfrecht,[9] every reported case has been fatal. Early surgical intervention has saved these; almost all have been reported merely for their pathological interest. It is in the history of most diseases that they are first published as unique pathological curiosities. Slowly [illegible] kindling of [illegible] non disease. [illegible]nce of this history. [illegible]

Looking amongst the reported cases of embolism and [illegible] nd thrombosis it is noticed that some died within 24 hours of the onset of symptoms, some on the second day and others on the third, fourth, and so on. Yet one of Elliott's patients[10] died as late as the twelfth day, one of Kiliani's[11] on the fifteenth day, Munro's[12] on the twenty-second day, and so forth. Some have presented clinical pictures of acute abdominal disease, some of subacute, and some of almost chronic. And yet in all these varieties the diagnosis of embolism has been rendered certain by necropsy. One is forced to wonder, if, after all, spontaneous recovery is not possible in the face of such variations in the length of the illness. In most cases of embolism the clot comes from the left auricle and takes its origin in mitral disease. And, I remember well, when clerking for the late Dr. W. Miller Ord at St. Thomas's Hospital, a little boy with mitral disease who had a sharp attack of abdominal pain and was ill for a few days. The diagnosis made was that of appendicitis, but can it have been that a small embolus lodged in a branch of one of the mesenteric arteries?

Before inquiring into what the pathologists may have to say to this suggestion it is desirable that some account should be given of the important points in the work already done. Blockage of the arteries is more common than that of the veins in the proportion of about 5 to 1. Involvement of the superior mesenteric artery bears as high a proportion as about 40 to 1 to that of the inferior mesenteric artery. This is extremely interesting and the anatomical reasons given for this are like so many anatomical reasons for surgical events, in that they lack perspective and are more or less exaggerated. The real explanation seems to me to be that these statements are made only from a study of fatal cases. For the appreciation of this line of argument it is desirable that a brief description of the anatomical distribution of these mesenteric arteries should be given. The superior mesenteric artery springs from the front part of the aorta, about half an inch below the origin of the cœliac axis and opposite the first lumbar vertebra. It then passes obliquely downwards and forwards in front of the left renal vein, the lower part of the head of the pancreas, and the third or transverse part of the duodenum. Opposite the latter it enters the mesentery of the small intestine, along the root of which it continues to descend, giving off branches into the mesentery to the small intestine from its left and convex side and retroperitoneally to the large intestine on its right or concave side. The branches to the small intestine divide and form four or five arterial arcades, the last of which is within half an inch of the small intestine, and from it straight branches are distributed to the walls of the gut. These straight branches within the gut wall communicate freely with the vessels of the segments above and below. Anatomically the small intestines have wide and excellent blood-supply, expressive of very many alternative routes. On the concave right side of the artery far fewer vessels are given off, thus giving to us an index of, or method of gauging, the severity of the embolic lesion. The first artery to come off is the inferior pancreatico-duodenal, the next is a large branch, the middle colic, then the right colic and the ileo-colic, and finally, the terminal branches to the cæcum and appendix. The main artery as it proceeds diminishes fairly rapidly in size. The embolus may be situated in the main trunk so as to block the inferior pancreatico-duodenal artery, or the middle colic, or the right colic, or the ileo-colic, or the terminal branches. And in each case a corresponding amount of small intestine will have its blood supply cut off on account of the involvement of the corresponding number of the vasa intestini tenuis. The superior mesenteric artery supplies with blood no less than about 25 feet of the length of intestine and is the sole artery to that region. The inferior mesenteric artery supplies the descending colon, iliac and pelvic colon by itself, but the rectum gets no fewer than three arteries, the superior rectal from the inferior mesenteric, the middle rectal from the anterior division of the internal iliac or its inferior vesical branch, and the inferior rectal from the internal pudic branch of the same division of the internal iliac artery.[13]

The duodenum gets its blood-supply from two sources—namely, the hepatic branch of the cœliac axis and from the superior mesenteric artery. The stomach is supplied by the branches of the cœliac axis. The enormous importance of the integrity of the superior mesenteric as compared with that of the other visceral arteries is therefore easily seen, as having manifold the largest and longest distribution it naturally happens that if the main stem is occluded there will be infinitely greater difficulty in the successful establishment of an anastomotic circulation than there will be in the cases of the other visceral arteries which supply smaller lengths of bowel. Anatomically it is seen that nature has been very prolific in supplying means for this end in the anastomotic arcades, &c. Physiologically the case is not so clear. Litten[14] in 1875 showed that in dogs ligature of the stem of the superior mesenteric artery led to necrosis of the small intestine and the death of the animal, whilst he also found that such was not the case when the cœliac artery or the inferior mesenteric artery was occluded. Consequently he argued that though anatomically not an end artery the superior mesenteric was one functionally. Emil Fricker[15] in Berne in 1902 performed a number of ligations of arteries supplying the stomach and duodenum, entirely confirming Litten's results. Hence there seems reason to suspect that lesions of visceral arteries other than the superior mesenteric need not be fatal, and consequently, as our knowledge of the cases under discussion is based solely on post-mortem records, this artery will be found responsible in, to say the least, an undue proportion.

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[5] Koebling: Beiträge zur Klinischen Chirurgie, 1902, Band xxxiii., pp. 518-534.

[6] Gallavardin: Gazette des Hôpitaux de Paris, 1901, pp. 929-936 and 957-966.

[7] Elliott: Annals of Surgery, 1895, vol. xxi., p. 9.

[8] Gordon: Brit. Med. Jour., 1898, p. 1447.

[9] Anfrecht: Deutsches Archiv für Klinische Medicin, 1902, Band lxxii., p. 588.

[10] [illegible]

[11] Kiliani [illegible]

[12] Munr[illegible]

[13] The old name [illegible] as been rejected in accordance with Professor Alexander Macalister's suggestion.

The next point which interests us is the evidence for the existence of an anastomotic circulation. First, there is the length of time elapsed after the lodgment of the embolus at which gangrene has been found. Lothrop[16] records the absence of gangrene of the intestine after four and five days have elapsed since the onset of the illness, Osler[17] after seven days, Munro[13] after 22 days, and so on. Secondly, with an embolus in the main trunk of the superior mesenteric artery, practically the whole small gut and the large as far as the splenic flexure may be gangrenous, yet with a precisely similarly situated lesion only a small segment of ileum has been gangrenous after a history of several days' illness (Koster[19]); or in thrombosis of the superior mesenteric vein Bradford[20] found only 18 inches of jejunum gangrenous on the fifteenth day; or, in the case of occlusion of the main trunk of the inferior mesenteric artery only three or four inches of the descending colon were gangrenous on the twelfth day (Elliott[21]), so that there is ample evidence to prove the existence of power to form an anastomotic circulation, which will be successful if the area to be resupplied is not too great, as seems to be the case with blockage of the main trunk of the superior mesenteric artery, though not so when only a branch is involved. So my little boy with mitral disease already mentioned who had an attack of abdominal pain may have had an embolus after all.

The ease or difficulty for the establishment of a collateral circulation is insufficient to account for all the variations found in these cases. Some light as to the possible cause is shown by extremely rapid cases which exhibit an acute infective necrosis of the bowel. For instance, Sievres[22] found incipient gangrene of the gut in a man, 56 years of age, who died within 24 hours of the occurrence of embolism of his superior mesenteric artery. Collier and Burgess[23] record a somewhat similar case. Dr. Frederick Taylor's[24] case died in 30 hours and showed similar necrotic signs, and many other authors have found most extensive gangrene present by the second to the third day. These acute cases are in all probability due to the action of micro-organisms on the tissue of the bowel wall, especially that of pyogenic cocci which have become active on account of the anæmic condition of the bowel brought about by the interruption of the blood-supply. Their absence, or better comparative absence, may account for the subacute cases of longer clinical duration. As yet, however, no bacteriology has been done in these cases. Pilliett[25] has suggested that the thrombosis may have been due to the action of organisms. Pakes's[26] case, in which organisms were found in an ante-mortem clot, renders this suggestion probable. However, the majority of the cases are due to embolism and not to primary thrombosis.

The relationship of the areas of infarction or anæmia and the intensity or degree of the bacterial infection offers an explanation for all the varieties found in the clinical features already mentioned. But that the bacterial factor is not always all-important is shown by the fact that the part of the gut found gangrenous when the superior mesenteric artery is obstructed is almost always that part of the ileum which is about the middle of the area to be resupplied with blood and therefore the last which the anastomotic circulation will reach. And also, the centre of the ileum is not one of the great breeding places for organisms such as the cæcum is, yet the former becomes gangrenous and the latter does not. The formation of an anastomotic circulation is sometimes much impeded by the formation and the extension of thrombi secondary to the embolus. When the occlusion has been slow and the "botanical" condition of the bowels good the collateral circulation will be found to work admirably.

Having now illustrated the formation of an anastomotic circulation in obstruction to the visceral vessels by means of the variations in the time elapsing before the occurrence of the gangrene, the extent of the gangrene, the situation of the gangrene, the immunity with lesions to visceral vessels other than to the widely distributed superior mesenteric artery, &c., some most remarkable cases are brought forward which illustrate the continuation of life after the total obliteration of the visceral arteries. Virchow[27] has reported two cases in which he found post mortem that the main trunk of the superior mesenteric artery had been converted into an impervious fibrous cord. The intestines appeared normal. The clinical records of the previous illness are wanting. Similarly Tiedemann[28] has given an account of a kindred case. Professor Chiene[29] of Edinburgh reported fully a still more remarkable case of a similar and more extensive condition. As the record is in a journal not often consulted by medical men the account is briefly reproduced here. The specimen was found in the anatomy rooms in a female subject who had died from "paralysis" at the age of 65 years. The aorta was extensively atheromatous. There was an aneurysm on the abdominal aorta and the inferior mesenteric artery arose from the lower part of the sac. The cœliac axis arose in its usual position, but for its first half inch was converted into a fibrous cord. The branches beyond this point were fully injected with paint so that there had been established a perfect anastomotic circulation. The occlusion of the trunk of the axis must have robbed the stomach of its entire blood-supply. Presumably the process must have been very slow to enable the second blood-supply to be established without giving rise to any necrosis of the viscus. Both the superior and inferior mesenteric arteries were similarly converted into impervious fibrous tissue close to their origins, their branches being full of the injection of paint. This woman had had the most serious interference possible with the arterial blood-supply of the whole of her alimentary tract, the process of occlusion going on presumably at the same time in each of the three vessels. Yet there were no changes in the intestines such as to call attention to them. Professor Chiene's account of the course of the anastomotic channels is as follows: "This case is probably the *only* recorded example of an obliteration of the three anterior visceral branches of the abdominal aorta at their origins and of a consequent enlargement of the secondary anastomoses for the supply of the viscera, the stomach, liver, spleen, pancreas, and duodenum being supplied by the left lower intercostals and from the left renal and suprarenal arteries which inosculated with the lumbar arteries of the same side, the remainder of the intestines receiving its supply from the internal iliacs through a large plexus surrounding the rectum, except the cæcum and ascending colon which received its blood-supply from the last dorsal artery on the right side." This confirms the existence of a free communication between the visceral vessels insisted on by Sir William Turner[30] in

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[14] Litten: Virchow's Archiv, 1875, Band lxiii., p. 289.

[15] Emil Fricker: Dissertation, Berne, 1902.

[16] Lothrop: Boston Medical and Surgical Journal, 1894, vol. cxxxi., pp. 557–559.

[17] Osler: Principles and Practice of Medicine, 1901, p. 546.

[18] Munro: loc. cit.

[19] Koster: Deutsche Medicinische Wochenschrift, 1898, No. 21, p. 325.

[20] Bradford: Transactions of the Clinical Society of London, 1898, vol. xxxi., p. 203.

[21] Elliott: Loc. cit.

[22] Sievres: Berliner Klinische Wochenschrift, 1902, p. 183.

[23] Collier and Burgess: Medical Chronicle, 1902, *vol. xxxvi., p.* 295.

[24] Taylor: Transactions of the Pathological Society of London, 1880–81, vol. xxxii., p. 61.

[25] Pilliett: Progrès Médical, 1890, No. 25.

[26] Pakes: Transactions of the Pathological Society of London, 1900.

[27] Virchow: Quoted by Litten, loc. cit.

[28] Tiedemann: Ibid.

[29] Chiene. Journal of Anatomy and Physiology, 1669, *vol. iii.*, p. 65.

[30] Turner: British and Foreign Medico-Chirurgical Review, July, 1863.

1863. Professor Chiene's case is much more extensive than either those of Virchow or Tiedemann and therefore has been quoted to illustrate that a properly functional anastomotic blood-supply can be constructed during the slow obliteration of the arteries which supply the alimentary tract from the œsophagus to the anus.

To sum up the chief points which an examination of the records of examples of obstruction of the mesenteric vessels has shown the following tables may be formed:—

CLINICAL TABLE.

1. It is most common in men past middle life.
2. It is most common secondary to valvular disease of the heart, especially mitral disease.
3. The onset is generally sudden with symptoms of peritonism.
4. In one class the picture is one of intestinal obstruction or peritonitis due to appendicitis or the perforation of a gastric ulcer.
5. There is also another class in which blood is passed per rectum and which signifies infarction of the bowel.
6. Subacute and chronic cases are seen as well as the most acute.
7. In some cases it is most probably spontaneously recoverable from, especially if only a small area of the bowel is rendered bloodless.

PATHOLOGICAL TABLE.

1. For a constant situation of the embolus in the superior mesenteric artery as in the main trunk all varieties of clinical cases have been reported, from the most acute and fulminating to cases like Professor Chiene's that recovered apparently without obvious symptoms.
2. With a precisely similar lesion some subjects die in 30 hours and some not for from 12 to 20 days.
3. Gangrene of the gut has been noticed to occur within 30 hours and sometimes not after 22 days.
4. A collateral circulation can be formed in slowly developing cases of visceral vascular obstruction—e.g., Professor Chiene's case. And even in more acute instances an attempt at a collateral circulation is made.
5. The superior mesenteric artery is almost invariably picked out for the site of the embolus in *fatal cases, possibly* because it will always cause symptoms and almost always death, which need not occur with involvement of the inferior mesenteric and its branches or those of the cœliac axis.
6 The explanation of the individual variations, clinical and pathological, seems to depend upon the pathogenicity of the bacteria present in the gut as to the severity, rapidity, or other characters of the cases. On the bacteriology of this affection there is no work done.

[The last two sections of this lecture dealt with the subjects of "Thrombosis of the Mesenterial Vessels of Strangulated Hernia" and "Wounds and Surgery of the Mesentery," in so far as they illustrated the relationship which exists between the integrity of the bowel wall and interference with its blood-supply.]

A COMPARISON OF THE ANIMAL REACTIONS OF THE TRYPANOSOMES OF UGANDA AND CONGO FREE STATE SLEEPING SICKNESS WITH THOSE OF TRYPANOSOMA GAMBIENSE (DUTTON).

A PRELIMINARY REPORT.[1]

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THE strains we have used in our work are as follows. Three strains of *Trypanosoma gambiense* from Gambia. (See below.) Two strains from Uganda: (1) from the cerebro spinal fluid of a case of sleeping sickness; and (2) from the blood of a case of trypanosome fever. We take this opportunity of thanking Colonel D. Bruce, R.A.M.C., F.R.S., to whom we are indebted for these two strains. Four strains from the Congo Free State: (1)[2] from the cerebro-spinal fluid of a case of sleeping sickness; (2)[2] from the blood of a case of trypanosome fever; and (3) and (4) from the blood of two natives at present under observation in Liverpool.

Trypanosoma gambiense (*Dutton*).—Three strains of *Trypanosoma gambiense* were brought home by Dr. J. E Dutton and Dr. J. L. Todd from their Senegambia expedition[3]; of these three, which are called "Gunjur," "Lammin," and "Q" strains, we have worked almost entirely with the "Gunjur" strain which was derived from the boy at Gunjur, Case 4.[4] Since that time the strain has been passed through a great number of animals under varying conditions; the direct strain is that passed from rat to rat to ascertain whether increased virulence or attenuation of the trypanosomes could be produced. It is not our purpose to present here the results but we believe that a definite increase of virulence as well as an attenuation can be achieved, the former by the passing of the trypanosomes through a large series of animals of the same species and the latter by constantly changing the species of animal employed.

Rats.—Young rats, 30 experiments, shortest incubation two days, longest 35, average from four and a half to seven and a half days. Usual duration from 20 to 41 days. Some have survived 132 days. Adult rats, 33 experiments, from four to 47 days, average eight and a half days. *Duration* from 45 to 388 days. Some rats inoculated in Senegambia in November, 1902, still survive, but their blood is negative microscopically and non-infective. The parasites are present in the blood of both young and adult rats in fair quantities, though in many of the animals they are not constantly present, being at one time numerous in the blood and a few days later absent altogether or only demonstrated after a most careful search.

Mice.—25 experiments. Incubation period from one to 37 days; average from four to seven days. Usual duration from 11 to 14 days. In some cases the parasites have been very numerous and continually present in the blood, but very often the animal shows only a few parasites or there may be a marked irregularity as to the appearance and disappearance of the organisms.

Guinea pigs.—Ten experiments. Three guinea-pigs have become infected after 12, 53, and 73 days respectively and have lived three, four, and eight months. One, Experiment 114,[5] inoculated May 13th and positive 12 days later never showed parasites again in its peripheral blood until Sept. 11th. On Nov. 1st 30 to a field[6] were observed. The trypanosomes continued to increase in numbers and on Dec. 3rd reached 80 to 100 to a field. On the 20th the numbers decreased and death ensued on Jan. 4th. A guinea-pig, Experiment 133,[7] inoculated on July 20th from a rat, was positive on Sept. 11th, parasites became very numerous on Nov. 1st (20 to field), and continued so to the end on Nov. 20th. Rupture of the spleen was the cause of death. Four guinea-pigs inoculated 124 days ago with large quantities of blood containing numerous trypanosomes have remained negative up to the present time despite re-inoculations. Their controls—i e., rats and rabbits—became infected in the usual time. Three guinea-pigs inoculated on March 7th from rat 279a with large doses of blood containing countless trypanosomes showed parasites in their blood in 12 hours in two cases and in three days in the other. The parasites were seen in their blood for a few days (about 24 to a cover). Since March 20th these animals have been negative.

Rabbits.—Incubation period from five to 15 days; average from seven to nine days. Duration from 50 to 128 days. In some cases the organisms have been fairly constant in the peripheral blood, in others they appear and disappear at irregular intervals, and the numbers vary from a few to 20 to a field. In these animals loss of weight and diminution of red cells and hæmoglobin are constant features of the disease. In only one rabbit, which lived 128 days, have we noticed a purulent discharge from the nose, eyes, &c., with loss of hair, and then only in the last six weeks of its existence.

Cats.—Two experiments, both inoculated intravenously.

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[1] In the forthcoming Johnston and Thompson Yates Laboratories Reports a fuller report will be published together with serum and agglutination experiments and the results of therapeutic experiments.

[2] Sent to us by our expedition to the Congo Free State.

[3] J. E. Dutton and J L Todd. First Report of the Trypanosomiasis Expedition to Senegambia (1902), Liverpool School of Tropical Medicine Memoir XI.

[4] Ibid

[5] Ibid.

[6] We have throughout used ⅞ inch square cover-slips and examined with ⅙ inch objective and No. 11. eye-piece.

[7] Dutton and Todd, loc. cit.

Experiment 422, inoculated March 12th from a mouse. Trypanosomes were observed on March 19th. Parasites were constantly present, the numbers usually being small. The temperature rose on March 20th to 104·4° F. and on the 22nd to 104·6°. Some loss of weight and anæmia have been observed. Experiment 447, inoculated March 22nd from a rat; positive on March 26th. Parasites were constantly present and in fair numbers—often one to each field. No rise of temperature was observed.

Puppies (from three to seven months).—Three experiments. Incubation periods, five days after intravenous and ten days after intraperitoneal and subcutaneous inoculation. Duration from 33 to 43 days. In two cases the parasites were to be found almost constantly and in fair numbers which increased in the later stages of the disease; before death the blood became negative again. In the remaining experiment trypanosomes were only to be found at intervals and in small numbers. Loss of weight occurred in all three and in two cases there was a marked diminution in the number of red corpuscles with a corresponding decrease in the percentage of hæmoglobin. Subnormal temperature was recorded in one case before death.

Goat.—Small female, Experiment 518. Inoculated intraperitoneally on April 14th from a rat showing numerous trypanosomes. Strain "Lammin." Parasites appeared in the blood on April 21st but have not been found since. No rise of temperature nor other symptoms have yet been observed.

Donkey.—Inoculated subcutaneously on Feb. 23rd from a rat. Positive on March 9th. Parasites were found on rare occasions and then only in very small numbers. There was no definite rise of temperature. Some diminution in the percentage of hæmoglobin and the number of red cells has been observed.

Monkeys.—*Macacus rhesus*, Experiment 311. This monkey had been infected by Dr. H. E Annett with blood from the European Case H. K[8] Parasites were found only at intervals and in small numbers though the animal appeared to be very ill and emaciated; at the end of nine months it had quite recovered. In January, 1904, rats inoculated from it during the preceding four months not having become infected we decided to attempt to reinfect the animal. On Jan. 29th, 13 months after its original infection, it was inoculated with blood from a rabbit ("Gunjur" strain). On Feb. 6th parasites were found in the blood; they were almost always present, though not in great numbers, up to March 24th, from which date until death, on April 3rd, the blood remained negative. Very marked œdema of both upper and lower eyelids, intraorbital space and eyebrows occurred on March 27th; this persisted for three days; no parasites were to be found in the œdema fluid. No other symptoms other than loss of weight and anæmia were observed.

Macacus rhesus, Experiment 517. Inoculated intraperitoneally on April 14th from a rat showing numerous trypanosomes. Strain "Lammin." Parasites appeared in the blood on April 16th. Death occurred on April 18th from purulent and hæmorrhagic peritonitis caused by a parasite found in the intestinal walls and not yet identified.

A chimpanzee, Experiment 134,[9] inoculated by Dutton and Todd in July, 1903. Parasites were rarely seen in the blood and only in small numbers. After the third week in September trypanosomes were found only once in the blood, on Jan. 27th, when one was seen. On this date the temperature rose from its usual level of between 99° and 100° to 103·6° F., falling again next day. Parasites were not seen again before death which occurred from broncho-pneumonia on Feb. 10th.

Sub-inoculations.—Two mice and a rat inoculated on Nov. 20th did not become infected. Of two mice and a rat inoculated on Nov. 27th the mice did not become infected, while the rat was positive once, Jan. 7th, when one trypanosome was found in its blood. Two mice and a rat inoculated with large doses of heart blood immediately after death never became infected.

Symptoms.—There were occasional rises of temperature to 102° to 103° F. with no apparent cause. On one of these occasions (Nov. 27th) one trypanosome was found in the blood. There were temporary loss of weight and appetite and falling off in condition towards the end of December, 1903. The animal subsequently improved and regained appetite. A blood count in July, 1903, showed hæmoglobin 85 per cent. and red cells 8,360,000 per cubic millimetre. One made on Feb. 6th, 1904, showed hæmoglobin 60 per cent. and red cells 4,540,000 per cubic millimetre.

Horse.—Experiment 87. The small bay stallion[10] inoculated in West Africa by Dutton and Todd in February, 1903, and brought to England in July, 1903, is alive and in good condition and seems to have recovered. Trypanosomes have not been seen in its blood since it was brought to England. Two rats inoculated from it at the end of July became infected. Rats and mice inoculated on Oct. 2nd and Nov. 6th have not become infected; and one large rat and two small ones inoculated on April 22nd have not so far become infected. On Oct. 9th, 1903, the weight of the horse was 513 pounds. On April 26th, 1904, it was 506 pounds. The animal shows no symptoms, its temperature is regular (from 99° to 101° F.), and its appetite is good. There is no œdema and its coat is in good condition.

STRAIN DERIVED FROM CEREBRO-SPINAL FLUID OF UGANDA CASES OF SLEEPING SICKNESS.[11]

Rats.—1. Young rats: 12 experiments. Incubation period from four to 13 days; average length nine days. Parasites were fairly constantly present but usually in rather small numbers. Duration from 14 to 41 days. 2. Adult rats: 12 experiments. Incubation period from four to 20 days; average length 13 days. Parasites were fairly constantly present in small numbers in the early stages of infection, later they became rare. Duration from 16 to 149 days.

Mice.—Incubation period from five to six days. Parasites were rarely present in the blood after the first appearance. Duration was from 19 to 47 days.

Guinea-pigs.—Four experiments. None yet infected. Five weeks have elapsed since inoculation. Sub-inoculations into mice and rats so far have been unsuccessful. No symptoms have yet been observed.

Rabbits.—Incubation period from seven to nine days. Parasites are constantly present, tending to become more numerous as the disease advances. Marked and fairly rapid loss of weight is observed. The rabbits are still living. Anæmia is a noticeable symptom.

Cats.—One experiment. A large grey cat was inoculated intravenously from a rat. Incubation was six days. The temperature rose on the evening of the sixth day to 105° F.

Dogs.—One experiment. Inoculated intravenously from a rat showing fairly numerous parasites. Trypanosomes appeared in the blood on the seventh day. The temperature has remained normal. The animal has so far shown no symptoms.

Puppy.—One experiment. Age four and a half months. Inoculated on March 20th from a rat. Trypanosomes appeared in the blood on March 27th and have since been constantly present, although not more numerous than from two to five to a field. The temperature has varied between 101° and 103° F. There was no rise with the appearance of parasites in the blood. Diminution in hæmoglobin and red cells has been observed. The animal has lost strength considerably.

Goat.—One experiment, a female. Incubation period nine days. Parasites were fairly constant in the blood during the first week of infection but afterwards were found only rarely. There was no rise of temperature with the appearance of parasites in the blood but five days later, when eight trypanosomes were seen to the cover, the temperature rose to 104° F. No other symptoms have as yet been observed.

Donkey.—Inoculated on March 28th subcutaneously from a rat. On April 7th the temperature rose to 102·7° F. and on the 9th to 103·2°. A rat inoculated from the donkey on April 8th showed parasites on the 26th. The incubation period in the donkey was therefore ten days. Parasites were seen for the first time in its blood on April 18th and again on the 22nd.

Monkeys.—1. *Cercopitheous callitrichus.* Inoculated intraperitoneally on April 2nd from a rat. Trypanosomes appeared in the blood on the 6th and were constantly present for a week, when they became rare, occasionally being absent altogether. On the 7th the temperature rose to 105·5° F. and has since been irregular (with occasional rises to 104° to 105° and over). No other symptoms have so far been observed, the appetite is preserved, and the animal is in good condition. 2. *Cercopitheous callitrichus.* Inoculated

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H. E Annett: First report of the Trypanosomiasis Expedition to Senegambia, 1902, Liverpool School of Tropical Medicine, Memoir XI, p. 47.

[9] Dutton and Todd, loc. cit.

[10] Dutton and Todd loc. cit.

[11] This was sent to us in a rat which had been inoculated from a monkey infected from the cerebro-spinal fluid of a case of sleeping sickness; it was therefore only in its second passage.

intraperitoneally on March 6th from a rat showing very few parasites. Trypanosomes did not appear in the blood before death which took place from dysentery on the 10th. A monkey (*Macacus rhesus*), a rabbit, and one out of four rats inoculated with large doses of its heart blood became infected. Two guinea-pigs inoculated at the same time are still negative. Two mice inoculated with its blood died without becoming infected. 3. *Macacus rhesus.* Inoculated on March 10th intraperitoneally and subcutaneously with the heart blood of preceding monkey. Parasites were found in the blood on March 18th and were constantly present, although never very numerous, until April 6th when the animal died. On March 18th the temperature rose to 104·6° with the appearance of parasites in the blood. During the last two days of life the temperature was subnormal (from 95° to 93°). Diminution of red cells and hæmoglobin was observed. Post mortem, purulent peritonitis was found due to a parasite found in the intestinal walls and not yet identified. 4. *Macacus rhesus.* Inoculated on March 14th intraperitoneally with the heart blood of a rat. Trypanosomes appeared in the blood on the 18th and were fairly numerous for four days; on the 31st there were from 13 to 18 to a field. They became rarer again before death which occurred on April 1st. The temperature rose on the 18th and on the 19th reached 105·8°, there being six parasites to a field at the time. The red cells decreased from 4,000,000 to 2,500,000 per cubic millimetre and hæmoglobin from 50 to 27 per cent. 5. *Macacus rhesus.* Inoculated subcutaneously on April 22nd with blood from a rabbit showing many trypanosomes. This monkey is not yet infected (April 27th).

STRAIN DERIVED FROM CEREBRO-SPINAL FLUID OF SLEEPING SICKNESS, CASE 6,[12] IN THE CONGO FREE STATE.[13]

Rats.—23 experiments. Incubation period: young rats from three to nine days; adult rats from four to ten days. Duration from 17 to 176 days. Some of the animals have shown parasites fairly constantly and in moderate numbers; in others the organisms have disappeared for some time or have been present in small numbers. We have rats which have lived as long as 176 days but in the blood of such animals the parasites are either found only in rare instances or not at all.

Mice.—Incubation from four to 11 days. Duration over 92 days. Parasites usually rare.

Guinea pigs inoculated more than 50 days ago have not shown parasites as yet.

Rabbits.—Incubation after intravenous inoculation from three to four days. There was a slight rise of temperature on the day of infection and the following day.

Cats.—Two experiments. 1. Intravenous inoculation from a rat. Incubation period eight days. Parasites were constantly present. On the twelfth day there were five to a field. 2. Intraperitoneal inoculation from a rat. Incubation period eight days. No symptoms have as yet been observed.

Dogs.—Two experiments. 1. An adult dog inoculated intravenously from a rat. Parasites were seen on the fifth day. They were not numerous at first but are increasing and constantly present. 2. A puppy, four months old, inoculated intraperitoneally from a monkey. Incubation period eight days. No symptoms have as yet been observed.

Goat.—An adult, inoculated intraperitoneally from a monkey. The temperature rose on the evening of the fifth day to 106·5° F.; next day the temperature was 104·2°; a rat inoculated on this day is not yet positive. Parasites have not yet been seen in the blood of this goat.

Monkeys.—1. *Macacus rhesus.* Experiment 497. Inoculated intraperitoneally from a rat. Incubation period six days. Parasites have been constantly present in the blood and have steadily increased in numbers. On the day of the appearance of the parasites the temperature rose to 106° F. 2. *Cercopithecus callitrichus.* Inoculated Feb. 15th intraperitoneally from a rat. Parasites appeared in the blood on Feb. 20th. The temperature on the 21st was 103·8° F. Trypanosomes were constantly present in fair numbers until April 5th. Since then they have been rarely found and in only small numbers. No symptoms were observed. The animal was in good condition. There was slight diminution of hæmoglobin and red cells.

STRAINS DERIVED FROM THE BLOOD OF CASE 4[14],[15] AND FROM TWO CONGO NATIVES AT PRESENT UNDER OBSERVATION.

Rats.—Incubation period from four to 11 days, average about seven days; duration, some of the animals have survived after 87 days. In these animals trypanosomes have been scanty in the blood, with periods of some days to even weeks when none were to be found. This perhaps may be accounted for by the fact that the majority of the animals have been direct inoculations from the natives, whereas the sleeping sickness and *Trypanosoma gambiense* strains have been passed through a series of animals.

Mice.—Parasites were always very rare and the duration was indefinite in direct inoculations. In mice inoculated from one of the guinea-pigs sent to us from the Congo Free State (see below) the incubation period was three days and parasites were more frequently present.

Guinea-pigs.—Two guinea-pigs inoculated by us directly from the natives and two young guinea-pigs inoculated from monkeys have been negative for a period of 146 days. Two adult guinea-pigs inoculated from Case 4[15] on the same day by the members of the Congo expedition and sent home while still negative have shown parasites for the first time in their blood on the seventy-ninth and 134th days after inoculation. No symptoms have as yet been observed. They are still living 152 days after inoculation.

Rabbits.—Incubation, direct inoculations nine and 11 days; sub-inoculation from rat ten days. Duration from 21 to 87 days. Parasites have been fairly constantly present but only in small numbers. Loss of weight, slight rise of temperature, and anæmia have been the only symptoms observable.

Monkeys.—*Macacus rhesus.* Two have been inoculated intraperitoneally directly from the natives. Experiment 331. Inoculated on Feb. 9th. Parasites appeared in the blood on the fifth day. On the next day the temperature rose to 104·9° F., the following day it registered 105·8°; at the same time the parasites were observed to increase in numbers. Trypanosomes were constantly present at first. On March 5th there were from 25 to 30 to a field. About the middle of March the trypanosomes became scanty and were not found at all after March 17th. Death occurred on March 25th. Rises of temperature were observed in this monkey coinciding with temporary increase of numbers of parasites in the blood. Experiment 316. Inoculated on Feb. 6th. Parasites appeared on the 13th and at the same time the temperature began to rise and on the 19th it registered 104°; up to the end of March parasites were constantly present in its blood, since that date they have been scanty and sometimes absent. On March 27th marked œdema of the upper and lower eyelids, especially the left, was observed. This persisted for three days; the puffiness was confined entirely to the eyelids; no parasites were found in the œdema fluid. At this time the appetite was poor and the animal seemed to be failing. From April 15th to 22nd parasites were present in fair numbers again, but are now once more scanty. No rise of temperature was associated with this temporary increase. Slight diminution of hæmoglobin and red cells has been observed. The animal is now in better condition than it was a month ago.

STRAIN DERIVED FROM THE BLOOD OF TRYPANOSOME FEVER CASES IN UGANDA.

Rats.—Incubation from 24 to 31 days. Duration from one to four months. This strain was an attenuated one and has died out. Parasites were rarely present and only in very small numbers.

COMPARISON OF SYMPTOMS IN ANIMALS INOCULATED WITH THE ABOVE DIFFERENT STRAINS.

It will be seen that our results have been practically the same whatever the strain used. In rats and mice the same chronic disease, periodicity in appearance of parasites, and absence of symptoms are in all cases observed as were described by Dutton and Todd. M. Brumpt and M. Wurtz have described[16] very marked symptoms in mice and rats inoculated from Congo sleeping sickness cases—e.g., progressive emaciation, intermittent paralysis of the posterior

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[illegible] Trypanosomiasis on the [illegible] pp. 166–168.

[illegible] ulated with cerebro-spinal [illegible]

[14] Received in a rat inoculated directly and therefore in its first passage.

[15] Dutton, Todd, and Christy, loc. cit.

[16] Brumpt et Wurtz: Maladie du Sommeil Expérimentale, &c., Comptes Rendus de la Société de Biologie, tome lvi., 1904, No. 12, Avril 1er, pp. 567–73.

quarters, œdema of the perineum, and sometimes acute nervous affections. We have observed none of these symptoms; occasionally we have noted slight œdema post mortem, but never in sufficient degree to be detected before death. In guinea-pigs there is with all strains the same lengthy incubation period. In those infected up to the present (with Gunjur and Congo blood strains) there is the same more or less chronic disease, characterised by loss of weight and constant presence of parasites in the blood. In rabbits we have produced with all strains the same chronic disease with fairly constant presence of parasites, loss of weight, and anæmia. In cats the disease is the same with all strains, with rise of temperature on appearance of parasites, fairly constant presence of parasites, and absence of other symptoms so far as we have yet observed. In dogs and puppies there are no differences to be noted. Incubation periods are the same and whatever strain be used there is the same constant presence of parasites in the blood, with loss of weight and anæmia. In goats and donkeys no differences have been observed between the strains used. In monkeys infection is readily produced with all strains, even with very small doses, and parasites are fairly constantly present in the blood, often in considerable numbers. Similar symptoms are observed with the different strains—viz., slight loss of weight, anæmia, rise of temperature especially with the first appearance of parasites in the blood, and occasionally localised œdema. We have observed no marked tendency to sleep in our monkeys; when a monkey is ill it sits on its haunches with its head between its knees; this position, which has been termed the typical sleeping sickness position, is not characteristic of trypanosomiasis or "sleeping sickness"; it is the position assumed by any sick monkey from whatever disease it be suffering. We have noted no nervous symptoms at all.

In stained specimens we have not observed any differences between the trypanosomes of Uganda and Congo sleeping sickness cases on the one hand and *Trypanosoma gambiense* (Dutton) on the other. In the same species of animals and at corresponding stages of the infection the size and appearance of the former trypanosomes are precisely the same as those of the latter as described by Dutton and Todd and since observed by us. In rats inoculated either directly or from monkeys inoculated directly they present the same stumpy and long forms, the former being more numerous in the early stages than in the later. After passage through some generations of rats the stumpy forms show the same tendency to disappear. In rabbits trypanosomes of all strains show the same preponderance of short stumpy forms as compared with rats, mice, and guinea-pigs, while in guinea-pigs, so far as we have yet observed, there is the same greater tendency to length in most of the forms met with. In no animals infected with either the Uganda or Congo sleeping sickness trypanosome have we ever seen any form differing in measurements or appearance from *Trypanosoma gambiense.*

Pathological lesions.—In none of our animals have we found anything differing from the lesions described by Dutton and Todd. Enlargement of the spleen is a feature in all the animals, more especially in rats and mice. In a guinea-pig, Experiment 133 (Gunjur strain), which died 42 days after infection, rupture of the spleen was found, the rupture extending directly across the organ on its upper surface and near the posterior end for about one and a quarter inches. A profuse hæmorrhage occurred and the animal bled to death. No history of an injury is known. Another guinea-pig inoculated with *Trypanosoma dimorphum* (Dutton and Todd)[17] has died from rupture of the spleen. This case will be published in a forthcoming report on *Trypanosoma dimorphum.* The glands are very little, if at all, enlarged and there are no hæmorrhagic glands to be met with as in animals infected with *Trypanosoma dimorphum.* Petechial hæmorrhages are rarely seen. In monkeys the mesenteric glands are enlarged but this is without significance, as all our monkeys were infected with intestinal parasites No macroscopical changes in the nervous system have been noted. In none of our animals, whether allowed to die or killed for special purposes, have we been able to find trypanosomes in the cerebro-spinal fluid, although the blood may have contained many trypanosomes, nor have any of the animals inoculated with this fluid ever become infected.

In the majority of animals which have died we are unable to say definitely that trypanosomiasis was the sole cause of death. Very frequently an intercurrent affection has occurred which, the animal's vitality having become impaired, has caused death. We would instance in rats broncho-pneumonia, caseous lung disease, and enteritis. In rats which have survived a few to many months it is exceedingly rare to find a single parasite,[18] nor has the negative blood appeared to be infective. Experiments are being conducted along these lines. In the majority of cases those rats which have been negative for months die without the presence of trypanosomes being again recognised. In some cases, however, rats which have been negative for months have at death once more shown parasites. As instances of this the following experiments are given.

Rat 95a[19] ("Q." strain) was inoculated on March 17th, 1903, from horse, Experiment 87; incubation period eight days; parasites were found at irregular intervals and in small numbers. On Sept. 13th, 1903, a single parasite to a whole cover-slip preparation was seen and the animal continued negative until its death on March 24th, 1904, 365 days after infection. At the necropsy a few parasites were found in the heart. Animals inoculated from it have not yet shown the infection.

Rat, Experiment 89[20] ("Lammin" strain). Inculated Feb. 26th, 1903, from rat 26; incubation 18 days. Trypanosomes were present in its blood until April 21st. From that time parasites were never seen except on the following dates, July 27th. Sept. 7th, and Nov. 1st, 1903, until its death on March 15th, 1904, 366 days after infection. At the necropsy complete red hepatisation of the whole of the left lung was found. The left pleural cavity contained over five cubic centimetres of slightly yellowish clear exudate containing one parasite to three fields. Animals inoculated with this exudate became infected and from these sub-inoculations we have been able to infect a goat, Experiment 518, and a monkey, Experiment 517.

We have observed that animals with extraordinary numbers of trypanosomes in their blood usually exhibit some lesion which tends to impair their vitality. The following experiment is a good example of this. A rat, 279a ("Gunjur" strain), inoculated on Dec. 30th, 1903, from a guinea-pig became positive on Jan. 7th, 1904 From that time until it was killed on March 22nd the parasites were constantly present in increasing numbers in its blood. At the necropsy caseous lung disease was very far advanced, involving both lungs. Its blood on examination showed trypanosomes in countless numbers. Two rats, two mice, 3 guinea-pigs, one rabbit, and a puppy were all inoculated intraperitoneally with heart blood. 12 hours later the mice and rats, the rabbit and two guinea-pigs were found to be positive, the rats and mice having as many as three to 11 to a field, the rabbit 240 to the cover-slip preparation, and the two guinea-pigs eight to the cover. The puppy did not show parasites in its blood until five days later.

Very little, if any, immunity is conferred by infection with *Trypanosoma gambiense.* The two following experiments are of interest in this connexion.

1. A piebald rat was inoculated directly from Mr. Q. by Dutton and Todd on Nov. 3rd, 1902. Parasites were found in its blood on Nov. 12th and again on Feb. 27th, 1903. After this the blood was always negative. On Nov. 23rd, 1903, it was reinoculated intraperitoneally from a rat ("Gunjur" strain) showing very numerous trypanosomes. It became infected and on Dec. 9th its blood was swarming with trypanosomes. Death took place on Dec. 26th.

2. A monkey (*Macacus rhesus*) infected by Annett from H. K., (Dutton's original case) in 1902 recovered, its blood being *non-infective* to rats. On Jan. 29th, 1904, it was reinoculated (Experiment 311), from a rabbit ("Gunjur" strain) and became infected (see above).

As one would expect, there is no transmission of immunity to offspring. Several of the young rats which we have infected have been born from parents which either were infected at the time or had recovered from an infection. And one guinea-pig (Experiment 216) which we infected with "Gunjur" strain was born from a guinea-pig infected at the time (also with "Gunjur" strain). There is a certain amount of natural immunity or resistance to the human trypanosome to be met with in individual rats and other animals. Every now and then we have come across animals which have exhibited this feature. For example, of two rats A and B of the same size, inoculated at the same time with equal amounts of virulent blood from an infected animal, A will become infected while B remains uninfected or shows a prolonged incubation period. Again, A receives a larger dose than B; it frequently happens that B will show the infection earlier than A. Guinea-pigs show considerable resistance to infection. As instances of this we would mention those inoculated from Rat 279A (see above). Baboons (*Cynccephalus sphinx*) have up to the present been absolutely refractory.

CONCLUSIONS.

1. The trypanosomes found in (*a*) cerebro-spinal fluid of Uganda sleeping sickness cases, (*b*) cerebro-spinal fluid of Congo Free State sleeping sickness cases (*c*) blood of Uganda trypanosome fever cases, and (*d*) blood of Congo Free State trypanosome fever cases, are all identical in animal reactions and morphology with *Trypanosoma gambiense.* The specific name *gambiense* (Dutton) must therefore for the future include the trypanosomes from the above-mentioned sources.

2. There seems to be no acquired immunity against infection.

3 There is no transmission of immunity to offspring.

4. An animal which seems to have recovered may months later show parasites once more, apparently as the result of lowered vitality.

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[17] Laveran et Mesnil: Comptes Rendus de l'Académie des Sciences, tome cxxxviii., 1904, p. 732.

[18] This is also the case in other animals. See chimpanzee experiment.

[19] Dutton and Todd, loc. cit.

[20] Ibid.

YEOVIL HOSPITAL.—A new operation theatre at this hospital, erected at a cost of over £1000 as a memorial of the King's accession and the restoration of peace in South Africa, was formally opened on May 4th by the Hon. Mrs. Arnold de Grey in the presence of a large gathering.

A CHINESE REMEDY FOR HYDROPHOBIA.

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SOME time ago I was told of a remedy for hydrophobia which was used by the natives in this part of China. It was said to be a secret in the sole possession of one family whose ancestral home is Tungchow Foo in the province of Shantung, and had been passed down from mother to daughter for the last 400 years. The last possessor of the secret had no daughters and revealed it to her youngest son who now lives in Wei-Hai-Wei. The remedy was said to consist of a powder made from a certain hard nut grown in the province which was softened by boiling in an earthenware pot, no kind of metal being allowed to touch it, then grated on the outside of the basin and reduced to a pulp, which was dried and put up in packets for future use, or at once administered to the sufferer who, if necessary, was tied down and the remedy forced down his throat. The patient was said to fall into a deep sleep, in which he sweated profusely and awoke cured. No money was taken in payment, the possessor of the secret trusting to gain merit in the next world after death. I was assured that cures were authentic; my informant, a Scotch lady, who had lived many years in China, had a Chinese servant who was bitten by a mad dog and was treated and recovered; a woman, bitten at the same time not treated died with all the symptoms of hydrophobia. My friend, at my request, very kindly managed to procure me an interview with the owner of the secret, who brought me his basin and three powders and three nuts. I was astonished to find that they were the seeds of a species of strychnos, probably strychnos nux vomica. The coarsely ground fibrous powders gave the tests, as far as I was able to carry them out, for strychnine. Each nut was about five-eighths of an inch across and weighed 19 grains. The powders weighed 14, 15, and 16 grains respectively. It would be interesting to know what the exact dose of the alkaloid in each powder is. The proportion, I believe, as a rule varies between 0 2 and 0·5 per cent., which would give from $\frac{1}{33}$rd to $\frac{1}{13}$th of a grain of strychnine in each powder.[1]

I can find no account of the treatment of hydrophobia by strychnine in the books at my disposal, unless we except curara which was at one time used as a remedy in this terrible disease; a species of strychnos is said to be a potent element in its composition. The narcotic and sudorific properties spoken of above seem also to be unknown at the present time, yet curiously enough the writer of the article "Nux Vomica" in "Chambers's Cyclopædia" of the year 1786, the four volumes of which I possess, lays greater stress on these than he does on its poisonous properties. He states that "they are of a strong narcotic quality so as to be ranked in the number of poisons." After describing the round, flat, grey, mouse-coloured seeds he states that "Hermannus, botanic professor at Leyden, who has written expressly on it, says that the *vomic nuts* of Timor and Ceylon are for the human species excellent sudorifics, and are also to be ranked among diuretic medicines. Fallopius relates that it was given with success in the plague; that in doses from a scruple to half a drachm it procured a plentiful sweat, in which case the patient recovered." But no mention of its use in hydrophobia is made in this article nor in the one devoted to the description and treatment of that disease. I have also consulted several authorities on China and though the drug certainly finds a place amongst native medicines I can find no reference to its use in this disease nor that it is at all used by native practitioners, at least in this part of China. Some of the symptoms of hydrophobia bear a certain resemblance to those of poisoning by strychnine and it would therefore almost appear as though the principle of *similia similibus curantur* has been applied by the Chinese in this case. There is no doubt that in regard to other remedies they have a firm belief in this doctrine.

Wei Hai-Wei, China.

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[1] Fleet Surgeon Thorpe inclosed one uncrushed seed and one crushed. The powdered nut weighed 0 925 gramme and the uncrushed nut 1·270 grammes, the total weight being 2·195 grammes. The two when extracted gave 2 60 per cent. of mixed alkaloids. Allen states: "The alkaloids in powdered commercial nux vomica ranged from 2 56 to 3 57 per cent." The alkaloids extracted gave the characteristic reaction of brucine and strychnine, the former being in decided excess.—ED L.

ALIENS, DIRT, AND DISEASE.

BY N. BISHOP HARMAN, M.A., M.B. CANTAB., F.R.C.S. ENG.,
OPHTHALMIC SURGEON TO THE BELGRAVE HOSPITAL FOR CHILDREN; CHIEF CLINICAL ASSISTANT, ROYAL LONDON OPHTHALMIC HOSPITAL; DEMONSTRATOR OF PATHOLOGY IN THE MIDDLESEX HOSPITAL; LATE EXAMINER, NATURAL SCIENCES TRIPOS, UNIVERSITY OF CAMBRIDGE.

IN the debate on the Aliens Bill in the House of Commons on April 25th the Right Hon. James Bryce is reported as saying "that evidence and statistics alike went to show that Russian and Polish Jews were generally healthier than English workers, especially in regard to contagious diseases."[1] I notice that Mr. Bryce is reported in the same terms by the *Daily Mail*; since such redoubtable antagonists as the *Daily Mail* and the *Daily News* are agreed on the matter we may take it that Mr. Bryce did utter this opinion. Recently I have made an investigation into the influence of such factors as age, sex, and social conditions on the incidence of disease of the eye. I shall here give my results as far as the influence of social conditions is concerned.

ALIENS AND NATIVES.

By the permission of Mr. W. T. Holmes Spicer I have examined all the letters of new patients attending his clinic at the Royal London Ophthalmic Hospital for the year 1902. The clinic is one of 12 and it is held on Wednesdays and Saturdays. On Wednesdays the proportion of alien patients to native is 1 in 30 and on Saturdays it rises as high as 1 in 3. The patients numbered 2751. Of these I find 2124 were natives and 627 were aliens. The separation was made by the indication afforded by the names of patients, experience teaching one to distinguish readily alien names; doubtful cases were classed with natives, so that this allowance and the known tendency of aliens to adopt local names imply that the number of aliens has been rather under-estimated. The classification of the patients stands thus:—

Condition.	Native.	Alien.
Conjunctivitis	321	231
Trachoma	11	22
Phlyctenulæ	42	14
Blepharitis	48	63
Injuries	180	8
Refractions	1202	240
Other diseases of eye (lens, uvea, &c.) ...	320	49

These figures suggest at a glance that aliens suffer more from inflammatory conditions than do natives. The comparison may, however, be made more emphatic by the following procedure. In comparing the incidence of disease in age and sex it was found impossible directly to compare results owing to the disturbing influence of refraction cases which fall particularly heavy at certain periods of life. A "constant" was needed, some disease or group of diseases having a uniform incidence under all conditions of age, sex, or other factor. This "constant" I found in the group marked "Other diseases." The group is a heterogeneous mixture of cases that occur throughout life or in infancy, in youth, or in age alone—lenticular, uveal, fundus, or congenital cases having no connexion with conjunctival conditions—yet despite the mixture in the quality of the cases in the mass they make a fair balance of quantity for each year of life. There is no reason to suspect any racial variation in the incidence of this group of diseases. The same "constant" has therefore been taken for the comparison of the above figures and it will be shown later that the method stands the severest possible test. The results of this comparison are set out graphically in the chart.

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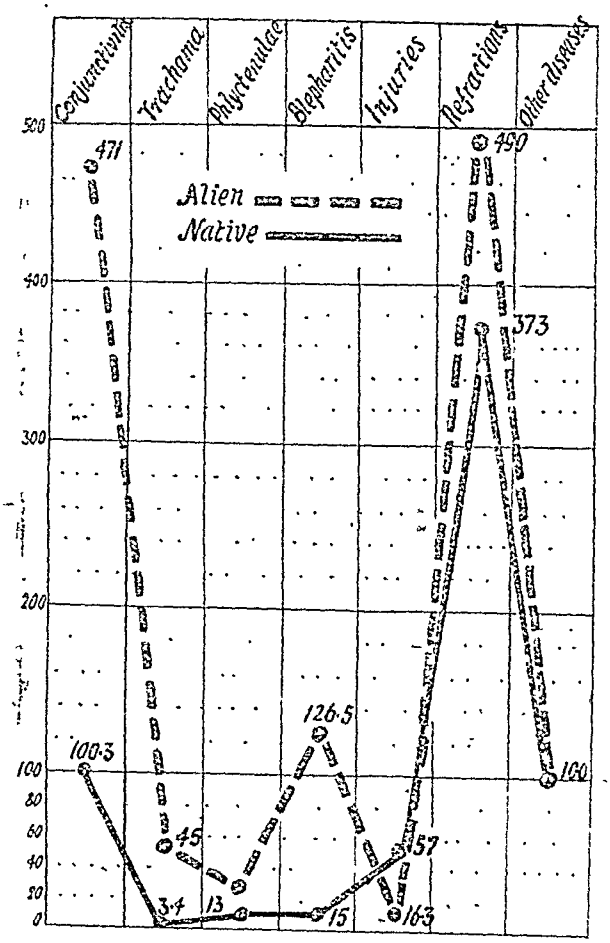
[1] *Daily News*, Parliamentary Reports, April 26th.

The alien suffers from conjunctivitis, trachoma, and blepharitis very much more than does the native, even from five to 12 times more. All these diseases are contagious, some are epidemic, and others endemic. Only in the matter of injuries to the eye by accidents, trivial or serious, is the incidence less in the alien than in the native; this is because the occupation of most aliens is sedentary, whilst the occupations of the native are many and various. Two other features of the chart call for remark: (1) the incidence of phlyctenular conditions; and (2) the incidence of refraction cases.



Relative incidence of eye disease in alien and native patients.

1. Phlyctenular conditions or eruptions of the conjunctiva or cornea chiefly affect children and are due to nutritional defects more than any other cause. The incidence of this disease in alien and native differs less than any other inflammatory condition. The reason for this lesser liability of the alien to this form of inflammation as compared with other forms is to be sought in their diet. The staple food of the native poor children is tea with bread and butter. The staple food of the alien is richly impregnated with oil. Now the best cure for recurrent phlyctenulæ is cod-liver oil and plenty of it.

2. The incidence of refraction cases shows a marked excess of defective vision in aliens over natives: aliens 490, against natives 373. Now it is possible to check these figures, and in this check lies the test of the truth of the method I have used, comparison by reference to a constant. If the method be correct the figures I have found for the cases at the Royal London Ophthalmic Hospital should show a reasonable agreement with the incidence of defective sight in alien and native school children in London. I applied to Dr. J. Kerr, the medical officer of the late London School Board, for a return and he kindly furnished me with the following.

Comparative Conditions of Visual Acuity of Children attending the Senior Departments of Elementary Public Schools in London (December, 1903).

Group 1.	Group 2.	Group 3.
Jewish children, mostly natives of South Russia and of Poland, and living within a mile of Aldgate.	British children living under very similar conditions as to density of population, &c., as the children in Group 1.	Children of all varieties, local, social, and national conditions—i.e., average for London upon 30,000 children.
Defective 36 per cent.	*Defective 30 per cent.*	*Defective 26 per cent*

If my figures—aliens 490, natives 373—be both divided 14 they become, aliens 35, natives 26·7. The School Boar figures for similar groups of cases are 36 and 26 respectivel The test is a severe one, and the agreement in the finding obtained by two such diverse methods is the more strikin My figures differ only from those of the Board in bein lenient to the alien and severe to the native.

DIRT AND DISEASE.

A cause for the excess of disease is not far to seek; i lies in dirt and overcrowding. Last year I examined 21,89 children, of ages from seven to 14 years, in London Boar schools in the Hackney district. The schools were classed i three groups according as the scholars and their surrounding were of average or above or below average cleanliness. Th "clean" group of schools was in the north, where good housing and open spaces are found; the "dirty" group was dow towards the centre of London, in Hoxton and Bethnal Green. Amongst all schools, clean, average, and dirty, 351 cases of surface inflammations of the eye were noted—an incidence of 1·608 per cent. The incidence was more than twice as heavy in the "dirty" schools as in the "clean" schools, thus:—above average cleanliness, 0·873 per cent.; average cleanliness, 1·416 per cent.; below average cleanliness, 1·921 per cent. Further, a bacteriological examination of the flora of the conjunctiva was made in 100 healthy children (half of each sex, taken in fives in ages of five, seven, nine, 11, and 13 years), 50 in a school of superior cleanliness in North Hackney and 50 in a school below average cleanliness in the Bethnal Green district. The investigations were made last autumn during exceptionally wet weather, so that one common source of conjunctival contamination—dust—was absent. In the "dirty" group of children only three were found to have sterile conjunctivæ; in the other 47 cases 789 colonies were grown, making an average of 17 colonies per subject. In the "clean" group as many as 20 were found to have sterile conjunctivæ; in the remaining 30 cases 262 colonies were grown, an average of 9 per subject. Again, in one school of average cleanliness situated in the better part of Hoxton cultivations were made from the lid margins within the cilia. The head-master chose ten each of his cleanest and of his dirtiest children. All had eyes normal in appearance. All the cultivations were fertile. In the "dirty" group 680 colonies were obtained and in the "clean" group 610 colonies, showing a difference of 10 per cent. in favour of the clean children.

These bacteriological results show that dirt is not far removed from a synonym for disease, in that dirty and ill-kept children are the hosts of more septic organisms than clean children. The examination of native and alien patients shows that superficial inflammations of the eye are much more frequent in the alien than in the native; also that the alien is deficient in visual acuity to a much greater extent than the natives of London generally or of the very poor natives living under conditions similar to those of the poor alien.

The statement of Mr. Bryce that the aliens are "generally healthier than English workers" is not borne out by a reference to eye conditions.

Queen Anne-street, W.

EDUCATION IN "FIRST AID," ETC., FOR WOMEN IN RUSSIA.—According to a note in the *Novoe Vremya* of St. Petersburg the Society for the Promotion of the Professional Education of Women on May 7th opened a third six weeks' course of first aid to the wounded, treatment of the sick, and preparation of food for the sick. At the first and second series 180 women obtained certificates.

THE RELATION OF THE PANCREAS TO DIABETES AND THE QUESTION OF THE TRANSPLANTATION OF THAT GLAND AS A REMEDY FOR THE DISEASE.

BY JAMES W. ALLAN, M.B., C.M. GLASG.,
PHYSICIAN TO THE GLASGOW ROYAL INFIRMARY.

THE grave form of diabetes is not only hopeless but the patient is always liable to the sudden development of coma—and death. Therefore, it is not only justifiable but right that any method of treatment which holds out a reasonable hope of success should be tried if, after full explanation, the patient is willing to submit to it.

There is a great mass of evidence, physiological and pathological, pointing to disease of the pancreas (in some cases it may be only functional disorder of the pancreas) as one of the factors, probably the chief factor, in the production of diabetes. The physiology of the pancreas and its relation to diabetes have been carefully and laboriously investigated by a host of skilful and scientific observers, among whom may be mentioned Minkowsky, von Mering, De Dominis, Thiroloix, Hédon, and Lepine. It seems sad if out of all this mass of painstaking experiment and investigation we cannot obtain some therapeutic help for those cases of diabetes not amenable to dieting or to drug treatment and always more or less in danger of diabetic coma. In this connexion the following points may be considered. 1. It is well known that total extirpation of the pancreas induces diabetes. 2. If only a portion of the pancreas is left—even the splenic end—no diabetes occurs. 3. If pancreas is transplanted into an animal before its own pancreas is cut out no diabetes takes place. If the graft is removed diabetes occurs (Minkowsky, referred to by Williamson in Gibson's Medicine). 4. From 2 and 3 it is evident that the prevention of glycosuria is not due to the ordinary secretion of the pancreas, which flows into the duodenum by the duct of Wirsung. 5. It is reasonable to assume that the organ produces an internal sugar-destroying secretion (as contended by Lepine) and that the portion of gland left (2) or the transplanted gland (3) has the power of forming that sugar-destroying secretion or juice. 6. From the foregoing it might therefore be hoped that by transplantation of pancreas a case of diabetes might be cured or relieved. 7. Again, turning to the pathological aspect of the question, we find that disease of the pancreas is frequently associated with diabetes, as is shown post mortem. This is well known and it is, perhaps, unnecessary to cite particular instances. 8. But it must be admitted that there are many cases of diabetes in which no disease of the pancreas is detected. How are we to explain these cases? In the first place, a naked-eye examination may fail to reveal changes in the organ and it may be hastily pronounced "normal" or "healthy." But the real question is, Has the gland been subjected to a careful microscopic examination by a skilled observer and does that examination show the islands of Langerhans to be in a healthy condition? for in those islands the sugar-destroying ferment, the "internal secretion" of Lepine, is produced.

[illegible] a case of diabetes the [illegible] appearances, both macro[illegible] we to conclude that the disease cannot be due to the pancreas in any way? The reply is that there may be a defect in the innervation of the organ, its secretions may be checked by inhibitory nervous action—due to irritation or disease in the nerve centres, say in the floor of the fourth ventricle. I do not possess the profound or intimate knowledge of physiology to enable me to discuss this matter fully and if I did space would forbid. I shall therefore content myself with saying that it is well known that irritation at a certain spot on the floor of the fourth ventricle gives rise to glycosuria. (Osler mentions a curious case which he saw with Reis in Berlin where a woman who had "anomalous cerebral symptoms and diabetes" was found on post-mortem examination to have a cysticercus in the fourth ventricle.[1])

It is recognised that many cases of *diabetes mellitus* date, it may be immediately, from a mental shock or strong emotion. Is not this analogous to the jaundice which has been known to supervene on strong emotion of disgust. (A case in point has come under my observation.) In this instance it is to be presumed that the nervous influence disorders the function of the liver. In the case of diabetes due to shock may it not be a similar influence affecting the pancreas?

One other point. It may be urged that there are cases of disease of the pancreas with no diabetes. The question here is, Are the islands of Langerhans destroyed or not? If not the sugar-destroying function of the organ may remain.

It seems pretty clear, then, that the revelations of disease support the idea that there is a close association between the pancreas and diabetes. Pathologists tell us that hyperplasia of the intestinal mucous membrane is the most constant post-mortem appearance in diabetes. Granting this to be the case this hypertrophy is very probably *secondary* to pancreatic mischief, as it has been found to follow in cases of glycosuria induced by extirpation of the pancreas. This is important. Hédon says: "Chez les animaux qui ont survécu longtemps, on observe une ectasie parfois considérable de l'estomac et de l'intestin, avec hypertrophie de la tunique muqueuse (et développement anormal des glandes de Lieberkuhn d'après Martinotti et Boccardi)." Other pathological changes, also presumably *secondary*, are mentioned by Hédon[2]: "Le tissu du foie peut pré enter cependant un état de dégénérescence graisseuse plus ou moins avancé (v. Mering et Minkowski) ...... les reins sont aussi notablement hypertrophiés, ainsi que la vessie. Dans la moelle, Boccardi a rencontré une dégénérescence de la myéline et l'atrophie de certaines cellules nerveuse." These remarks come under the heading: "Extirpation totale du pancreas." Surely the pathological changes in liver, intestine, kidneys, and cord are very significant.

In myxœdema and cretinism benefit has been obtained by implanting thyroid gland. Only two instances need be cited here—Macpherson's[3] and Gibson's.[4] In the former the thyroid of a sheep was transplanted, a half under each mamma. The result was immediate improvement, due no doubt to "the absorption of secretion of the thyroid gland. But I have also reason to believe that a considerable portion of the gland I grafted became ultimately vascularised in the body of the patient." In the latter lamb's thyroid was employed in a child (myxœdematous sporadic cretin). The first grafting was under the sheath of the great pectoral just below the nipple, each lobe being laid open before insertion. In the second grafting one lobe was attached by a silkworm-gut stitch to the anterior left abdominal wall, the other being placed free in the right side of the abdominal cavity. I abstain from further details of these very interesting cases in order to economise space. I have selected these cases because the thyroid of an animal was employed, not human thyroid. Murray, Byrom Bramwell, Kocher, and Fenwick have done work in this field which is known to all the world. Complete extirpation of the thyroid induces myxœdema or cretinism; implantation of thyroid cures or relieves sufferers from myxœdema or cretinism. With these experiences before us, are we not justified in hoping that similar beneficial results may be got by the implantation of pancreas in diabetes? It is to be remembered that the production of the "internal secretion"—the sugar destroying ferment—is now referred to the islands of Langerhans and *these islands are in structure similar to the thyroid* inasmuch as they are closed ductless glands.

To sum up, physiological experiments, pathological experience, and the results of implanting thyroid in myxœdema all point to transplantation of pancreas in diabetes as a reasonable and justifiable proceeding. It may be urged against the proposal that the diabetic patient is a bad subject for surgical interference. I fear it must be admitted that he is not a desirable subject for operation. At the same time we must not overlook the fact that the myxœdematous patient is pretty much in the same category and that in his case transplantation of gland (although not unattended by some troublesome circumstances) has yielded happy results.

The labours of Murray and others have happily shown us that operation is not necessary for the relief of myxœdema.

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[1] Osler's Medicine.

[2] Physiologie Normale et Pathologique du Pancréas, p. 151.

[3] Edinburgh Medical Journal, March, 1892.

[4] Brit. Med. Jour., Jan. 14th, 1893.

We know that the internal administration of the gland is attended with equally satisfactory results. But in the case of diabetes the internal administration of pancreas has given disappointment and therefore (in the meantime at least) we are compelled to turn our eyes to operative interference. Dr. P. Watson Williams of Clifton [5] has recorded an attempt to transplant pancreas in diabetes and another attempt was recently made in Glasgow Royal Infirmary.[6] Unfortunately, both of these were unsuccessful. Dr. Williams's case is very interesting and worthy of careful attention. One important fact in connexion with it I may note. The stools were not fatty, but on post-mortem examination the pancreas was found to be atrophied and wasted—a mass of connective tissue with little gland substance left.

This present communication does not aim at urging the operation. My object is to call the attention of my professional brethren to a very interesting and important question in practical therapeutics and to elicit the opinions of those who have more knowledge than myself.

It only remains to be said that if I had a case of diabetes under my care which refused to respond to dietetic or drug treatment and was drifting within range of diabetic coma I should be willing again to assume the responsibility of advising transplantation of pancreas on the following conditions: (1) that after full and honest explanation of *pros* and *cons* the patient requests that the operation shall be performed; (2) that the patient shall not be suffering from acetonuria at the time; and (3) that a sheep shall be killed close to, or in, the place of operation and its pancreas directly conveyed to the body of the patient.

Glasgow.

A CASE OF DERMOID CYST OF THE MESENTERY.

By J. BASIL HALL, M.C. CANTAB.,
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ALTHOUGH the existence of mesenteric cysts has been recognised for nearly four centuries it is only within the last 20 years that any systematic study of the subject has been made. In English surgical literature, however, very little except the records of isolated cases appeared until six years ago when Moynihan[1] published a valuable contribution in which he gave a comprehensive classification of the various forms of cyst that had been found in this situation. It was largely due to my knowledge of Moynihan's article and to my previous association with one of the cases which he recorded therein that I was able to recognise the condition prior to operation in the case which I now record.

The patient, a girl, aged eight years, was sent to me by Dr. H. Munro of Bradford on March 20th, 1903. Her mother stated that she had first noticed a lump in the child's abdomen four months prior to my seeing her. About three weeks later the patient had diphtheria and went into the fever hospital. The attack was followed by some diphtheritic paralysis. Since returning home the abdominal tumour had increased very considerably in size but had given rise to no symptoms. The patient's condition on examination was as follows. She was a well-grown girl of rather fragile appearance and somewhat thin. There were a distinct nasal intonation and some slight paralysis of the palate still remaining. The knee-jerks were absent and the pulse was quick, varying from 100 to 120 per minute. In other respects the general health appeared to be good. On uncovering the abdomen a prominent tumour was seen on the right of the middle line at the level of the umbilicus. It felt to be of about the size of an English melon and was smooth and globular. In consistence it was highly elastic. It was dull on percussion and there was no tenderness. When the patient lay on her back it sank most readily into the right lumbar region. It could easily be displaced, however, to the left of the middle line and also downwards towards the pelvis, and when displaced it remained in its new position. It was quite free from any liver attachment and the colon did not lie in front of it. Its extreme mobility also negatived the possibility of renal origin. No connexion with the pelvic organs could be demonstrated and, moreover, of all its movements that in a downward direction was the most limited. The urine was normal as were also the intestinal functions. There was no history of any subjective symptoms obtainable. The diagnosis of mesenteric cyst was made, but in view of the post-diphtheritic palsy it was decided to wait for a short period before operating. The patient was kept in bed for three weeks under medical treatment during which time her general condition much improved. The tumour did not perceptibly increase in size during this period.

Operation.—On April 16th ether was administered and the abdomen was opened through the sheath of the right rectus muscle. A cystic tumour was found lying in the mesentery of the ileum. The cyst wall was thick and pearly-white in colour and very scantily supplied with blood vessels. At this stage the pulse became alarmingly rapid and it was evident that the patient would not endure any prolonged operation. The edges of the incision were therefore attached to the cyst with a few sutures and the wound was packed with gauze. For the next two days the child was very ill, with a very rapid pulse and symptoms of shock. She then improved and soon seemed none the worse. This alarming collapse could only be attributed to the post-diphtheritic state and it was decided simply to incise the cyst and to drain it as soon as adhesions had formed. On April 23rd, therefore, ether was again given and the dressings were removed. It was then found that no adhesions had formed between the cyst and the abdominal wall and as the patient bore the anæsthetic well it was decided to attempt removal. The abdominal cavity was packed off with gauze and the cyst was incised. A pint of thick creamy fluid escaped. The cyst wall was easily peeled from the mesentery with the exception of a couple of square inches which were closely incorporated and could not be removed without endangering the blood-supply of the gut. The whole cyst wall, therefore, was cut away excepting this small area which was fixed to the edges of the peritoneum in the lower parts of the wound. This portion of the incision was left open and packed with gauze whilst the upper half was closed with sutures. The patient bore the operation well. The portion of the wound which was packed healed by granulation in eight weeks and left a firm scar. The child has continued in excellent health since the operation.

The disposition of the tumour and the viscera when the abdomen was opened was as follows. The cyst, which was as large as a cocoanut, lay in the mesentery of the ileum. It occupied the whole breadth of it except for an inch on either side at the fixed and free borders. The narrow strip of mesentery between the gut and the cyst was abnormally thick and fleshy. So far as it was possible to estimate by a rapid survey its site was about 25 inches above the ileocæcal valve. There was no ascending colon; the cæcum and appendix were lying in the epigastrium above and to the left of the tumour. The ileum therefore almost completely encircled the cyst, passing first along its lower border, then up the right side, and finally above it from left to right to reach the cæcum in the epigastrium. In front of the cyst the anterior or upper layer of the mesentery had practically disappeared from atrophy so that only the posterior aspect of the tumour had any mesenteric attachment. The cyst contained a pint of thick creamy material of treacly consistence. There were a very few fine hairs in it and some pasty masses which appeared to be conglomerations of flattened epithelium. There were large quantities of oil globules which blackened when treated with osmic acid. The interior of the cyst wall was granular and roughened as if inflammatory changes had occurred in it. There were also considerable patches of ecchymosis in the wall. Sections under the microscope failed to demonstrate any epithelial lining, the latter having apparently been entirely destroyed. There seems no doubt, therefore, that the tumour was a dermoid cyst of the mesentery in which degenerative changes had occurred.

The case appears to me to possess an interest over and above those hitherto recorded from the fact that the conditions found at the operation seem to have some bearing on the etiology of the growth. The situation of the cyst was that in which the remains of the vitelline duct are not uncommonly found and the large intestine was imperfectly developed. The cæcum occupied the position which is attained about the third month of fœtal life. Whilst the first may be purely a coincidence the two circumstances in association lend colour to the view that the cyst owed its origin to a defect in the alimentary canal and that such defect occurred about the third month of fœtal existence. The condition of the ovaries could not be definitely ascertained at the operation without enlarging the incision, a procedure which was not deemed justifiable. The right ovary could just be reached with the finger tips and appeared to be normal.

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[5] Ibid., vol. ii., 1894, p. 1303.

[6] Ibid., Feb. 28th and March 21st and 28th, 1903.

[1] Annals of Surgery, July, 1897.

Of the clinical features the most striking were the extreme mobility of the tumour, its marked globular shape, and its central position. Excepting when it rolled back into the loin the most prominent point of the tumour lay immediately on the right of the umbilicus.

The only complication in the treatment was the alarming collapse on the first occasion of opening the abdomen. The child had not been under ether more than five minutes, just long enough, in fact, to open the abdomen and to ascertain the site and attachments of the tumour. On the second occasion the cyst was incised and emptied *in situ* and then drawn out of the abdomen. It is possible, therefore, that on the first occasion the handling of the large tense cyst may have caused some pressure on the solar plexus and so produced the collapse.

Bradford.

NEURO-RETINITIS IN CHLOROSIS.[1]

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Hirschberg in 1879 was the first to note the occurrence *of optic neuritis due to chlorosis. Since then cases have* been recorded by Gowers, Herschel, Richard Williams, and others. In 1882 Saundby and Eales investigated the state of the fundus oculi in 50 cases of chlorosis. They found some abnormal appearance of the fundus in 32 per cent. of the cases and some degree of neuro-retinitis in 8 per cent. This striking result would have convinced most people of the comparative frequency of retinal changes in chlorosis, and yet such a reliable ophthalmoscopist as Max Knies says "hæmorrhages into the fundus never occur in chlorosis" and "in view of the rarity of these cases (neuritis and neuro-retinitis) and the frequency of chlorosis this association may be a mere coincidence." I question if many ophthalmologists will be found to agree with these statements. So far as I am concerned I am fully convinced that the condition is far from being rare and clearly stands to chlorosis in the relation of effect and cause.

The pathological changes which have been observed in the fundus in cases of chlorosis include arterial pulsation, pallor of the fundus, disc and vessels, broadening of the veins, and dulling of the light streak. The arteries may be comparatively and absolutely narrower than normal, though their light streak is broader than usual. These changes are of little or no diagnostic or prognostic significance. Of much more serious import are optic neuritis, neuro-retinitis, and retinal hæmorrhages. The neuritis naturally varies in degree but it is often intense and of the "choked-disc" type. The neuritis may or may [illegible] retinal hæmorrhages. [illegible] though some cases sh[illegible] White degenerative patches are often present and may form star- or fan-shaped figures in the *macular region. The* appearances generally simulate those seen in intracranial disease but they may be very suggestive of albuminuric retinitis in some cases. It is well in all cases of this sort to examine the urine and carefully to consider the possibility of intracranial mischief, notably syphilitic new growths. Hæmorrhages more or less extensive may occur without neuritis.

Max Knies has described degenerative changes around the yellow spot simulating those of albuminuria but without any neuritis or retinitis and with little or no impairment of vision. They were always unilateral and disappeared completely in about six months. The degree to which vision is affected by these changes is very variable. In some of the more acute cases vision is only slightly below normal during the early stages. This is unfortunate, as much valuable time may be lost owing to lack of symptoms suggestive of profound pathological fundus changes. In the later stages, when atrophy of the optic nerve has set in, the sight is seriously and permanently impaired. Large hæmorrhages in the macular region are followed by marked impairment of vision owing to destruction of the retinal elements by the extravasation. If diagnosed early and vigorously treated much improvement of vision and even recovery of normal vision may be looked for (*vide* cases).

The fields of vision are generally slightly contracted owing to atrophy of some of the nerve fibres. The atrophy is not progressive and the amount of contraction is governed by the extent to which the nerve fibres have been destroyed during the inflammatory period. The contraction is generally more or less concentric. Extensive patches of retinitis or hæmorrhage may give rise to scotomata, but these are seldom complained of by the patient.

The condition of the blood in cases of chlorosis presenting retinal changes requires further investigation. The records so far are not complete enough. Gowers is inclined to think that in the cases which show marked optic neuritis the hæmoglobin is reduced out of all proportion to the corpuscles and that hæmorrhages only take place where there is an absolute deficiency in the number of red corpuscles. This assumption is scarcely warranted on the strength of the limited number of cases published, but it seems supported by the fact that in pernicious anæmia (corpuscular defect) hæmorrhages are much more common than neuritis. Stephen Mackenzie, from observations made on a good number of cases, has come to the conclusion that a reduction of 50 per cent. in the number of corpuscles indicates a tendency to retinal hæmorrhages. He makes no reference to the state of the blood in cases of simple neuritis without hæmorrhages. I have not been impressed by any distinct relationship between the blood condition and the character of the retinal changes. Some slight irregularity of shape of the red corpuscles and imperfect rouleau formation have been observed. The leucocytes did not show any abnormality and their number varied from 4000 to 8000 per cubic millimetre in my cases.

It is of great importance that the neuro-retinitis of chlorosis should be diagnosed early, otherwise atrophy of the nerve will inevitably develop and the sight will be permanently damaged. To avoid such a calamity all cases of profound or even marked anæmia should be examined ophthalmoscopically and the treatment should be conducted with due reference to the state of the retina and optic nerve. It is important not to mistake the neuro-retinitis of anæmia for that due to syphilis or intracranial growths as it involves the possibility of harmful treatment (with iodide of potassium, &c.) as well as destructive delay. A rapidly developed neuro-retinitis, especially if it assumes an acute form, occurring in a patient whose hæmoglobin or red blood corpuscles are reduced to 50 per cent. or less and who shows no signs of a cerebral lesion may with a considerable degree of certainty be put down as anæmic in origin.

No satisfactory theory as to the cause of the neuritis and hæmorrhages occurring in chlorosis has been propounded. Gowers holds that the hypermetropia which is frequently present in these cases causes a (natural) slight congestion of the nerve, which in the anæmic state of the blood becomes intensified into a neuritis. Hawthorne has suggested that thrombosis of the cavernous sinus is the primary cause of the neuro-retinitis. I am inclined to think that degenerative change, probably fatty, in the vessel wall associated with the change in the composition and intravascular pressure of the blood are the most *likely factors in its production.* A discrepancy between the intravascular and intra ocular pressures might easily lead to serous effusion and rupture of blood vessels weakened by disease.

The prognosis with regard to recovery of sight is good if the case be diagnosed early and treated energetically. This [illegible] pronounced neuritis of the [illegible] which fully recover their [illegible] no contraction of the visual fields. If for any reason the inflammatory changes are allowed to take their own course—e.g., through incomplete or mistaken diagnosis or carelessness on the part of the [illegible] atrophy of the optic nerve [illegible]ion and contracted visual [illegible]morrhages if extensive and [illegible] by a much diminished visual acuity, but even here the prognosis is not so unfavourable as might be expected, judging by the ophthalmoscopic appearances during the early stages.

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[1] Extracted from a paper read before the Midland Medical Society in March, 1903.

The treatment is the ordinary routine for chlorosis—viz., iron, with or without arsenic. Due attention should be given to disturbances of the intestinal tract. The iron should be pushed to the utmost as it is essential that the action should be prompt so as to avoid the extension of the inflammatory changes and the development of optic atrophy. The eyes should be shaded either with smoked glasses or a bandage. It is not necessary or even advisable to darken the room. The patient should be kept in bed. Absolute rest of body and eyes is essential in these cases as the neuro-retinitis indicates a degeneration of the vascular system.

The following cases are illustrative of the more pronounced fundus changes seen in chlorosis. The blood examinations are not as complete as one could wish, but they are sufficiently so to indicate the degrees of anæmia which may give rise to ocular lesions. They also give a good idea of the course and progress of such cases and the ultimate results of treatment.

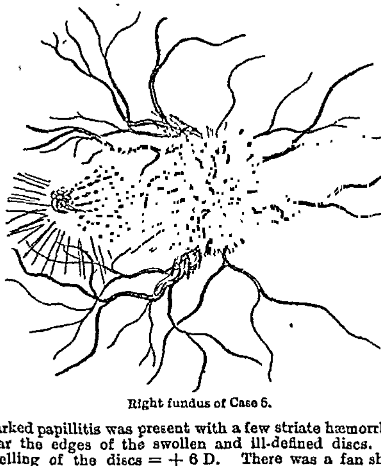
CASE 1.—The patient was a girl, aged 17 years, who was admitted to hospital on Dec. 15th, 1898. She had been suffering from frontal headaches for a month. She had vomited three times during the month. Menstruation was regular. She had not noticed anything wrong with her sight. On ophthalmoscopic examination it was found that she had optic neuritis in each eye. The discs were very swollen, enlarged, and "woolly," and showed some glistening deposits. There were no hæmorrhages. The vision was R.V. = $\frac{6}{12}$ c. + 5 D.; L.V. = $\frac{6}{9}$ c. $\frac{+ 5 \text{ D. sph.}}{+ 2{\cdot}5 \text{ D. cyl. } \phi_{90}}$. The fields were contracted slightly (about 10°) on the temporal side. Blood examination gave the following result: hæmoglobin, 35 per cent.; red corpuscles, 3,640,000 per cubic millimetre; and white corpuscles, 7500 per cubic millimetre. The colour index was 0·43. The heart and urine were normal. The treatment consisted of pil. Blaud iii. three times a day and a mixture containing iron and arsenic as well. Cascara sagrada in tabloid form was given every night. On Dec. 20th a blood examination gave the following result: hæmoglobin, 45 per cent.; red corpuscles, 3,780,000 per cubic millimetre; and white corpuscles, 7500 per cubic millimetre. Treatment was as above and burgundy, raw beef, and sandwiches were included in the diet. On the 31st the swelling of the discs was less marked. R.V. = $\frac{6}{9}$ c. + 4 50 D. sph.; L.V. = $\frac{6}{9}$ c. $\frac{+ 4{\cdot}5 \text{ D. sph.}}{+ 2{\cdot}5 \text{ D. cyl. } \phi_{90}}$. The following is the result of the blood examination: hæmoglobin, 58 per cent.; red corpuscles, 3,980,000 per cubic millimetre; and white corpuscles, 7000 per cubic millimetre. On Jan. 5th, 1899, there was still marked swelling of the discs—viz., the right summit was seen best with + 8 D. and the left ditto with + 7 D. The vision was the same as on Dec. 31st. On Jan. 10th the blood was again examined with the following result: hæmoglobin, 70 per cent.; red blood corpuscles, 4,240,000 per cubic millimetre; and white blood corpuscles, 6500 per cubic millimetre. The patient was discharged on this day.

CASE 2.—The patient was a girl, aged 18 years, who was admitted to hospital on April 11th, 1899. Her sight had been failing slightly since January of the same year. A month before admission it became so bad that she had to give up her work and was treated for anæmia by her own medical adviser. During the two weeks preceding the date of admission her sight had still further deteriorated; she had also suffered from frontal headaches and she had vomited two or three times. There was no evidence of her having had hæmatemesis. On admission the pupils were widely dilated and did not react to light. The optic discs were swollen (+ 4 D.) and pale and showed numerous fine hæmorrhages. The veins were tortuous and obscured in places near the discs by exudation. The maculæ had a faint striated appearance. R.V. = perception of hand movements; projection was good. L.V. = no perception of light. The following is the result of the examination of the blood: hæmoglobin, 60 per cent.; red blood corpuscles, 3,960,000 per cubic millimetre; and white blood corpuscles, 6250 per cubic millimetre. The colour index was 0 68. There was a trace of albumin in the urine; the specific gravity of the latter was 1015. All other systems were normal. Treatment consisted of Blaud pill with arsenic and nux vomica and potassium iodide in mixture and some mistura alba every morning. The diet included fish, beef-tea, raw meat, and claret. On April 18th no headache was present. The right pupil reacted slightly to light. R.V. = perception of hand movements; L.V. = no perception of light. On the 23rd blood examination gave the following result: hæmoglobin, 70 per cent.; red blood corpuscles, 4,320 000 per cubic millimetre; and white blood corpuscles, 6250 per cubic millimetre. On May 1st the swelling of the discs was less (+ 2·5 D.). The pallor of the discs was more pronounced. There were a few small hæmorrhages still on the discs. The veins were of about normal size but the arteries were contracted. On the 8th the blood was again examined with the following result: hæmoglobin, 76 per cent.; red blood corpuscles, 4,600,000 per cubic millimetre; and white blood corpuscles, 8750 per cubic millimetre. There were no further change in the appearance of the fundus and no improvement of vision and the patient was discharged on May 19th. It is evident from the history that this patient had been suffering from optic neuritis for three or four months before admission. There was evident atrophy of the nerve on admission and this became more marked during her stay in hospital. No further improvement was to be expected and she was consequently discharged. The favourable condition of the blood was no doubt due to the treatment received before admission.

CASE 3.—The patient was a girl, aged 17 years, who was admitted to hospital on Jan. 14th, 1899. Her present illness began about five weeks before admission with frontal headaches, giddiness, and sickness, and some vomiting after food. There was no indication of hæmatemesis. Sight had been failing for two weeks before admission. Amenorrhœa had persisted for two months. On admission the patient showed marked pallor of her mucous membranes. The pupils were dilated (ten millimetres) though they reacted well to light and accommodation. The media were clear. The optic discs were much swollen (+ 4 D.) and their centres were filled in with whitish exudation. The veins were distended and tortuous. There were numerous fine striate and punctiform hæmorrhages in the region of the discs and maculæ. White degenerative spots were also to be seen in the yellow spot region in each eye. R.V. = $\frac{6}{36}$ c. + 2 D.; L.V. = counting fingers at two feet. The colour vision was impaired. On examination of the blood the following result was obtained: hæmoglobin, 38 per cent.; red blood corpuscles, 2,840,000 per cubic millimetre; and white blood corpuscles, 10,000 per cubic millimetre. The colour index was 0·60. The other systems were normal except for a systolic murmur heard over the apex and the base of the heart and conducted into the axilla. The treatment was the same as that in Case 1. On Jan. 19th a blood examination was made with the following result: hæmoglobin, 48 per cent.; red blood corpuscles, 3,420,000 per cubic millimetre; and white blood corpuscles, 9500 per cubic millimetre. R.V. = $\frac{6}{18}$ c. + 1·5 D.; L.V. = counting fingers at four feet. On the 30th the discs were slightly less swollen and paler. R.V. = $\frac{6}{18}$ c. + 2 D.; L.V. = $\frac{6}{24}$ c. + 2 D. A blood examination gave the following result: hæmoglobin, 58 per cent.; red blood corpuscles, 3,800,000 per cubic millimetre; and white blood corpuscles, 8750 per cubic millimetre. On Feb. 6th R.V. = $\frac{6}{18}$ c. + 2 D.; L.V. = $\frac{6}{36}$ c. + 2 D. The discs were paler. On the 13th the blood was examined with the following result: hæmoglobin, 70 per cent.; red blood corpuscles, 4,660,000 per cubic millimetre; and white blood corpuscles, 7812 per cubic millimetre. On the 26th the result of the blood examination was: hæmoglobin, 76 per cent.; red blood corpuscles, 4,500,000 per cubic millimetre; and white blood corpuscles, 6875 per cubic millimetre. R.V. = $\frac{6}{18}$; L.V. = $\frac{6}{36}$. The discs were very pale, with indistinct edges; the blood-vessels (especially the arteries) were contracted. There was slight swelling of the discs. On March 12th the blood was examined with the following result: hæmoglobin, 75 per cent.; red blood corpuscles, 4,360,000 per cubic millimetre; and white blood corpuscles, 5000 per cubic millimetre. The vision was the same as on Feb. 28th. The patient was discharged on March 13th.

CASE 4.—The patient was a female, aged 24 years, who was admitted to hospital on June 20th, 1899. Six weeks before admission she had had a severe attack of hæmatemesis. This had no noticeable effect on her sight but a less severe attack just before admission made her feel so "giddy and dazzled" that she had to be led to bed. On admission she was pale and waxen in appearance. The conjunctivæ were markedly pale and there was a slight whitish, sticky discharge which glued the *lids* together a little in the mornings. The corneæ lacked brilliancy. The media were clear; the right pupil was active and the left l divergent strabismus. the edges were blurred cured the vessels. The veins were full and tortuous; the arteries were smaller than normal and difficult to see. The retina in the region of the disc and yellow spot was œdematous. A few small striate hæmorrhages were visible along the course of the vessels near the disc. In the macular region were about four well-marked soft grey patches showing hæmorrhagic borders. In between the patches were a few small punctate hæmorrhages. The left optic disc was not so swollen and the edges were better defined. There was less œdema of the retina and the veins were less full and tortuous, while the arteries were more visible and larger. The hæmorrhages were fewer and the grey patches at the macula were fewer (two). Blood examination gave the following result: hæmoglobin, 10 per cent.; red blood corpuscles, 1,012,500 per cubic millimetre; and white blood corpuscles, 8200 per cubic millimetre. The colour index was 0·44. The blood was examined on July 5th, the result being as follows: hæmoglobin, 10 per cent.; and red blood corpuscles, 1,392,000 per cubic millimetre. Stained films showed great variety in the size of the red cells, some very large, some very small, some evidently degenerating, many poikilocytes, a very few nucleated red cells, some normoblasts (one with a nucleus showing mitosis), and one or two megaloblasts. There was an apparent increase in blood plates. There was no apparent increase in the leucocytes. Some increase in transitional forms was noted as well as some atypical myelocytes. On August 4th the blood was again examined with the following result: hæmoglobin, 54 per cent.; red blood corpuscles, 3,000,000 per cubic millimetre; and white blood corpuscles, 7080 per cubic millimetre. Stained films showed a few poikilocytes and microcytes but no nucleated red cells. The red cells were of fairly uniform size and stained evenly. No abnormal leucocytes were observed. The patient was discharged on August 6th. She unfortunately left the hospital without having her vision tested but the deterioration was evidently not such as to cause her any inconvenience.

CASE 5.—The patient, a girl, aged 19 years, was admitted to hospital on Jan. 4th, 1899. The general health had been indifferent for two months. The sight had been failing for a month; several times a day it would get "misty" for a second or two and then clear up again. On admission the mucous membranes and skin were very pale. The patient had suffered from breathlessness and constipation. There was a basal murmur. The pupils were normal.



Right fundus of Case 5.

Marked papillitis was present with a few striate hæmorrhages near the edges of the swollen and ill-defined discs. The swelling of the discs = + 6 D. There was a fan shaped arrangement of white degenerative lines and spots extending between the yellow spots and discs. The foveæ were occupied by a dark brown network situated superficially to the white lines. R.V. = $\frac{6}{12}$ c. + 4 5 D.; L.V. = $\frac{6}{12}$ c. + 5 D. The treatment was the same as that carried out in Case 1. On Jan. 10th the blood was examined, the result being as follows: hæmoglobin, 50 per cent.; and red blood corpuscles, 3,400,000 per cubic millimetre. The colour index was 0·7. On the 31st R.V. = $\frac{6}{9}$ c. $\frac{+4\cdot5}{+0\cdot50\ \phi_{30}}$; L.V. = $\frac{6}{12}$ c. + 6·5 D. The fundi were *in statu quo* (*vide* illustration). On Feb. 16th R.V. = $\frac{6}{9}$ c. $\frac{+5\text{ D.}}{+0\ 50\ \phi_{90}}$; L.V. = $\frac{6}{9}$ c. + 6 D. There were much less swelling of the discs and very little effusion into the retinæ. The degenerative changes near the yellow spot were *in statu quo*. The patient was discharged on May 4th.

Birmingham.

FASTING IN THERAPEUTICS.

By JOHN HADDON, M.A., M.D. EDIN.

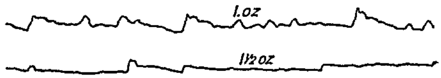
HAVING had occasion to study diet my attention has been directed to fasting as a therapeutic agent and the following case seems worthy of record.

The patient was a man, aged 65 years, who had been a hard drinker and a good eater all his life, working on contracts. He was much crushed and nearly drowned by scaffolding falling upon him. His life was for some time despaired of but he recovered. When I saw him seven years after the accident he weighed 18 stones, was crippled on one foot, and walked with a stick very slowly. He could not sleep in the night from coughing and spitting, passed urine every hour, and could hardly turn in bed from a stabbing pain in the side. He could not dress himself and was altogether in a pitiable condition. Having seen him I promised him that if he would follow my advice he would renew his youth. He was a man of powerful will and he said that he would do anything to get well.

I put him upon a little fruit twice daily. In five days he lost ten pounds in weight and he could dress himself and lace his boots which he had not done for years. As he lost weight his vigour increased and he began to work in his garden and to take long walks. All his troublesome symptoms left him and he could sleep like a child from 9 P.M. to 4 A.M. without waking. He had to get new clothes to suit his reduced size and in November (he began in June to restrict his diet) declared that he felt as well as ever he did and were it not for the damage he had received in the accident he might resume work as before. On Nov. 10th I saw him wheeling up a hill a barrowful of potatoes which he had himself dug out in the field.

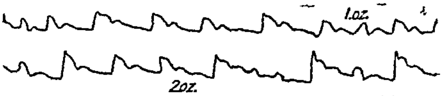
The change in his pulse was remarkable (Figs. 1 and 2). I never felt or saw a pulse so irregular and intermittent in character at first but it gradually improved and became fairly regular which the sphygmographic tracings show very clearly.

FIG. 1.



Pulse tracing, June 16th, 1903. Pressure one ounce and one and a-half ounces.

FIG. 2.



Pulse tracing, Oct. 18th, 1903. Pressure one ounce and two ounces.

He said he was neither hungry nor thirsty on the fruit diet. He now eats only about a quarter of what he did formerly and when the weather prevents him working or walking he at once gains weight.

This case seems deserving of attention from the marvellous change produced by abstinence and may encourage us to try a partial or perfect fast in suitable cases.

Denholm, N.B.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

TAPEWORM AS A CAUSE OF CHOREA.

BY H. TENER GALBRAITH, F.R.C.S. EDIN.,
DISTRICT HEALTH OFFICER, DUNDEE, NATAL.

UNDER the heading of "Clinical Notes" some remarks were published in THE LANCET of Sept. 19th, 1903, p. 824, on the relation of tapeworm as a causative factor in chorea. The following case of the same kind is of interest.

A boy, aged ten years, said to be suffering from tapeworm, was brought to me by his father on August 6th, 1903. Male fern had been administered some time previously and had caused a partial expulsion of the worm, but the effect of the drug was so drastic that a repetition of the treatment was not considered desirable. The patient had just returned from the coast where he had been taken a month previously when convalescent from measles. He looked thin and pale and had derived no benefit from the change, indeed, according to his father's statement, he was actually worse and had recently appeared tired and breathless after slight exertion. Examination of the chest disclosed a well-marked mitral murmur the existence of which was unknown to the father. I prescribed syrup of iodide of iron and phosphate of iron; kousso was also given for the purpose of expelling the worm. On August 22nd the boy was again brought to me and this time for chorea which had developed in the interval since his last visit. The movements were bilateral and especially marked on the right side. The kousso had been unsuccessful and had been vomited. The coincidence of the presence of the worm and the onset of the chorea led me to the conclusion that possibly the irritation of the former had a distinct influence on the nervous system and more particularly in the patient's weak and anæmic condition. Bromides and arsenic were ordered and fluid extract of pomegranate bark was selected to deal with the parasite. Again only some segments of the worm were passed, so I decided to wait for a month before making a fresh attempt. On Sept. 10th the extract of pomegranate bark was again administered and this time the dose was increased to eight fluid drachms but without material success. No improvement had taken place in the chorea or general condition. By mutual agreement with the patient's father it was decided that the worm must be brought away, so operations were commenced by ordering that the boy should be fed extensively with onions. After a week of this treatment 12 drachms of fluid extract of pomegranate bark were given and some hours afterwards several feet of worm were brought to me by the boy's father. Next morning the dose was repeated and the same afternoon the remainder of the worm, including the head, was produced for my inspection. After this the chorea rapidly diminished and in another month was barely perceptible Due precautions as to starvation and the administration of purgatives were observed each time that a vermifuge was administered.

The chief point of interest in this case centres in the coincidence of chorea supervening in the presence of the intestinal parasite and the prior recognition of the heart murmur which may be fairly ascribed to the attack of measles from which the patient had suffered some time previously. Although endocarditis is uncommon in simple epidemic measles there can be little doubt that it occurred in this instance without being recognised by the medical attendant. No history of rheumatism or of any disease other than the recent attack of measles could be elicited to account for the heart murmur.

The relation of intestinal parasites as an exciting cause in the etiology of chorea in not mentioned by any of the authorities whose works are available to me for reference, not even in Dr. L. Starr's extensive treatise on the diseases of children—a book in which such reference might be expected. It is not suggested that the presence of intestinal parasites acts in any other manner than by maintaining a continued peripheral irritation of the intestinal mucosa which acts on the motor centres and sooner or later produces functional excitement. The presence of anæmia, malnutrition, febrile disease, or any weakening influence would be predisposing causes in such circumstances. While the etiology of chorea is still an unsettled point the preponderance of opinion seems to point to a neurosis or peripheral irritation as the cause, while the endocardial lesions are explained as due to a secondary infection. Dr. Starr in an analysis of 1400 cases finds that heredity and infectious disease bear no definite relation in the etiology of chorea, the most constant element being malnutrition. Gerhardt comes to similar conclusions, most other statistics show that a *considerable proportion of cases belong to families of a* neurotic type, and all sources agree on the great preponderance of incidence in the female sex. This preponderance of chorea in females may be regarded as in favour of a neurotic origin of the disease and the more so when their predisposition to anæmia and various neuroses must be admitted. Anæmia appears to be present in more or less degree in all cases and probably precedes the chorea. The occurrence of chorea in pregnancy is difficult to explain otherwise than from emotional causes or peripheral irritation through foetal movements. During the Anglo-Boer war three such cases occurred in my practice in Boer women whose husbands were on commando and all at the one period—namely, after the relief of Ladysmith, when the Boer forces were in a panic and *sauve qui peut* was the predominant idea. In these three cases, though the cause was due to fright and the hysterical form of chorea to be expected with more or less rhythmical movements, the movements were distinctly spasmodic, irregular, and increased by voluntary efforts.

During 1903 four cases of chorea occurred in my practice, including the one I have detailed. The remaining three were females, aged seven, ten, and 15 years respectively; in none was there any history of rheumatism and all were anæmic. In the female cases one only could be associated with an apparent cause—namely, a secondary amenorrhœa in the girl aged 15 years. Treatment directed entirely to this was followed by a disappearance of the chorea in the month following the return of the menses. There was a distinct increase of chorea in this district during the year 1903 and as a coincidence an epidemic of acute anterior poliomyelitis of a mild type, six cases arising in my own practice. So remarkably prevalent was this epidemic that I had an inquiry from the health officer of the Colony on the subject, as the outbreak had been brought to his notice from other districts in the Colony.

Dundee, Natal.

A CASE OF TAPEWORM IN A CHILD.

BY J. A. RIGBY, M.D. LOND.

THE patient was a pale, delicate-looking girl, aged two years and ten months, and was brought to see me with the following symptoms and history. She had a variable appetite and was uncertain and irritable in her temper, was restless at night, and did not thrive as she ought to do. Her mother informed me that she was in the habit of eating raw meat and she had been encouraged to do this under the impression that it would tend to increase her strength. I suggested that she might be suffering from tapeworm and directed the mother to inspect carefully the stools so as to discover if she were. On my next visit the mother showed me a motion which contained distinct evidence that the child was suffering from tapeworm, as there were several links of two or three proglottides each in it. A careful watch was kept up and it was found that she was constantly passing segments of the worm.

Tapeworm in young children is not unknown but it is comparatively very rare. In the course of a fairly extensive practice extending over 30 years this is only the second case I have met with. The treatment of tapeworm in adults presents no difficulty but in the case of children it is somewhat different, as the dose of the remedy sufficient to kill the worm might possibly have a very deleterious effect on the child. On looking up the subject I found that most authorities when describing the treatment of cases suffering from tapeworm make no discrimination as to the treatment of cases occurring in children. It would, I think, be conceded that to administer a dose of from 30 to 120 minims of the liquid extract of male fern on an empty stomach to a child under three years of age would scarcely be an advisable proceeding. Dr. I. Burney Yeo says:[1] "Pumpkin seeds have been found a mild and useful tæniacide for children and not unpleasant to take ...... About one ounce of the seeds may be given a child for a dose and they may be pounded up with sugar and honey into a paste which children will readily eat." This remedy was prepared as directed and given to the child on two separate occasions at about a fortnight's interval with absolutely no results whatever, the segments being constantly thrown off in the stools exactly the same as before.

The reason for this paper being written is because of the simple and efficacious treatment that was then adopted and which, while proving quite effective, had no injurious effect on the child. Two teaspoonfuls of castor oil were administered at night and the following morning this mixture was given. A drachm of kousso was infused for 30 minutes in three ounces of boiling water. To this three drachms of the liquid extract of liquorice were added. One-third part of this mixture, which was not strained but was well shaken up, was administered every two hours. The child took it without any difficulty and the result was most satisfactory, as in a few hours a worm of great length was expelled, and although the head was not found the segments became so very fine that it was quite certain the head must have been detached at the same time, though not discovered. There have been no signs of any return since, although now three months have elapsed.

Preston.

NOTE ON THE ACTION OF CROTON OIL AND OF PILOCARPINE

By William Roper, L.R.C.P., L.R.C S. Edin.

A brief *résumé* of some of the effects observed during a frequent use of croton oil in minute doses will probably present some features of interest. In the first case which I will select as an illustration the patient was a black man in South Africa who some years ago, after a heavy meal, had a great lump or bolus in his stomach. He was purged by calomel without relief. No vomiting of the bolus or any improvement was obtained with zinc sulphate and with apomorphine given hypodermically. Two minims of croton oil were then given, a small dose for a black man who is tolerant of more than four times the purging necessary for a white man. The effect of this was vomiting without purging and with reduction of the bolus, the effect of four minims subsequently given being both vomiting and purging. The man made a good recovery.

In the following cases all the patients were white men. My first cases of seasickness and of diarrhœa treated with

kness made a good recovery as a result of taking castor oil containing one-fifth of a minim of croton oil to the teaspoonful.

Another man had diarrhœa for two or three days with five evacuations in the last two and a half hours I gave him half a teaspoonful of crotonised castor oil containing one-tenth of a minim of croton oil. He repeated the dose in an hour and four hours later he reported that there had been no further evacuations but that he experienced a sensation of something bearing down lower and lower in his bowels. Four hours later he reported one evacuation and then a normal condition prevailed. This slow action of croton oil seemed to show that there was a morbid irritant needing expulsion.

A man under my treatment once took in a fortnight about 50 full doses of calomel followed by Epsom salts and then after this he reported that he felt under croton oil a sensation of "scraping" and that he passed black fæces—a colour unlike that of the fæces previously passed. A strange contrast exists between the action of full and minute doses of croton oil. In both a sensation of movement quickly follows administration, the interval between a sensation of movement and evacuations being in full doses sometimes only a few minutes and in minute doses sometimes a whole day and frequently half a day. Many after taking suitable doses of croton oil think its action most pleasant, increasing the appetite, a point worth noting, also supporting the opinion that it only causes pain when something such as an impacted mass requires to be moved. In these cases when a first dose is painful a second is frequently pleasant and stimulating.

The addition of croton oil to a bottleful of castor oil facilitates accurate dosage of the former and economises the latter. The above instances seem to show that croton oil when given in suitable doses cleans the whole intestinal canal without causing so much irritation as some other purgatives. This cleansing of the bowels of what may be left behind by other agents—purgatives and emetics—seems to indicate an extended field for the employment of a drug little used by the profession except as a last resort in obstinate constipation.

While writing on this subject I may be permitted to refer to my inquiry published in The Lancet of August 1st, 1903, p. 342, regarding any dangers attending the treatment of pneumonia by pilocarpine. It elicited in The Lancet of August 8th an account of one death under this treatment, the patient being a man in an early stage of the disease who suddenly developed dyspnœa followed rapidly by collapse and heart failure unchecked by atropin and cardiac stimulants. A case under my care might perhaps throw some light on the cause of this. A commanding officer of a military post in South Africa suffering from a common catarrh took one night one-third of a grain of pilocarpine with benefit and the next morning he took one quarter of this dose—i.e., one-twelfth of a grain—and proceeded to his duties about the camp. Although the dose was so small he was soon in a condition of dyspnœa which compelled him to lie down for the rest of the morning but he was well again in the afternoon This result following on one twelfth of a grain when he had taken with benefit four times as much as on the previous night (I was careful to make a correct entry of the doses) seems to show the danger of any impediment of any kind, even mental or social besides physical, to vigorous expectoration after taking pilocarpine even in small doses. In the case of this gentleman engaged in his duties about the camp reasons certainly not physical but mental or social prevented vigorous expectoration; at least, I can think of no other cause for the result.

Collie, West Australia.

A Mirror
OF
HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—Morgagni *De Sed. et Caus. Morb.*, lib. iv., Prooemium.

SALOP INFIRMARY, SHREWSBURY.

A FATAL CASE OF RAYNAUD'S DISEASE.

(Under the care of Dr. Edward Cureton.)

For the notes of the case we are indebted to Dr. E. W. Strange, late house physician.

The patient, a man, aged 35 years, was admitted into the Salop infirmary on Feb. 1st, 1904, with the following history. He was a striker at an iron foundry and thus was often exposed to great changes of temperature. As long as he could remember he had been subject to attacks of numbness in his fingers which were much more frequent in cold weather and came on if he put his hands into cold water or went out suddenly into the cold air. He said also that his mother and brothers were subject to similar attacks. His description of an attack was as follows. His fingers became suddenly cold as far as the proximal interphalangeal joints and he had a feeling of numbness with this and for a time the fingers were useless. Frequently both hands were affected but sometimes only one or two fingers on one hand. At first his fingers were white and the duration of this stage varied from two to twenty minutes. They then became slate coloured and this stage lasted from one to eight minutes. In both this and the first stage his tactile sense was greatly impaired. He said that he had often picked up articles at this period of an attack and found his fingers seemed very large and clumsy. They then became purple and lastly red. During this final stage he had a feeling of pins and needles. His fingers remained red for five or six minutes and then gradually resumed their normal colour. The whole attack varied in length from five minutes to three-quarters of an hour. He often perspired a great deal during an attack. The change of colour always began at the tips of his fingers and gradually spread upwards. He had noticed that sometimes after an attack he had difficulty in bending his fingers. His feet had always been apt to become cold but the attacks were never as bad as in his hands. Until January, 1904, the attacks in his feet did not cause him any trouble. He was at that time suffering from a severe cold which he had had for eight or nine days and on the morning of Jan. 23rd, which happened to be very cold, he had gone out to see his medical adviser. He woke up at 2 A.M on the 24th feeling as if he had lost the big toe of his right foot. On looking at it he found (to use his own expression) "that it was as white as milk and as cold as a stone," all sensation in it being lost. He rubbed it and about 7 A M. the colour began to return in it, whilst at the same time it became very painful. After this it did not trouble him again until the following night when he had another attack of a similar kind, and on the 28th the big toe of his left foot began to be affected in the same way. The attacks became more numerous, especially on the right side, and on the 29th were nearly continuous. He had gnawing pain in the intervals. Since then his attacks had not been quite so frequent. He said that when he was ill with the catarrh his urine was of the colour of pickled cabbage. It is, therefore, highly probable that at this time he was suffering from hæmoglobinuria.

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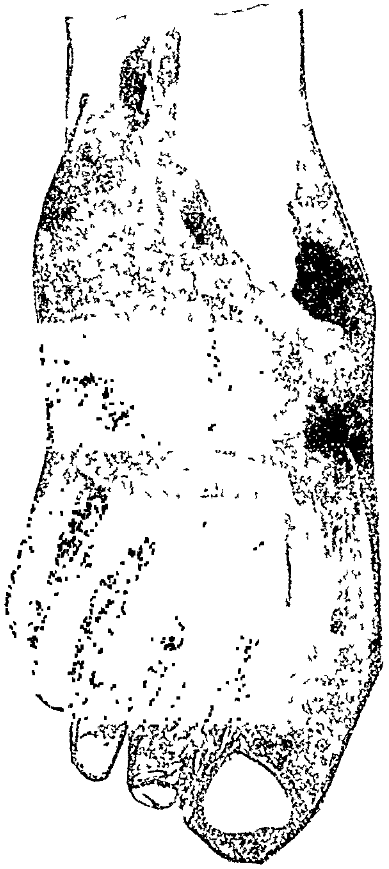
[1] Medical Treatment, vol. i., p. 272.

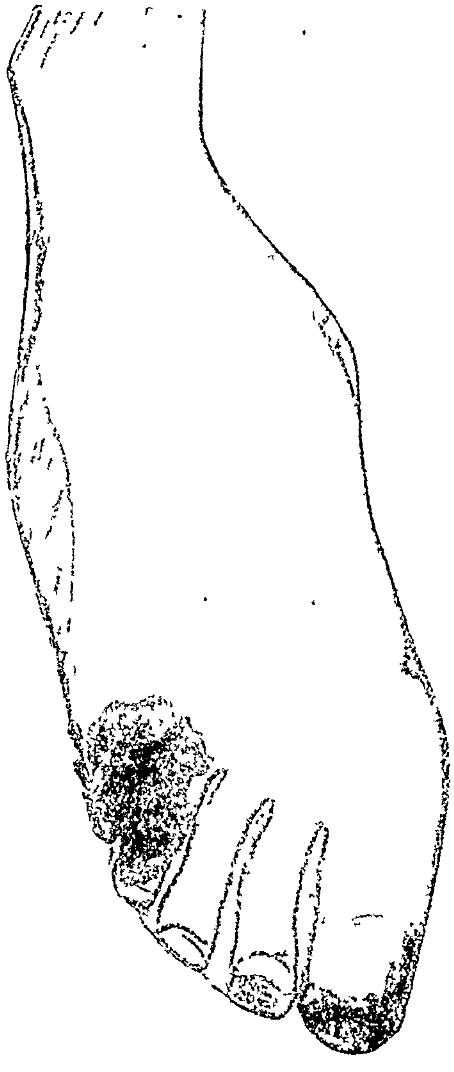
FIG. 1.



Right foot, Feb. 6th.

On admission the attacks were present in his right foot, across the proximal ends of the toes. He had no feeling in the big toe of his right foot which was quite gangrenous. Over the rest of the foot he had a greatly increased sense of pain (a pin prick causing him great agony). The skin over the big toe at its last joint was dark blue. Above this and at the base of the other toes the skin was of a bright red colour. The superficial veins over the front of the leg were dilated. The other foot was normal in colour and he had no pain in it. His alimentary and respiratory systems were normal. His heart was of normal size and no adventitious sounds were present. His pulse was 90 and regular and his arteries were not thickened or tortuous. He had some scleroderma on the palms of his hands and also slightly on the soles of his feet. His sensation was normal except in his hands and feet during an attack when tactile sensation was diminished. He also had a greatly increased

FIG. 2.



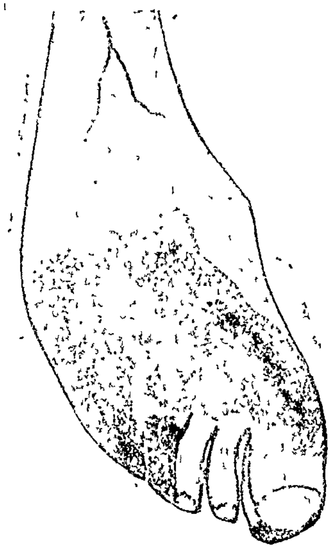
Right foot, Feb. 7th.

sense of pain in his right foot; his appreciation of heat and cold was normal. The plantar reflexes were absent and the knee reflexes were very much diminished. He had tremors of his hands and tongue and his wife said that he was a very nervous man. No eye symptoms were present. His urine was acid, with a specific gravity of 1025; there was no deposit and it contained no blood or albumin.

The patient's blood was examined by Dr. T. Law Webb who has kindly allowed Dr. Strange to publish his report which was as follows: "Red corpuscles, 3,000,000 per cubic millimetre; white corpuscles, 54,542 per cubic millimetre; hæmoglobin, 70 per cent.; and colour index, 1·16. The white corpuscles were made up as follows: polynuclears, 33272; small lymphocytes, 4363; large lymphocytes, 2181; eosinophiles, 12545; mononuclears, 1636; transitional, 500; and mast cells, 45; so that the patient had a colour index above 1 and also a very large increase in the number of eosinophiles. The percentage number of white corpuscles was: polynuclears, 61; lymphocytes, 12; eosinophiles, 23; and mononuclears, 4."

The patient was put to bed and kept as warm as possible, his feet being wrapped up in wool. He was given liquor trinitrini and potassium iodide and for his pain when an attack was in progress nepenthe was administered. On Feb. 6th his right foot was very red and inflamed (see Fig. 1) and was very painful. On the 7th it appeared to be much better and was of a light pink colour except the big toe and two outer toes which were blue (see Fig. 2). On the 8th, as he did not appear to be getting any better, injections of strychnine and liquor trinitrini were given and this time he also had pain of a spasmodic character in his abdomen and complained that his ears got cold and numb. On the 9th he still complained of a great deal of pain and his right foot did not look so well. The skin had by then died over the fourth and fifth toes, also there were some necrotic-looking areas over the dorsum of the foot, as shown in Fig. 3. The same morning he had pain again in his left foot which was not discoloured and was quite warm. At night the right foot was so painful that lead and opium fomentations were put on and injections of morphia were given hypodermically. On the 10th the foot was looking worse and he suffered much pain. The leg from the ankle to the knee was painted with glycerine and belladonna. On the 11th his leg felt better but he was delirious in the evening with pupils dilated widely. The glycerine and belladonna were discontinued. On the 16th the man looked worse and the gangrene of the right foot had spread. As he was suffering great pain he was given liquor opii sedativus and potassium bromide every four hours. On the 17th the foot looked worse but he had no pain. His mind wandered a good deal during the night when his temperature went up to 103° F. It remained now continually above 100°. On the 20th the gangrene had spread as far as the ankle, it being always dry in character. Where the skin was left it was dry and white and the gangrenous portions were purple with a bright pink edge separating them from the healthy tissue above. On the 23rd a consultation was held and it was decided to amputate the right foot. At this time the big toe of his left foot was of a slate-blue colour. On the 24th the patient was very ill during the night, his temperature varying between 102° and 99°. On the 25th it was decided that he was too ill to bear an operation and he died the same afternoon Permission for a post-mortem examination was not obtained.

FIG. 3.



Right foot, Feb. 9th.

Remarks by Dr. STRANGE —For permission to publish the notes of the case I am indebted to Dr. Cureton and for the account of the interesting blood changes to Dr. Law Webb.

DURHAM COUNTY HOSPITAL.

A CASE OF DOUBLE MULTILOCULAR CYST OF THE OVARIES.

(Under the care of Dr. S. W. PLUMMER.)

THE patient, a single woman, aged 46 years, was sent to the Durham County Hospital by Dr. W. R. D. Daglish of Ferryhill on Oct. 5th, 1903. She had always been a healthy woman. Her menstrual history was quite normal, the menopause taking place two or three years before. About ten weeks previously to admission she noticed a swelling in the abdomen and had frequent micturition but with no pain. She was still able to continue at work. Eight weeks before admission she received an accidental blow from a man's elbow on the left side of the abdomen. This gave her great pain and she had to leave her work. She now had pain on micturition and the bowels, which formerly had always been regular once a day, became confined and she had to take aperients. The swelling rapidly increased after the blow, till on admission the physical signs were such as are shown on the accompanying diagram, the shaded portion representing approximately the dull area of the tumour.

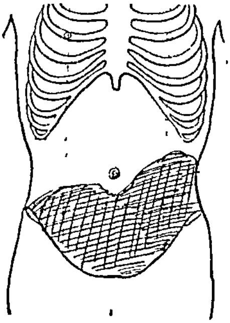


Diagram to show extent of the dull area.

On Oct. 9th the abdomen was opened in the middle line. There was a considerable quantity of free fluid in the abdomen. On passing the hand into it it was evident that a huge multilocular cyst had to be dealt with. No adhesions were to be felt and the incision was enlarged upwards beyond the umbilicus in order to deliver the tumour. On exploration of the tumour it was found to be divisible into two parts at the sulcus marked in the diagram The finger easily separated some soft adhesions and when the mass was lifted out of the abdomen it fell apart into two typical multilocular cysts of the right and left ovaries, each with a broad pedicle. In order to facilitate delivery some of the larger loculi in each tumour had been emptied, the contents being characteristic of the condition. The right tumour was of about the size of the fœtal head at term, the left being half as large again and more irregular in form. The pedicles, which were easily defined (that on the left side having some soft adhesions to the adjacent bowel), were tied with stout Chinese silk by a Staffordshire knot and the tumours were removed. The abdominal wound was closed in layers in the usual way. The after progress was quite uneventful. The wound was dressed for the first time on the tenth day and being soundly healed all stitches were removed.

Remarks by Dr. PLUMMER.—I think a brief record of this case is of interest. So far as I can learn the presence of two such large and fully developed cysts springing simultaneously from either ovary is rare. Kelly[1] mentions that dermoid cysts are not infrequently associated with ovarian cysts of the opposite side. Though Dr. Daglish sent the case to me as one of ovarian multilocular cyst I confess that I had doubts about it till the abdomen was opened. The patient's appearance rather suggested a malignant growth than the "facies ovariana." Still less did I anticipate having to deal with two such large cysts or so easy an operation. For the clinical notes I am indebted to Mr. W. Pattullo, house surgeon, and to Dr. Daglish.

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[1] Operative Gynecology, vol. ii, p. 260.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Effects of a Proteid Dietary (Raw Meat).—The Limitations of Leucocytosis as a Sign for Operation in Appendicitis.

A MEETING of this society was held on May 11th, Sir R. DOUGLAS POWELL, Bart., the President, being in the chair.

Dr. D. CHALMERS WATSON read a paper on the Effects of a Proteid Dietary and gave an account of the clinical and pathological appearances observed in an experimental investigation on the prolonged feeding of fowls—for 16 months —on a diet of raw meat. The research was intended to confirm, or otherwise, the recent work of Kionka on avian gout. The experiment was unsuccessful so far as the induction of gout was concerned. This negative result was itself of interest and this was enhanced by the changes incidentally observed in the thyroid, parathyroid glands, bone marrow, and other tissues in the non-tuberculous fowls and by the distinctive character of the reaction in a tuberculous subject. The main points to which attention was directed were, first, the absence of any indication of (*a*) gout, (*b*) renal disease, and (*c*) vascular disease; secondly, the variety in the clinical features observed in the different subjects (the clinical symptoms involved mainly the cutaneous and nervous systems); thirdly, the changes in the thyroid (hypertrophy) and parathyroid glands (hypertrophy) and bone marrow; and fourthly, the very favourable manner in which one fowl affected with well-marked tuberculosis was influenced by the diet. The application of these facts to disease was shortly discussed under the following headings: first, the rôle of a proteid dietary—a diet rich in nucleins—in the induction of gout; and, secondly, the dietetic treatment of tuberculosis with special reference to the use of raw meat as a curative agent.—The PRESIDENT asked whether the excreta had been examined and analysed. He doubted whether the mechanism for the elimination of uric acid and urea in the fowl was altogether comparable to the renal excretion in man. He asked whether the meat taken was passed through the intestine incompletely digested, for it had been shown that such was sometimes the case in men fed on a meat diet. He asked whether there was any evidence that the fowls suffered from scurvy. He said that it had been observed in man that a raw meat diet was beneficial in tuberculosis.—Mr. WALTER EDMUNDS said that the microscopical specimens of the thyroid gland showed a marked increase in the size of the vesicles. This was the first instance, so far as he knew, in which an enlarged thyroid had been produced experimentally.—Dr. WATSON, in reply, said that he had not analysed the excreta of the fowls fed on an exclusively meat diet but that Kionka had made such an investigation. It did not, in his opinion, yield any satisfactory result. He thought that fowls had an equal capacity of dealing with an increase of uric acid as man had of dealing with urea. None of the fowls had manifested any evidence of scurvy.

Dr. HERBERT S. FRENCH read a paper on the Limitations of Leucocytosis as a Sign for Operation in Appendicitis. The paper was based on a study of the leucocyte counts in 83 consecutive cases of appendicitis in Guy's Hospital. The cases had been arranged in four main groups, the classification being based upon the character and course of the disease in each case and not upon the leucocyte changes. The four groups were: first, those with local signs and no tumour, spontaneous recovery; secondly, those with local signs and a definite tumour, spontaneous recovery; thirdly, those with local signs and a definite tumour, evacuation of pus; and, fourthly, those with general peritonitis. The leucocyte counts were recorded for each of the cases in every group and it was found that many cases in which spontaneous recovery occurred, without clinical signs of rupture of an abscess into the bowel, gave leucocyte counts exceeding 20,000, a few exceeding 30,000. Many cases in which pus had to be evacuated gave low leucocyte counts. Therefore, the leucocytosis alone could not be taken as a proof positive of pus, or of its absence, when it did not exceed 30,000. Many cases in which pus was present showed from 35,000 to 56,000 leucocytes, however, and no simple case reached these figures. A leucocyte count, therefore, of 35,000 or more could be regarded as strong evidence of pus, though lower figures left the question doubtful. More important than the total count was the rising of leucocytosis when counts were made at intervals. No such rising count occurred in any simple case; pus was present whenever successive counts showed increasing numbers. The reverse was not true; sometimes pus was present, though successive leucocyte counts showed progressive diminution. The sign, therefore, was valuable but had great limitations; it might mislead if attention were paid to it alone. It must be taken into account but only in association with the pulse-rate and the general condition of the patient. It was one of several clinical signs, variable like the rest, but often of great value in a difficult case.—Mr. L. S. DUDGEON said that in the examination of the blood for leucocytosis it was necessary (1) to count the number of leucocytes; (2) to make a differential count; and (3) to stain a blood film in a special method. The rise in the number of leucocytes was not necessarily an indication of pus. Even when between 20,000 and 30,000 were found it was not absolute proof of suppuration. He considered the differential count was most important, for the polymorphonuclear neutrophiles, which usually were about 65 per cent., rose to from 80 to 90 per cent. and in one case as high as 99 per cent. He did not consider that the special selective stain described by Ehrlich was of much value. He thought that if there was a leucocyte count of 30,000 with 80 per cent. polymorphonuclear neutrophiles or 15,000 leucocytes with 90 per cent. polymorphonuclears the probability of pus being present was very great, though even this was not absolutely diagnostic. In intestinal obstruction the leucocytosis might reach a very high figure, even as high as 50,000 or 80,000.—Dr. G. NEWTON PITT referred to a case of appendicitis with pylephlebitis which gave no increase in the number of leucocytes. The infection was due to the bacillus pyocyaneus.—Dr. FRENCH replied.

MEDICAL SOCIETY OF LONDON.

A Study of a Case of Rheumatic Fever.—The Influence of Early Operation on the Mortality and Results of Appendicitis.—Election of Officers.

A MEETING of this society was held on May 9th, Dr. F. DE HAVILLAND HALL, the President, being in the chair.

A general meeting was first held to receive the annual reports of the council, librarian, and chairman of the house and finance committee. Certain alterations were made in the laws of the society and two auditors were appointed to audit the balance-sheet for the year ending Sept. 30th.

At the ordinary meeting which followed Dr. F. J. POYNTON communicated a paper entitled "A Study of a Case of Rheumatic Fever." The first part of the paper described the clinical details of a fatal case of rheumatic fever in a child, aged nine years. The child had been under Dr. Poynton's observation at intervals for over a year and had twice been an in-patient in the Hospital for Sick Children, Great Ormond-street—on the first occasion with chorea in July, 1902, and on the second with the fatal illness in August, 1903. The cause of death was malignant rheumatic endocarditis attacking the mitral valve when in the early stage of stenosis. The necropsy was briefly described as were the bacteriological investigations which were made immediately after death. The post-mortem examination showed the absence of pericarditis and the presence of malignant mitral endocarditis. The diplococcus was isolated in pure culture from the mitral valve, the kidneys, and the spleen. Dr. W. Vernon Shaw with one of these cultures made experimental investigations and produced the lesions of rheumatic fever in rabbits and monkeys. The susceptibility of monkeys to this infection, as shown by Dr. Shaw, was a new and valuable point. A section of the mitral valve and specimens of the endocarditis produced in the animals were shown. Dr. Poynton claimed that this case afforded strong support to the infective view of the origin of rheumatic fever. It was the twenty-fifth of a series of fatal cases, of which he had investigated 24 with Dr. Alexander Paine. In the second part of the paper the practical bearings of the infective nature of rheumatic fever were commented upon. First, it became clear that it was as essential to study the early warnings of this disease as it was those of tuberculosis; secondly, it enabled them to speak with certainty of the existence of a truly rheumatic broncho-pneumonia and pleurisy, a rheumatic peritonitis, and a renal rheumatism; and, thirdly, the ability to produce with comparative constancy experimental heart disease marked a forward step in the history of the study of this condition. By the aid of this method it had been been shown that simple and malignant endocarditis might be phases in the same disease and that rheumatic fever was a cause of malignant endocarditis. Ante-mortem thrombosis and disease of the myocardium in rheumatic fever were also by the same method established as facts. The occurrence of infarction without visible valvular disease or clotting in the chambers of the heart had also been demonstrated—a fact which had close bearing on the pathology of chorea. The power to isolate an infective agent brought observers nearer to the chemical problems of rheumatic fever. Triboulet, Walker and Ryffel, Shaw, and Berger had already investigated the acids that were formed by the micro-organism. But not only did this view enable them to establish facts, it also threw out suggestions to guide them in unravelling some of the more difficult problems of rheumatism. The possibility that the micro-organism might remain latent in the tissue—a very reasonable one—threw light upon all chronic and relapsing rheumatic affections. That rheumatic fever was the result of an infection pointed, in Dr. Poynton's opinion, very strongly to the probability that a study of bacterial poisons would throw light upon gout and would enable observers to escape from the narrow views of that disease founded upon the uric-acid theory. Then, again, it would now be possible to reconstruct the skeleton of "rheumatism" from a study of the cardinal lesions of rheumatic fever. These cardinal lesions were in their structure similar; the nodule, the endocarditis, the pericarditis, the pleurisy, and the arthritis showed similar changes in their tissues. It was possible, then, that the deviations from this type would be comparable. Lastly, the treatment of rheumatic fever and rheumatism was advanced, not by the brilliant discovery of some antitoxin, it was true, but, nevertheless, quietly and surely. Thus the active phase of the disease and the active phase of the resistance to the disease were now more easily traced and the proper time at which to use hydropathic measures, radiant heat, massage, and electricity was more easily seen. Surgical measures undertaken for the treatment of severe arthritis rested on a surer basis and it was equally clear that, since the first site in which the micrococcus was deposited was not the synovial fluid but the synovial membrane, all hasty surgical measures were out of place. But it was in the prophylaxis of rheumatic fever that this view was of the greatest importance. In Dr. Poynton's opinion the time had come thoroughly to reinvestigate the causation and prevalence of rheumatic fever as an infective disease and he maintained that such a step would lead to the prevention of much organic heart disease among the children of the poor. —Dr. A. E. GARROD remarked on the confirmation which Dr. Poynton's paper gave to the infectivity of rheumatism. The opinions on the pathology of gout were constantly undergoing change, but it was difficult to accept the view of its infectivity. He (Dr. Garrod) was rather inclined to go back to the older uric acid theory of gout.—Mr. A. MARMADUKE SHEILD, speaking of the surgical aspect of such cases, remarked that some cases were extraordinarily benefited by opening and washing out of the joints, as originally adopted by Dr. J. O'Conor of Buenos Ayres. This method was also efficacious in cases of gonorrhœal arthritis and this suggested that the microbes and toxins were largely shed into the synovial fluid of such joints.—Dr. PAINE suggested the propriety of using urinary antiseptics in cases of rheumatic fever, both as therapeutic and prophylactic agents.—Dr. B. L. ABRAHAMS had examined the post-mortem records of the Westminster Hospital and found several types of rheumatic endocarditis. Salicylates reduced the joint swelling and the pain in rheumatic fever, but he doubted if they were really curative.—Dr. POYNTON replied.

Mr. W. H. CLAYTON-GREENE read a paper on the Influence of Early Operation upon the Mortality and Results of Acute Appendicitis. Tables of results in 202 cases were submitted. The following conclusions were arrived at: (1) that not only was the number of cases of appendicitis greater than formerly but the disease was increasing in severity; (2) acute appendicitis could not be dissociated from some degree of peritonitis; (3) there were four main forms of peritonitis, two of which were slight and two serious, and there were no data for determining which variety would occur; (4) the results of early operation showed not only a diminished death-rate but also fewer sequelæ; and (5) the mortality apart from the early operation was probably not under 20 per cent. and this figure was unpleasantly high.—Mr. A. E. BARKER congratulated Mr. Clayton-Greene on his painstaking researches but confessed that he (Mr. Barker) was unable to derive much clinical help or guidance from statistical methods applied to this subject.—Mr. SHEILD remarked on the complexity of cases of appendicitis and the impossibility of grouping them satisfactorily. In cases which set in suddenly and severely there was nearly always grave mischief and early operation was called for; so also in young subjects. He was more and more convinced that early operation was a safeguard though no doubt some cases were thus operated on which would have got well without.—Mr. W. MACADAM ECCLES concurred with the last speaker. The stage at which the case came under observation was a most important factor; many cases were, however, brought from a considerable distance.—Dr. H. A. CALEY referred to some comparative returns he had obtained from medical and surgical wards. He advocated operation at the earliest possible moment.—Mr. J. D. MALCOLM referred to a case illustrating the complexity of the subject.—Mr. CLAYTON-GREENE replied.

The result of the ballot showed that the following gentlemen had been elected for the session commencing October, 1904:—President: Mr. J. Langton. Vice-Presidents: Dr. C. E. Beevor, Mr. B. Pitts, Dr. E. J. Nix, and Mr. Charters J. Symonds. Treasurer: Mr. D. H. Goodsall. Librarian: Dr. A. F. Voelcker. Honorary secretaries: Mr. H. J. Waring and Dr. J. S. R. Russell. Honorary secretary for foreign correspondence. Dr. H. D. Rolleston. Council: Mr. A. E. Barker, Sir Hugh R. Beevor, Dr. J. V. Bell, Mr. C. C. Braine, Dr. H. A. Caley, Mr. Albert Carless, Dr. C. W. Chapman, Dr. H. Corner, Dr. Lovell Drage, Dr. F. de Havilland Hall, Mr. Richard Lake, Dr. A. H. N. Lewers, Mr. T. H. Openshaw, Dr. F. S. Palmer, Dr. J. E. Ranking, Dr. A. H. Robinson, Mr. A. W. Mayo Robson, Mr. W. G. Spencer, Dr. G. C. Steele-Perkins, and Mr. C. S. Wallace.

OBSTETRICAL SOCIETY OF LONDON.

Sarcomatous Fibro-myoma.—Hæmatoma and Hæmatocele.

A MEETING of this society was held on May 4th, Dr. EDWARD MALINS, the President, being in the chair.

Dr. P. HORROCKS showed a specimen of Fibro-myoma undergoing Sarcomatous Degeneration removed from a patient 46 years of age; abdominal hysterectomy was performed owing to rapid growth of the fibroid in association with menorrhagia. He remarked that some authorities still disbelieved in the possibility of sarcomatous change in a fibromyoma of the uterus and referred to similar cases published by Doran and Finlay and to another previously published by himself.—Mr. ALBAN H. G. DORAN said that he doubted whether these tumours, said to be "sarcoma" histologically, were clinically malignant. One observer had in a large series of uterine fibroids made out malignant elements in 10 per cent. of all the cases, a proportion quite at variance with clinical experience. Mr. Doran suspected that the cells which were large and spindle-shaped, might be altered plain muscle cells. Histological elements of that kind when subjected to morbid influences assumed strange appearances, especially when a number were seen in section, cut longitudinally, transversely, and obliquely.

Mr. ALBAN DORAN read a paper entitled "Hæmatoma and Hæmatocele, a Study of Two Cases of Early Tubal Pregnancy." He said that it was generally taught that hæmatocele associated with interrupted early tubal gestation demanded operation whilst a hæmatoma or extraperitoneal hæmatocele under the same conditions would subside if the patient was kept at rest. Two cases which did not support this teaching were related and discussed at length. In the first case the patient passed clots over two months after the last period, pelvic pain set in, and a swelling could be detected in the right fornix and iliac fossa. A week later a decidua was expelled; then a mass with all the characters of a pelvic hæmatocele developed and became harder and smaller during prolonged rest. Menstruation was re-established within twc [illegible] was seized with [illegible] when a period was [illegible] set in. A swelling could soon be defined above the pubes; its lower limits formed a convex mass behind the cervix, simulating a hæmatocele in Douglas's pouch. This swelling arthritis. The arthritic deformities in the hip consisted of flexion, internal rotation, shortening, and adduction; in the knee of flexion, subluxation, and external rotation of the tibia; in the back, of a kyphosis sometimes preceded by a lateral deviation; and in the shoulder of elevation of the shoulder-girdle, adduction, and at a later stage of what Mr. Jones had described as a pathological subcoracoid displacement of the humerus. The spinal lateral deviation was very important clinically as it might be mistaken for scoliosis. In an early case of Pott's disease rigidity would be present. In lateral curvature rigidity was only present in the later stages where rotatory changes had occurred. As regards the treatment, the principal object was to protect from deformity, or if it had appeared to correct it; to immobilise the joint and so to relieve the muscles from spasm and then from contracture; to prevent bone destruction due to both attrition and pressure; and to relieve the joint from weight bearing. The all essential treatment was rest. For small children Mr. Jones employed a double splint as it was easier to apply and simplified nursing. In this frame the child was kept until all signs of disease were gone and the child was made to live in the open air. Such early cases improved generally, many recovering with moveable joints after the application of the splints for two years and it was rare to find a flexion deformity of more than 10°. Extension was hardly ever employed in early cases and the so-called night-jerks were hardly seen. The neglected child whose disease was more advanced and whose deformity was considerable presented some difficulties. The deformity was corrected under an anæsthetic. A direct pull by means of a thick skein of wool and counter extension by a sheet and division of the adductors, if tense, would generally equalise the so-called practical or apparent length of limb. The correction consisted in overcoming flexion and adduction and lowering the pelvis on the diseased side. Once in the abductor frame the limb was kept at absolute rest and the constant muscular pull upon the head of the femur, as evidenced by ever-increasing deformity, was overcome. Where the deformity was less marked the application of an abduction frame was sufficient. Generally speaking, Mr. Jones did not open tuberculous abscesses because the operation was incomplete if it could not remove the disease of which the abscess was but a symptom. If, however, with the presence of fluid there were discomfort, pain, and pyrexia, and if the patient was rapidly or steadily declining in condition, then the abscess might be incised and antiseptic irrigation adopted. Amongst the poor Mr. Jones had found nothing better as a dressing for abscesses than medicated sawdust. In the case of the hip the splint was kept on until consolidation of the structures was apparent, all deformity was gone, and the pelvis was lowered on the diseased side. Abduction should always be aimed at to compensate for shortening, the abducted limb being gradually brought towards the sound side and the double frame changed for a Thomas's hip splint. Walking should be allowed aided by patten and crutches. Although many joints recovered movement, Mr. Jones preferred an ankylosis to occur in severe cases, especially in the hip, the knee, and the ankle. Cases of active disease of the knee with marked flexion were placed in a Thomas's knee splint and could be straightened wholly or in part at once or by the pressure of a pad. This was much better than the weight and pulley. Subluxation of the tibia backwards was a most obstinate deformity and might even require a V-shaped excision for its treatment. The position of greatest utility should always be aimed at. This, in the hip, was abduction and full extension; in the knee, extension; in the ankle, an angle of 95°; in the wrist and spine, hyper-extension; and in the elbow, usually an angle of about 40°. In the treatment of spinal caries, even with the best mechanical means, it was difficult to influence curvature, especially so in the lower cervical and upper dorsal regions.

The PRESIDENT, Mr. C. W. MACGILLIVRAY, Mr. C. W. CATHCART, Dr. WILLIAM TAYLOR, Mr. DAVID WALLACE, Mr. H. ALEXIS THOMSON, and Dr. D. CHALMERS WATSON took part in the discussion which followed.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—A meeting of this society was held on April 15th, Dr. C. O. Hawthorne being in the chair.—Dr. James Taylor showed a boy aged five years with Congenital Proptosis and Meningocele. The mental condition was defective, recently his eyesight had been failing, and nystagmus and optic atrophy were also present.—Mr. Sydney Stephenson said that a mechanical factor was probably the cause of the neuritis as well as of the proptosis and divergence of one eye which were constant features of such cases.—Dr. J. Anderson Smith showed a girl, aged five years, who at the height of an attack of measles developed cerebral symptoms—namely, vomiting, squinting, retraction of the head, photophobia, and unconsciousness. At the end of five days the acute symptoms subsided but she was found to be aphasic, resented being touched, and wasted rapidly. There was no optic neuritis or ear trouble. A month later she was still aphasic, could not sit up in bed, moved her limbs in an ataxic manner, and appeared to have general cutaneous anæsthesia. There were slight rigidity of the limbs, ankle clonus, and exaggeration of the knee-jerks. More recently there had been gradual improvement in the motor power, she could say a few words, the ankle clonus had disappeared, and sensation was improving.—Dr. Hawthorne thought that the evidence of meningitis was not clear and suggested that the symptoms might have been due to some form of toxin. He recalled a somewhat similar condition in an adult after influenza.—Dr. Taylor agreed as to toxæmia connected with the measles being the probable cause.—Mr. Stephenson showed two cases of Microphthalmos, one slight, in a boy aged six years, and the other extreme, in a girl aged 16 months. He pointed out that a few years ago the latter would have been called a case of anophthalmos, because no eye was visible on opening the lids and it was only on deep palpation that a small pea-like body could be felt towards the back of each orbit. These small bodies in all probability represented rudimentary eyeballs, containing more or less immature nervous elements, and upon that ground he preferred to regard the case as one of microphthalmos.—Dr. E. P. Baumann showed two cases of Anæmia. The first was in an infant ten months old, who was obviously syphilitic and had an enlarged spleen. Blood examination showed merely the existence of a severe secondary anæmia. He considered the whole of the symptoms as secondary to syphilis. The second case was that of a girl, aged one and a half years, without evidences of syphilis, but with an enlarged spleen. Blood examination showed a well-marked leucocytosis and also a large number of nucleated red cells, a considerable proportion of which were megaloblasts. The case was probably one of pernicious anæmia in infancy.—Dr. A. Morison showed a case of Dactylitis with Subcutaneous Nodules in an infant aged 16 months. He regarded the case as tuberculous.—Dr. S. Vere Pearson showed as a case of Tuberculous Nodule in the Ponto-Medullary Tract a boy, two years old, who was suffering from weakness in, and disinclination for, walking, slight drowsiness, and squint in the left eye. There had been occasional retching and difficulty in walking. Definite right-limbed paresis—i.e., crossed paresis—had developed later.—Dr. E. Farquhar Buzzard referred to the rarity of tuberculous tumours in this region and to the fact that they were usually discovered accidentally after death, having produced no symptoms during life. He was inclined to regard the case as one of pontine tumour, probably gliomatous.—Dr. Hawthorne showed a boy, aged ten years, suffering from Paramyoclonus Multiplex. There were sudden, shock-like, clonic muscular contractions affecting both sides of the body at the same time. The bilateral and isochronous character of the contractions was well seen in the cremaster muscle. The muscles of the face, the trunk, and the thighs were also affected.—Mr. Leonard A. Bidwell read a paper on a case of Gonorrhœal Pyosalpinx in a girl, aged six years, treated by removal of the tubes.—Dr. George Carpenter read a paper on a case of Gonorrhœal Inflammation of the Uterine Appendages in a girl, aged three years, with spontaneous recovery.—Mr. R. C. Dun read a paper on a case of Post-hemiplegic Chorea, Petit Mal, and Mental Irritability treated surgically.—Mr. Bidwell read a paper on two cases of Strangulated Hernia in infants under one month old treated by operation.

GLASGOW NORTHERN MEDICAL SOCIETY.—A meeting of this society was held on May 3rd.—Dr. J. Galbraith Connal showed several cases illustrating Secondary and Tertiary Syphilitic Disease of the Throat and Nose and made remarks upon them. Photographs were also shown of a case with marked Nasal Deformity due to Syphilitic

Disease which was remedied by paraffin injection. The apparatus for the injection of paraffin was also shown. Dr. Connal advocated the use of paraffin of high melting-point.—A hearty vote of thanks was given to Dr. Connal for his interesting demonstration.—Dr. Alexander Johnston next read a paper entitled "Observations on the Value of the Widal Serum Reaction in Enteric Fever." He confined his remarks chiefly to the value of the reaction in aiding the recognition and notification of enteric fever in general practice. Of the cases of supposed enteric fever sent to hospital there was an error of only 16 per cent., a result which he considered very creditable to the practitioners. Of those which proved to be not enteric fever a considerable proportion were tuberculous in character. A few cases also, which were sent in under other diagnoses, particularly scarlet fever, were found to be cases of enteric fever. The Widal reaction consisted of the cessation of motion and agglutination of organisms when a small quantity of blood was mixed with them which had been taken from an infected animal. Blood was drawn from the lobe of the ear, caught in a sterilised tube, and taken to the laboratory. Here it was mixed with the active bacteria and if the patient from whom the blood was drawn were suffering from typhoid fever agglutination occurred. Points of importance in performing the test were that the blood must be diluted, the test culture must be young and pure, and there must be a time limit. The standard dilution was 1 in 50, the time limit was one hour, and the culture was one of less than 24 hours' old. In looking over a series of more than 300 cases four groups might be differentiated: (1) cases clinically enteric fever, yielding a positive reaction—over 240 cases; (2) cases clinically not enteric fever, yielding a positive reaction—about 30; (3) cases clinically enteric fever, yielding a negative reaction—some two cases; and (4) cases not clinically enteric fever, yielding a negative reaction—about 30. Probable sources of error were the existence of paratyphoid forms and late development of the agglutinating reaction, possibly appearing after the second or third week or during convalescence. A positive reaction might be obtained in those suffering from some other disease who had already had typhoid fever. The accuracy of the test was probably from 90 to 95 per cent. but in everyday practice with cases in the early stages there was probably an error of about 17 per cent.—Several questions having been asked by members and answered by Dr. Johnston he was accorded a hearty vote of thanks by the members of the society.

ERRATUM.—In the report of the meeting of the Wigan Medical Society on p. 1209 of THE LANCET of April 30th it should have been stated that the address on Ankylostomiasis was read by the President, Mr. J. Chronnell, and not by Mr. William Mitchell Roocroft.

Reviews and Notices of Books.

Nervous and Mental Diseases. By ARCHIBALD CHURCH, M.D., Professor of Nervous and Mental Diseases in the Chicago University Medical School; and FREDERICK PETERSON, M.D., President of the State Commission in Lunacy, New York. With 338 illustrations. Fourth edition, thoroughly revised. London, Philadelphia, and New York: W. B. Saunders and Co. 1903. Pp. 922. Price 21*s.* net.

THE first edition of this important work, which embodies some of the best features of neurological and psychiatrical study in America, was published in 1899. The present (fourth) edition has been considerably enlarged and new material added both in the sections of nervous and of mental disease, while the text has been revised throughout and a number of new illustrations have been added. The first 600 pages are devoted to the section on Nervous Diseases by Dr. Church, while the concluding 250 pages of text, dealing with Mental Diseases, are the work of Dr. Peterson. The section on nervous diseases constitutes an ideal text-book on the subject and would serve as an excellent introduction to the larger works of Gowers and Mills. It deals systematically and instructively with such subjects as the clinical examination of patients, electric reactions of the muscles and nerves, disturbances of the senses and of speech, diseases of the cerebral meninges and the cranial nerves, and diseases of the spinal meninges and spinal nerves. The various individual diseases of the brain proper and of the bulbo-spinal cord and all the general diseases of the nervous system, with or without known anatomical lesion, are then dealt with in the concluding part of the section. No disease of any importance seems to have been omitted. Here we find graphic descriptions of acromegaly and its allies, Raynaud's disease, intermittent limping, and the various cerebral and spinal palsies of adults and of children. Neurasthenia and hysteria receive adequate attention and so do the other neuroses—epilepsy, migraine, tics, and allied disorders—the chapters concerning these neurotic affections showing noteworthy powers of exposition and a masterly grasp of the subject. Disorders of sleep and hypnotism are briefly touched upon and Dr. Church remarks that "women should never be hypnotised without reliable witnesses." "The public use of hypnotism," adds Dr. Church, "can only appeal to the morbid. *In this connexion its power for harm is proven.*"

Dr. Peterson's contribution on mental diseases deals systematically with the general etiology, general symptomatology, and principles of treatment of mental disease. A valuable critical review, suitable mainly for the mental digestion of the advanced student of psychiatry, from the pen of Dr. Adolf Meyer, director of the Pathological Institute of the New York State Asylums, is intercalated in the text and deals in a masterly and discriminating fashion with recent problems of psychiatry. This is an article of 40 pages in small type reviewing minutely the advances of the past two decades in the higher and more refined departments of investigation—viz., clinical analysis, psychopathology, localisation of functions, the "lines of march" of the various insanities, the correlation of cerebral lesions and morbid processes with psychological disturbances, and the scientific classification of mental disease. The student will find much here to think and to ponder over and much that will, if he appreciates it aright, broaden his horizon and clear his insight into the sphere of mental disease. The different types and varieties of insanity are then dealt with *seriatim* by Dr. Peterson. They include all the common forms, ranging from paranoia and the higher psychoses down to idiocy and imbecility. Many reproductions of photographs and illustrations are added which increase the value of the text. Within the limited space at his disposal Dr. Peterson has achieved a decided success in his exposition of mental diseases. The book can be strongly recommended to the practitioner, the alienist, and the serious student of the nervous system and the mind.

Functional Diagnosis of Kidney Disease. By Dr. LEOPOLD CASPER and Dr. PAUL F. RICHTER. Translated by Dr. R. C. BRYAN and Dr. H. L. SANFORD. London: Rebman, Limited. 1903 Pp. 233. Price 7*s.* net.

THIS book, which was first published in Germany some two years ago, owes its origin to advances in physical chemistry and to the introduction of ureteral catheterisation. The problems which the authors attempt to solve are the following: "How are we to gain an idea of the amount of the total work done by the kidneys and how shall we decide whether this amount of work is sufficient or insufficient for the body? How shall we learn how the work of the kidneys is divided, how shall we definitely decide how much work each kidney does?" The answers to these questions are afforded in a logical manner. It will be seen that these problems are precisely those recently discussed in our columns,[1] where a full description was given of the instrument devised by Dr. Georges Luys for intravesical separation of the urine coming from each kidney. Various modes of examination are discussed before the authors reach the conclusion that "catheterisation of the ureters is the one method which will come nearest to accomplishing our purpose," although they admit that it cannot meet the needs of every case. They do not allow that this practice involves any danger, while as to any difficulty, if a surgeon feels unequal to the task "he must call in someone else who can do it for him." The third chapter, which is the longest, deals with the methods of *functional kidney diagnosis* and this supplies adequate information of recent researches connected with the elimination of nitrogen, of chlorides, and of artificially introduced substances like methylene blue. In separate sections the combined work of both kidneys and the determination of the work performed by each kidney are duly considered. Notes of 90 cases examined by the authors are appended to illustrate the value of the results attainable by catheterisation of one or both ureters and to indicate the importance of the contention that before undertaking operations upon the kidney it is desirable to estimate accurately the nature of the work performed by each kidney. This fact has long been recognised but the authors have done good service in demonstrating the comparative ease with which this information can be obtained in every case. The book is well printed, and, as a rule, well translated, though in a few places long and involved sentences betray its foreign origin.

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[1] THE LANCET, March 26th, 1904, p. 850.

The Therapeutics of Mineral Springs and Climate. By I. BURNEY YEO, M.D., F.R.C.P. Lond. London: Cassell and Co. 1904. Pp. 760. Price 12*s.* 6*d.* net.

IN Dr. Yeo's treatise on "Clinical Therapeutics," the revised edition of which has but recently appeared, the practitioner will find a rich storehouse of facts garnered from a long experience; in his work on "Food in Health and Disease" all the questions connected with that subject are fully considered; and now the author in the book under review furnishes the medical profession with a very complete guide to the therapeutics of mineral springs and climates. He has long been an authority on the use and selection of baths and climates in the treatment of disease and some years ago published a work on the subject. The present volume has grown out of the former and enriched with his larger experience it forms a very useful guide to all the chief baths in Europe.

The work is divided into two parts. The first is devoted to the study of mineral springs and the second to the subject of climates. The first part opens with certain general considerations of mineral springs, such as their nature and definition. Dr. Yeo defines a mineral or medicinal water as one which either from its chemical composition or its thermality, or some other quality which experience has proved it to possess, is found useful in the treatment of disease. The composition of these springs generally is then spoken of: salts of lime, of sodium, and of magnesium, iron compounds in small amounts, and silica are most frequently met with; other metals which are less common are detailed, as are also the organic substances and gases. It is pointed out how the thermality of the springs varies, some being extremely hot, whereas others, as the Evian waters, are cold. With regard to the classification of these various springs Dr. Yeo divides them into the following groups: (1) simple or indifferent; (2) common salt; (3) alkaline with its three subclasses of (*a*) simple alkaline, (*b*) alkaline and common salt, and (*c*) alkaline and sodium sulphate; (4) bitter; (5) iron or chalybeate; (6) earthy or calcareous; (7) sulphur, including sodium sulphide, sulphuretted hydrogen, and sulphur and sodium chloride water; and (8) arsenical, containing (*a*) arsenious acid and (*b*) arsenates. The author next describes the modes of application and action of mineral waters in a general sense. Waters may be applied externally or taken internally, both methods being employed in the majority of cases. As regards their general action, it is shown that none of their constituents is absorbed by the skin as was formerly thought. The simple thermal baths merely dilate the skin capillaries and thus promote the cutaneous blood circulation; if, however, the waters contain chemical elements stimulating the skin then additional effects are produced. Ample information of the effects thus excited by the various waters is given, whilst the chapter is completed by an account of the internal action of the waters. In Chapter III. medicated baths, pine-needle baths, peat baths, mud baths, sun baths, electric-light baths, and others are dealt with. The description of the principal medical springs follows and the obviously convenient plan of giving the particulars of the various mineral-water resorts in alphabetical order has been adopted, thus the practitioner can at once find details concerning any spring. In the description of each spring the reader is supplied with the chemical constitution of the water, the names of the maladies most suitable for treatment by it, its "season," and many other details.

We next come to one of the best chapters in the book—viz., the Counter-indications and Indications of Mineral Waters and Baths in the Alleviation and Cure of Disease. As regards the former, *advanced* cardiac diseases, *advanced* arterio-sclerosis, hepatic and renal cirrhosis, and pulmonary tuberculosis are contra-indicated as are all forms of malignant and serious organic visceral disease, all maladies with a disposition to internal hæmorrhage, grave diabetes, aneurysm, true angina pectoris, and grave and recent affections of the central nervous system, together with confirmed cases of paralysis. Certain special contra-indications are also pointed out. The application of mineral springs to the treatment of various maladies is succinctly treated under the various diseases; of special value is the section referring to disease of the circulatory system, the Nauheim treatment being fully set forth.

Part II. refers to the subject of Climate and Climatic Results. The various factors composing a climate are first enumerated. The author divides climates into (*a*) sea or insular; and (*b*) inland or continental. The characteristics of sea and mountain air are then narrated and there follow a full account of the nature of the various seaside resorts in England and Wales, Ireland and Scotland, the continental seaside resorts, the Engadine, the Riviera, and other places. An excellent chapter on winter resorts is given. The work concludes with the consideration of the kind of climatic resorts suited to particular maladies. The treatment of tuberculous affections is critically examined, Dr. Yeo believing in the efficacy of "open-air" treatment at home. A list of the sanatoriums for "open-air" treatment terminates this valuable work.

Drugs: their Production, Preparation, and Properties. By H. WIPPELL GADD, Fellow of the Chemical Society; Member of the Pharmaceutical Society and of the Society of Public Analysts; Lecturer on Pharmacy and Materia Medica to the Royal Albert Memorial College, Exeter. London: Baillière, Tindall, and Cox. 1904. Crown 8vo, pp. xii.–180. Price 5*s.* net.

THE author states that the object of this work is to give a concise account of the principal vegetable, animal, and chemical substances used in medicine. He adds that it has been written principally for students and that it embraces all the drugs included in the Pharmacopœia or mentioned in the syllabus of the qualifying examination of the Pharmaceutical Society. The introduction, which is concerned with *definitions and classification, immediately arrests attention* with the statement, "All drugs are poisons." Although at once explained these four words may readily be seized upon and misapplied by those who question the benefit of any system of medicine. A book of this kind stands or falls according to the value of its classification. Mr. Wippell Gadd divides his material into three sections, concerned respectively with vegetable products, animal products, and chemicals. The subdivisions, however, are not so satisfactory. An attempt has been made to deal in turn with the parts employed, as roots, stems, leaves, flowers, and such like. Now this presents obvious difficulties when different parts of the plant are official and sometimes produces confusion—e.g., under the heading of "Hairs, Glands, &c.," we find cotton-wool, kamala, and cowhage, with no indication that the last is not official. The animal products are grouped according to the animals from which they are derived, hence milk-sugar and ox-bile stand together, and thyroid follows wool fat. In the table of contents appears a remarkable line which must be quoted to be appreciated duly: "*Fish Product.* Cod-liver Oil. Musk. Castor. Animal or Curd Soap. Leeches." Under Insects and Insect Products we meet with shellac, while galls appear some pages earlier among plant products. Frequently the student is assisted with the etymology of botanical or technical terms and when Greek is employed the Greek characters are followed by the same word in italics with accents, but unhappily there is lack of consistency, for on p. 25 we find χωλή, *chōlē*, bile, and on p. 95 appears χολὴ, *cholē*, bile. Salt of tartar, the synonym for potassium carbonate, is derived from *tartarus*, hell, while no explanation is given of tartar emetic, where the sense of the derivation would seem to be more appropriate and convincing. Evidently the author has wearied in the attempt to be instructive, for although he does honour to the French chemist Pelletier and to Dr, Rodie, he leaves "Hanburii" and "Lansdorfii" without any explanation. Under Tragacanth it is amusing to find a quotation from Robert Browning vaunting the excellence of Judæa's gum tragacanth and followed by the author's grave correction that "the gum is, however, collected in Persia." We can commend this book for the entertainment it affords at a moderate price.

LIBRARY TABLE.

The Physiognomy of Mental Diseases and Degeneracy. By JAMES SHAW, M.D. R.U.I. Bristol: John Wright and Co. 1903. Pp. 83. Price 3*s.* net.—This little volume by Dr. Shaw appears opportunely at a time when the subjects of physical deterioration and mental degeneracy are occupying the public mind. The limited nature of the study as regards its restriction to the physiognomy of the insane and of allied degenerates enables the subject material to be compassed within a small scope. Dr. Shaw's experience in public asylums has enabled him to give excellent descriptions, often illustrated with reproductions of photographs, of the physiognomy, gestures and attitudes, and general appearances of patients suffering from the various forms of insanity. The text is not limited to mere description of features and appearances of the insane and of degenerates allied to the insane but includes useful remarks and information on the causation of the characteristic anatomical features and anomalies of structure which are so abundantly present in such individuals. Some interesting reproductions of photographs of the ears, the teeth, and the palate are added, as these organs show frequent variations and abnormalities of development in the class of persons considered. Dr. Shaw's work will serve as a handy unpretentious elementary introduction to the subject of the physiognomy of mental disease and degeneracy.

Ailments of Women and Girls. By FLORENCE STACPOOLE, Lecturer for the National Health Society and for the Councils of Technical Education. Bristol: John Wright and Co. Pp. 238. Prices: boards, 2*s.* net.; cloth, 3*s.* net.—This book is an excellent example of its class. There are many matters concerning their health upon which women are only too often wofully ignorant and many of the illnesses from which they suffer are brought on by neglect of the very simplest precautions. Mothers are especially to blame in this respect and forget that their daughters require careful supervision and instruction in order that they may avoid many of the ailments peculiar to their sex. This little book treats in a simple and straightforward fashion of the various common ailments to which women are liable. The author is to be congratulated upon the clear manner in which she has described these various conditions and upon the excellent common-sense of her recommendations. There are many hints in the book which will be of value to medical men and it is one which we can cordially recommend to those for whom it is intended.

Insanity in Everyday Life. By E. G. YOUNGER, M.D. Brux., M.R.C.P. Lond. London: Baillière, Tindall, and Cox. 1904. Pp. 109. Price 2*s.* 6*d.* net.—This useful little work aims at giving in brief compass the broad outlines of insanity as met with in general practice. The causes of insanity and the early and premonitory symptoms are briefly but clearly dealt with at the outset and the various matters concerning the certification and care of lunatics are referred to. A description is then given of the "types" and the special "forms" of insanity, the classification being based on old and well-worn but useful lines. The descriptions are marked by clearness of expression and due emphasis is laid on points of diagnostic and practical importance. "Borderland" forms of insanity are very briefly referred to, though they form the bulk of cases which pass through the hands of the practitioner before they reach the specialist in psychological medicine. The work certainly succeeds in what it professes to do—viz., in giving a concise, clear, and practical account of insanity and of lunacy law in so far as they concern the general practitioner. It is written in an easy, lucid, and readable style and would be useful also to the medical student attending a first course of lectures and clinical instruction in mental disease.

The Black-Country Nurse: Extracts from the Life of Nurse Sirrah. By LIZZETTEE. Pp. 63. Price 1*s.*—It is a comfort to a reviewer after a course of profound scientific works to come across such a simple and unaffected narrative as that presented in the work now before us. We call it simple but the writer makes great use of a figure similar to the rhetorical figure known as the paraprosdokian. She plunges *in medias res* by informing us that "Nurse Sirrah was when a child rather peculiar." Her name was Eliza and we must reluctantly pass over her early days until she had an offer of marriage, "but having heard such an indifferent account of the gentleman was sorry and was obliged to refuse him and his kind offer." After this she, while living with a dear old Christian lady, attracted a schoolmaster, a curate, a tinplate worker, an edged-tool grinder, and two tailors. However, Miss Sirrah would have none of them and went away to be trained as a nurse. She was trained near the river Mersey, then she went to Queen's Hospital, Birmingham, then to the Suffolk General Hospital, then to a little hospital in the Fens. Here the matron was a "very nice woman matron, ... very neat in her appearance, often being dressed in black silk, ... but unfortunately in a while she became tired of hospital life and left the institution to live with her daughter. They kept a ladies' school just for amusement." Nurse Sirrah eventually found herself at Poplar Hospital where the house surgeon "was a good and such a nice man. Miss C., Sirrah and all the rest were in love with him. But the callous young dog went one day and monopolised the heart of one of the visiting doctor's daughters. But he asked all the nurses for a likeness and gave them one of his own; and then went and got married." We are pleased to be able to state that the nurses, far from resenting this heartless conduct, "bought him a flower-stand from Mappin and Webb's, a silver stand with silver feet, and a glass bowl for the flowers. Sirrah and others filled it with choice flowers and presented it to the doctor who was very pleased with his wedding present." Nurse Sirrah seems to have been a passionate young woman, for when the new house surgeon was appointed, he was a nice-looking, dark-complexioned man, she "fell in love with him—so that was all right; she was well suited for a lover—in the house and another out of the house—a barber." Such goings on as these deservedly came to a bad end. The barber "used to furnish her with scent and hair improvers, and bear's grease, and scented pomade, and tooth powder, until she had all her teeth out and then he gave her up."[1] The house surgeon, however, "stuck to his attentions, found her medicine and a set of teeth, a walking stick, and an umbrella, and then left to marry the late house surgeon's wife's sister." After this double reverse Nurse Sirrah left Poplar and went to St. Thomas's Hospital where with many regrets we must leave her. Every nurse and every house surgeon should read this work. We have rarely come across any book which gives such a vivid picture of hospital life, not even Mr. Hall Caine's "The Christian." we cannot forbear from quoting the following dramatic episode as a finish: "So the assistant house surgeon became betrothed to the sister nurse of the children's ward. They married on pain of dismissal. Then the lady superintendent asked the head house surgeon to become betrothed to her. But the doctor replied, expressing his inability to compete, saying his engagements were so many and some so urgent that he could not possibly grasp such an enormous link to unite in matrimony, particularly with one who was a widow and herself a lady of rank."

Analytical Records

FROM

THE LANCET LABORATORY.

1) HEMISINE PREPARATIONS, "TABLOID," "SOLOID," AND "ENULE"; (2) "ENULE" QUASSIN, "ENULE" SOAP COMPOUND; AND (3) "TABLOID" VERONAL.

(BURROUGHS, WELLCOME, AND CO., SNOW-HILL BUILDINGS, HOLBORN, LONDON, E.C.)

1. Hemisine represents the active principle of the medulla of the suprarenal gland. The action of this principle, as is well known, is powerfully hæmostatic and it has been employed internally in hæmatemesis, hæmoptysis, and in cerebral hæmorrhage. It is suggested that hemisine is of greater therapeutic value than either digitalis or strychnine. The "tabloid" hemisine is suitable for internal administration and the "soloid" is useful for external application, the ophthalmic tabloid for ocular use, and the enule of hemisine for application in the rectum. It may be added that hemisine is used in the form of a spray in the treatment of hay fever and in inflamed conditions of the throat and nose. 2. Recent additions to the list of rectal suppositories known as the "enule" brand are "enule" quassin employed as an anthelmintic for the ascaris lumbricoides and "enule" soap compound containing equal parts of curd soap and dried sulphate of sodium, a combination that is useful for the relief of constipation. 3. Veronal is a hypnotic of comparatively recent introduction and already some favourable reports have been made in regard to its use. Its therapeutic action appears to be similar to that of trional but with more satisfactory results. Veronal is a synthetic compound which is chemically described as di-ethyl-malonyl-urea. Tabloids of veronal are made containing 0·5 gramme and 1 gramme respectively of the drug.

SCOTCH WHISKY.

(HENRY SIMPSON AND CO., GLASGOW, AND 6, CROSBY-SQUARE, LONDON, E.C.)

This spirit is characterised by a somewhat dark colour and the impression which it gives on tasting is that of a well-matured whisky. On analysis the following results were obtained: extractives, 0·15 per cent.; mineral matter, *nil*; alcohol, by weight 40·05 per cent., by volume 47·40 per cent., equal to proof spirit 83·07 per cent.; volatile acidity calculated as acetic acid, 0·024 per cent.; and fixed acidity calculated as tartaric acid, 0·015 per cent. As regards secondary products the following were the results given in grammes per 100 litres of absolute alcohol present: acidity calculated as acetic acid, 50·88; aldehyde, 17·65; furfural, 3·23; ethers calculated as ethyl acetate, 57·83; and higher alcohols, 212·70. The total secondary products are thus 342·29. According to these figures the spirit presents the composition of pure malt whisky. The taste is soft and mellow and there is an entire absence of harsh qualities.

DUTCH RUSKS.

(AGENCY: L. TERWINDT, LIMITED, 76, QUEEN-STREET, LONDON, E.C.)

The rusk is both palatable and nutritious and has the further advantage of being sterilised, since the heat required to cook a rusk is calculated to destroy micro-organisms. The specimens of Dutch rusks which we examined are excellent, the texture is uniform, and while crisp they are not hard. According to the appearance under the microscope the rusk is thoroughly cooked. No less than one-fifth part of the rusk is soluble in cold water and much of the starch is converted into dextrin. These rusks afford an excellent substitute for toast, though perhaps a trifle sweet.

(1) VITOFER PREPARATIONS; (2) INFANT'S MILK FOOD; AND (3) YEAST TABLETS AND POWDER.

(J. STAUFFER AND CO., ENGHEIM, BELGIUM. AGENTS: MATTHAEI AND CO., CULLUM-STREET, LONDON, E.C.)

1. "Vitofer" occurs in brilliant reddish-brown scales which are readily soluble in water, yielding a red solution exhibiting the properties of hæmoglobin. Coagulation occurs when the solution is heated to 70° C. The solution shows the characteristic spectrum of hæmoglobin. According to our analysis vitofer contains 0·6 per cent. of iron in organic association. The moisture amounted to 6·7 per cent. and the total mineral matter to 2·20 per cent. This preparation mixed with chocolate *forms* vitofer chocolates which afford a convenient way of administering the hæmatinic. In the same way vitofer is added to a farinaceous milk food. This food, however, according to our analysis, is deficient in fat, the total amount being *only* 3·30 per cent. Vitofer is prepared from fresh bullock's blood previously deprived of fibrin and fatty matters. It exhibits hæmoglobin in a convenient way and should be of service in conditions of enfeebled nutrition or in which the blood is impoverished. 2. Stauffer's infant's milk food is stated to be prepared from fresh milk and to exhibit a composition identical with that of human milk. We cannot reconcile these statements with the results of our analysis. To begin with, the food is deficient in fat and

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[1] Cf. Pes, Samivellus; De quadam in hortum ingrediente ad brassicae folium secandum.

besides contains starch and more than half its weight of cane sugar. The total proteids amounted to 14·46 per cent. and the mineral matter to 1·50 per cent. 3 The yeast tablets and powder gave satisfactory evidence of activity. These preparations are intended for internal administration for the treatment of carbuncle and anthrax. Yeast has also been used as a remedy for constipation. These yeast preparations, on account of their purity, are well adapted for medical use.

LIME JUICE AND LIME JUICE CORDIAL.

(L. ROSE AND CO, LIMITED, LEITH; AND 89, WORSHIP STREET, LONDON, E C.)

The lime juice gave the following results on analysis: total solid matter, 8·46 per cent.; mineral matter, 0·40 per cent.; and acidity calculated as citric acid, 7·76 per cent. The preparation was free from salicylic acid but contained sulphurous acid. The cordial gave the following results on analysis: total solid matter, 34·24 per cent.; mineral matter, 0·14 per cent.; sugar, 10·00 per cent.; and acidity calculated as citric acid, 2·94 per cent. The cordial contained both salicylic acid and sulphurous acid for preserving purposes. We have little doubt that both the juice and the cordial are made from the choicest materials procurable and that being so it seems to be a pity that they cannot be preserved without the use of chemical agents.

(1) HÆMABOLOIDS; AND (2) FORMOLYPTOL.

(PALISADE MANUFACTURING CO., NEW YORK; AND ANDRUS AND ANDRUS, 46, HOLBORN VIADUCT, LONDON, E C)

1. "Hæmaboloid" is a liquid preparation which is described as "the combination of the various iron-bearing nucleo-albumins of the vegetable kingdom reinforced by bone marrow extract and beef peptones antiseptically treated with nuclein." It is said to possess considerable therapeutic value in all anæmic conditions and a good deal of clinical evidence is quoted by the makers in support of this view. According to our analysis the preparation contains a considerable amount of iron in an organic form, associated, in fact, with nucleins and phosphorus and peptones. The liquid preparation contains 8·71 per cent. of solid matter, of which 0·6 per cent. consists of iron calculated as ferric oxide. We have also examined a preparation of hæmaboloids containing arsenic and strychnine, the presence of both of which we were able to confirm. 2. Formolyptol is a pleasant and fragrant antiseptic fluid which may be used both internally and externally. It contains glycerine, borax, and formaldehyde, besides the pleasant aromatic and antiseptic bodies pinus pumilio, eucalyptus, myrrh, storax, and benzoin. The preparation is colourless and is a very agreeable form of antiseptic for toilet use as well as for medical and surgical purposes.

ARDATH CABINET CIGARS MINIMUM NICOTINUM

(THE ARDATH TOBACCO CO., 44, WORSHIP STREET, FINSBURY, LONDON, E C.)

We entirely approve of the method under which it is stated the "ardath" cigar is manufactured. The objectionable practice of finishing off the end of a cigar by licking it is strongly discountenanced by these manufacturers according to their statements. The operatives in the factories of this company are compelled, so it is affirmed, to finish the shaping of the cigar by means of a knife only. The selection of the leaf is aimed at producing a "mild" cigar and on trial these cigars proved to be "mild smoking" whilst yielding a pleasant aromatic smoke. We found also that the amount of nicotine does not exceed 2 per cent., which is considerably below that frequently found in Havana cigars.

SCANDINAVIAN STOUT.

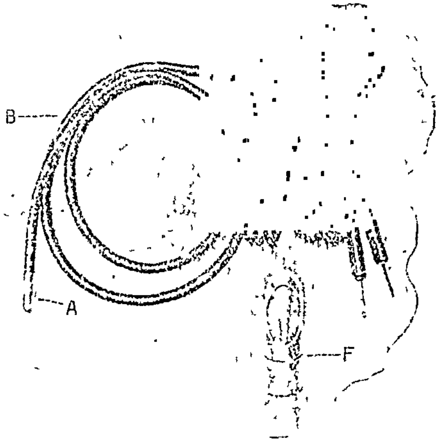
(AGENT: F. DAGGER, 3 AND 4, GREAT WINCHESTER-STREET, LONDON, E C)

This malt liquor gave on analysis the following results: extractives, 8·81 per cent.; mineral matter, 0·36 per cent.; alcohol, by weight 4·62 per cent, by volume 5·78 per cent., equal to proof spirit 10·13 per cent.; volatile acidity reckoned as acetic acid, 0·036 per cent.; and fixed acidity calculated as tartaric acid, 0·25 per cent. This is a good nourishing stout, with an excellent flavour due to malt and hops. The stout was in sound condition, practically free from acidity and from excess of gas. The alcoholic strength is comparatively low, while the nourishing malt extractives are high. These results indicate that the stout is well adapted for invalids' use.

New Inventions.

A NEW GASTRO-DIAPHANE.

As a rapid means of diagnosing dilatation of the stomach and differentiating it from gastroptosis it is probable that the gastro-diaphane would be found of the greatest service in daily practice if it were not so difficult to use. The chief reason for this is the clumsy way in which it is constructed and its comparatively great diameter, the instrument of Einhorn measuring 39 Charrière and having a rigid end of over two inches. It is obviously impossible in most cases to use such an instrument except upon patients who have been accustomed to the passage of the tube. Unfortunately in these it is not necessary as the diagnosis will have been made by other means. It appears to me that if the diaphane is ever to come into daily routine use we must have an instrument which can be readily passed upon a patient who is seen for the first time and who has not previously had a tube introduced into his stomach. It is with the hope of providing such a form of apparatus that I have had the diaphane figured above constructed by Messrs. Lemmon and Co., 19, Hanover-square. It consists essentially of a cystoscope lamp (A), carried on the end of a stomach tube (B) of the same diameter (21 Charrière), connected by means of a switch (D) with the connecting cords (E). At (C) we see the plug connexions between the tube and the switch. The apparatus is so arranged that when the switch is in a position pointing towards the left shoulder of the patient and parallel to it the window of the lamp is directly forwards and in proper position to illuminate the stomach. At (F) the actual size of the lamp and tube is shown. The light emitted appears to be quite equal to that given by the older form of apparatus.



Harley street, W. GEORGE HERSCHELL, M.D. Lond.

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they live and whose suggestions will be realised, if at all, only by subsequent generations, and those who are from the first visionary and unpractical. If memory does not deceive us the meetings of the deceased association were largely occupied in listening to counsels of perfection not destined to be realised in this imperfect world, and hence, although the reforms proposed were usually of a kind which could only be carried into effect by the aid of legislation, most prudent legislators were accustomed to look askance at them. There were, of course, some which involved no special legal requirements; and we have a distinct recollection of one much-applauded paper in which it was suggested as a remedy for most of the domestic evils afflicting the working classes that their girl children should be taught, even from infancy, to modulate their voices to dulcet harmonies, in order that it might be practically impossible for them, when adult age was reached, to excite the anger of brutal husbands by shrill-toned scolding or vituperation. Not only was the soft answer to turn away marital wrath; but its very softness was to be enhanced and emphasised by the music of the voice in which it was delivered. The nature of the precise steps by which the indicated reform was to be brought into operation was not, so far as we recollect, very clearly indicated by the author.

Among the leading spirits of the new movement a prominent place is held by that accomplished statistician and student of heredity Mr. FRANCIS GALTON, F.R.S., and we have been favoured with a preliminary proof of a paper on "Eugenics," its definition, scope, and aims, which he is to read before the new society on Monday next. The definition is necessary because—although Mr. GALTON is not using the word for the first time and although his invention and earlier use of it has secured for it a place in the English language, so far as that distinction can be afforded by the great Oxford Dictionary—it still can hardly be said to convey, as a matter of etymology, all that its author or inventor seeks to place upon its shoulders. Mr. GALTON does not realise with sufficient clearness that the prefix "*Eu*," even if we follow him in regarding it as the equivalent of "*good*," leaves the definition of good entirely doubtful; nor does he seem to be aware that the kindred compound, "*Eugenesis*," found its way into biological jargon many years ago as a coinage intended to denote mere fertility of parents without any reference to the quality of the offspring. In the latter sense the old Poor-law, under which every labourer was encouraged to marry early, and was paid an increased allowance from the rates on the birth of each successive infant, was probably the greatest and most effective promoter of eugenesis that the world has witnessed, but we greatly doubt whether Mr. GALTON would desire to restore it as an aid to the cultivation of eugenics. We have no wish to quarrel with a word, but if COBBETT had any justification for his famous requirement that an English sentence should be as clear as a pebbled brook, we may surely urge as an essential condition that the words of which the sentence is composed should convey the same ideas to all who see or hear them, and should be in no need of tedious interpretation either by footnotes or in the text. The "science of eugenics," we are told, "deals with all influences that improve the inborn qualities of a race; also with those that develop them to the utmost advantage." If we accept the common definition of "science" and employ the word to mean methodically arranged or digested knowledge, we must humbly express a doubt whether any science of eugenics is at present in existence or whether there is any probability of its being constituted at an early date. All that has so far been presented to us is a series of suggestions that this and that obscure problem might perhaps be solved if a proper amount of care and study were bestowed upon the collection and marshalling of facts calculated to lead to the solution. In the later portions of his paper, from which we hesitate to quote because what we have received is a proof open to revision, Mr. GALTON escapes from the generalities of the commencement and describes it as the aim of "eugenics" to make the more useful classes of the community contribute more than their rateable proportion to the next generation. In other words, he looks to the new or projected science as an agency which will promote the physical and intellectual development of the human race. We say human race advisedly, because it is inconceivable that the "more useful classes," whichever they may be, could be improved in any sensible manner except by means which to some extent would reach and influence the less useful classes also.

So far as our own outlook extends we can only discover one department of science by which the human race is in the least likely to be improved in the manner indicated, and that department is physiology, applied in the first place to nutrition and in the second place to education. We want physiologists to tell us how the young human organism should be reared and fed in order to develop to the utmost the latent possibilities of each individual, and to tell us also how the cells of the immature brain may be guided towards effective growth in this or that direction. Neither of these problems can be insoluble, but no definite attempt at solving either of them has so far fallen under our observation. Mr. GALTON refers to his favourite subject of heredity, but we doubt whether studies of real or apparent hereditary influence will be helpful in the present state of knowledge, or we should perhaps say of ignorance, about the essential conditions of physical or of intellectual activity. We do not gather figs from thistles, and it is obvious to common observation that offspring seldom rise greatly above the level of their parents. But, on the other hand, we see such wide dissimilarities between the offspring of the same parents that we must fall back upon vague conjectures about atavism before we can find any words which appear to offer an explanation of the familiar facts. Even twins, while sometimes marvellously alike, are in other instances markedly different from each other in formation, in character, and in capacity. The feeding of the children of the nation is at present regulated partly by tradition supposed to be based upon experience and partly by the interested falsehoods of the common advertiser. The education of the same children is regulated by the ideas of the preacher, the schoolmaster, and the county councillor. We greatly fear that the new society is likely to fall into the hands of men who will talk grave nonsense about what they call "psychology" and who will neither know nor seek to know anything of the growth or the recuperation of brain tissue. The time has surely come when the problems of immature existence should be boldly grappled with by the physiologist, and when the discoveries of the physiologist should be prepared for public assimilation by the physician.

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Horrors without Foundation.

The recovery of the ill-fated submarine A 1 a fortnight ago, the coroners' inquest upon her gallant officers and crew, and the payment of the last honours to their remains revived the national sorrow as well as the grief of those mourning for relatives lost in her. But the pain now felt should be less terrible than the uncertainty and fear which must have beset them owing to rumours which before were current as to the possibility of those on board having died a lingering and painful death. These questions have been set at rest—men and officers died at their posts and if they could make no struggle to save themselves were at least spared the agony of making it in vain, but we are entitled to ask what justification there was for the horrible surmises which appeared in the daily press. The most detailed and circumstantial form which the rumours referred to assumed was to be found in the columns of the *Daily News* of April 11th and it is against the needless publication of horrors of this kind without the closest examination as to their truth and the most careful sifting of the facts alleged that we protest on behalf of the public at large and on behalf of those more intimately connected with the dead. The matter to which we refer filled about half a column of the newspaper. It was headed, "Truth about A 1," and the same line formed a conspicuous item in the contents bill. The story told was based upon an alleged examination of the interior of the submerged boat by the divers and was to the effect that of 11 men and officers one was missing. The details were complete, even the name of the missing man was given, with the suggestion that he had been released through a torpedo-tube in order to endeavour to accelerate the rescue of his comrades confined still alive in the submarine. A well-known diver employed was named as the authority for this statement and also for one to the effect that a message written on a sheet of paper torn from a note-book had been left by the crew, but, it was added, the contents had not yet been made known. Other details included a story that the submarine had been raised and towed to Bemridge Ledge off the Isle of Wight, presumably as a preliminary to the ultimate removal to the dock which, as everybody knew, was to be its ultimate destination. Below this tale came two notes, the one relating to the rough weather which had rendered all progress impossible and the other recording a denial by Sir John Fisher of the report that the vessel had been raised to the surface and the bodies examined. This denial was qualified as "official" and to the whole was appended an editorial note "We have been unable to communicate with our correspondent whose statement we give with reserve.—Ed. D.N." To what extent the expression "with reserve" applies to a story headed "Truth About A 1" we leave to our readers to decide, only adding that it was followed in conspicuous type at the head of the column by the lines "Terrible Spectacle," "Doomed Crew's Message," "One Body Missing"; "From our own Correspondent, Portsmouth." The mental picture of suffering and death suggested by these words and by the account to which they called attention we need not dwell upon. The story was one which in the interest of the living relatives of the dead, as well as of the wider public which sympathises so deeply with them, might well have been suppressed even had it been true in every particular.

The recording of horrors wholly or in part without foundation is, however, not a rare occurrence in the cheaper newspapers which no doubt find that their readers like something which will "make their flesh creep." It is, however, discreditable to the newspaper when it occurs and it is a practice which adds to the bulk of demoralising literature daily laid before the classes least fitted by education and temperament to withstand its subtle influences. Tales of death and of crime are not wholesome reading for the weak-nerved and morbid minded and if it is necessary that some publicity should be afforded to them it is highly undesirable that fictitious additions should be allowed to increase the attraction which they present to depraved intelligences. As an instance may be cited a story told in the *Star* of Dec. 31st, 1903, headed "Murder!" "Woman gagged and killed off Tottenham Court-road." A young woman had been found dead in her bedroom with her throat cut, and difficulty afterwards arose in determining whether she had been murdered or had committed suicide with the aid of a piece of glass. The account given in the issue of the *Star* referred to began with the words, "Thus far all that can be stated with certainty is this," and after other points had been touched upon went on to say, "The police were eventually called in only to find the woman's nude body lying on the bed with her throat cut in the most terrible fashion. She had been gagged and blindfolded and her hands bound together across her breast." From the evidence at the inquest it appeared that the woman's throat was cut, but that when the police broke in only her head and shoulders were uncovered. Her nudity, her gagged, blindfolded, and bound condition, all the "horrible details" in short, had no foundation in fact; a statement that she had been robbed and that her valuables were missing was also apparently untrue. With the suicide or the accidental death, however, which figures in the newspapers as a "Mysterious Crime" until the sworn evidence at the inquest throws the light of truth upon it we are all familiar. Unfortunately the "mysterious crime" is a more exciting and attractive topic for the morbid-minded section of the public than the death of the mentally deranged by his own hands or the tragic result of a commonplace mishap. The anxiety which at times is felt with regard to public personages and the issue of public events affords an opportunity for the circulation of many untrue stories and at the same time adds to the distressing effect which these may produce. The horror excited by a statement published in the *Daily Mail* as to the fate of those who were known to be undergoing siege in the embassies at Peking will be recalled as an instance of "news" of this class. The present war between Russia and Japan has afforded, and will continue to afford, abundant opportunity for the publication of the horrifying but wholly or partly untrue reports of disaster and massacre, an opportunity which we venture to hope will be used as sparingly as possible in this country.

The complete elimination of untruth and inaccuracy from all matter published is, of course, impossible. News has to be brought out promptly if it is to remain news at all. When, however, it relates to topics which if true can only shock and distress, when a suspicion of improbability attaches to it and all external circumstance and trustworthy evidence which might even indirectly corroborate are absent, it may surely be omitted without the newspaper losing its name for enterprise and general attractiveness. The value of a reputation for honourable reticence and for purveying that which can be relied upon as true is also a matter for the consideration of those interested in a journal's material prosperity.

The Office of Coroner.

A PARAGRAPH in our New York correspondent's letter on p. 1314 of THE LANCET of May 7th announced that after a struggle lasting many years the medical profession of New York city has succeeded in getting a Bill through the State Legislature to abolish the office of coroner. It may seem to some a little anomalous that there should exist in so democratic a community an office associated with obsolete functions of extreme antiquity and deriving its name from services rendered directly to the Crown, but the title of coroner has long been dissociated from the duty of recording the "placita coronæ" or "pleas of the Crown" and of watching those sources of Crown revenue which might arise out of the punishment of crime. In days when *felo de se* and other felonies produced forfeiture of goods and when an accidental death might result in the chattel which caused it being handed over to the Crown or to the Crown's grantee as a "deodand," the "crowner" was a knight of high standing in his county and the proper performance of his duties was a matter of direct interest to his sovereign. In New York, however, as in England, the main duty of the modern coroner has been to hold inquiries of one description only and of a kind which makes it highly desirable in the public interest that they should be intrusted to medical men. There are no doubt many differences between the coroner in New York and the synonymous judicial officer on this side of the Atlantic. Our correspondent's letter showed this where it informed us that the change which he announced had been delayed because "the four coroners of the city have hitherto been a power in politics that defeated year after year the united efforts of all our medical organisations," a condition which those familiar only with British political methods and with the position occupied by British officials may find difficult to grasp. The innovation, however, which our correspondent briefly described showed that the efficient investigation of the cause of death in all cases has been the object sought by the medical profession in New York and that is the end to which criticism of the coroner's functions has always been addressed in THE LANCET ever since the late THOMAS WAKLEY first applied himself to the subject and personally filled the office in question. In New York the Health Department is to institute a "Bureau of Medical Examiners," presided over by a pathologist and composed of medical men, with the duty of determining the cause of death. The district attorney is to take charge of the case when an element of crime enters into it, and the existing coroners during the residue of their terms of office are to preside at inquests as before. The organisation of the new system in detail and its practical working should be watched with interest in the country which originated and developed the system thus superseded. Deaths are not inquired into by coroners in Scotland, but in England and in Ireland, under different Acts of Parliament and in various circumstances, this important duty is intrusted to the coroner in a limited number of cases. He is not expected and is not empowered to afford to the public more than a moderate degree of protection. His inquests do not even cover all the ground left vacant by the absence of the medical attendant's death certificate. He has power to hold them only "where he is informed that the dead body of a person is lying within his jurisdiction and there is reasonable cause to suspect that such person has died either a violent or an unnatural death, or has died a sudden death of which the cause is unknown, or that such person has died in prison," or where an inquest is required under any Act of Parliament. In order that he may be able to determine whether an inquest should be held or not subject to the limitations thus imposed, as well as in order that he may conduct it efficiently, it is clearly of the utmost importance that the coroner should be a medical man, and of recent years, particularly in large towns, medical men as a rule have been chosen for these appointments, but even thus it cannot be said that the cause of death is established as certainly or as universally as it should be in a highly civilised community such as ours. It will be interesting to observe the nature and extent of the change effected in New York by the "Bureau of Medical Examiners" of the State Health Department. No doubt the bureau will enter upon an extremely difficult task but its experiment, even if not at first completely successful, will afford a valuable guide to others.

Annotations.

"Ne quid nimis."

METROPOLITAN STREET AMBULANCE ASSOCIATION.

THE general purposes committee of the London County Council received on May 9th at the offices of the London County Council, Spring-gardens, a deputation from the Metropolitan Street Ambulance Association. The deputation comprised amongst its number Mr. Reginald Harrison, the President of the association, Sir William S. Church, President of the Royal College of Physicians of London, Sir Alfred Cooper, Vice-President of the Royal College of Surgeons of England, Sir Thomas Barlow, Mr. A. A. Bowlby, Mr. Raymond Johnson, Dr. H. D. Rolleston, Mr. C. S. Wallace, Dr. R. Dudfield, and Dr. Arthur W. James, the honorary secretary, who originated the association. With the deputation there were also Lieutenant-Colonel Sir R. Temple and Colonel Sir H. C. Perrott, representing the St. John Ambulance Association. This influential deputation was introduced by Sir William J. Collins to Mr. Thomas McKinnon Wood, the chairman of the general purposes committee of the London County Council. Mr. Harrison, as president of the association, stated briefly the reasons why the deputation approached the London County Council in the hope of inducing that authority to graft upon the Fire Brigade an efficient ambulance service. Sir William Church, who next spoke, drew especial attention to the great saving of cost that would ensue if the advantageous method of combining the Fire Brigade and ambulance services was adopted. It was stated that the Poplar Hospital was estimated to receive four cases of accident or sudden illness every hour day and night throughout the year. The representatives of the St. John Ambulance Association also stated how anxious their association was to help the proposed plan in every way. A large portion of the time was occupied in answering the many questions asked by the members of the general purposes committee; these were mostly responded to by Dr. James who explained that the proposed ambulance service would not put more work on the Fire Brigade as at present constituted. It was estimated that every year 15,000 casualties had to be removed to hospitals and the association suggested that a sufficient number of men, horses, and ambulances should be added to the Fire Brigade to deal efficiently with the task. It would appear that out of the 90 fire stations only 30 would have to be furnished with ambulances. Dealing with the question as to whether calls for ambulances would not interfere with the alarms for fire Dr. James explained how such calls nowadays were carried out by means of telephones and in this way no inconvenience would arise as might possibly have been the case if the old plan of simply using a bell were still in use. Some confusion seemed to exist as to what should be expected from the police but Dr. James was able to clear up the difficulty entirely by pointing out that the police would help in the ambulance service in exactly the same way as they helped in cases of fire. The council has appointed a subcommittee to consider the question.

THE INQUEST UPON MRS. PIERCY.

A SAD occurrence which took place at the West London Hospital recently has been made the subject, consequent on the publicity of the proceedings before the coroner, of some unjust reflections upon the institution in question. We need not enter into the details of the story as they have been brought to the attention of all the medical profession, but the gist is as follows. A patient was operated upon for a ruptured Fallopian tube in circumstances of great hurry, the need for the hurry being her absolutely desperate condition. The operation proved only partially successful and a recurrence of symptoms led to the reopening of the abdomen. It was then discovered that a small pair of forceps had been left in the abdomen after the first operation. The patient died and the coroner's jury, having heard the evidence of the surgeon who performed the first operation, of his house surgeon who assisted him, and of the nursing sister in charge of the theatre, brought in the following verdict: "Death from misadventure due to peritonitis following an operation, accelerated by the presence of the forceps," adding as a rider, "we consider the system at the hospital is largely at fault and suggest that in future all instruments should be numbered and counted before and after each operation." The operating surgeon, a man of many years' experience, was able to bring unimpeachable testimony to his scrupulous care as an operator, while the possibility of such a deplorable oversight occurring despite rigorous precaution was also proved. The jury quite appreciated these points, but they evidently considered that at the West London Hospital the procedure in regard to such operations was not attended with due care. The evidence of the theatre sister was to the effect that the sponges were counted as a matter of routine both before and after the operation but that the instruments were only counted before the operation, and this statement puzzled them, as, indeed, it puzzled us. An examination, however, of all the circumstances puts the matter in a much more favourable light for the hospital. We have now received statements from the two nursing sisters who have been in charge practically of the operating theatre at the West London Hospital for the last six years and it is clear that the "system" which has been blamed does not exist. The independent statements of these two sisters show that there is no defect in the system of checking instruments at the hospital, although, to the profound regret of everyone concerned, the routine at the West London Hospital—the counting and checking which prevail, of course, everywhere else—was not observed on this occasion. Each sister says that upon taking charge of the operating theatre she was enjoined to count the instruments, sponges, and swabs before and after every operation and to hold herself responsible for having done so. On the lamentable occasion in question the nursing sister, following instructions, detected that a sponge was missing and it was found in the abdomen, but it does not seem to have occurred to anyone concerned that an instrument might also be concealed in a similar manner. A reason for this oversight has been communicated to us by the senior surgeon of the hospital who writes:—

> Changes in methods occur in a progressive art like surgery and the following most important change must be remembered. Whereas years ago it was the custom to stop hæmorrhage inside the abdomen by applying small artery forceps to numerous points and afterwards tying those points one by one, many surgeons have almost entirely discarded this plan. I do not think that I myself have put out of sight a single small pair of forceps in the last 300 abdominal operations performed by me. I remember well the preoccupation of mind it caused me on the last occasion when I did such a thing. So it happens that while within the last few months I have on various occasions reminded the sister about counting swabs placed in the abdomen, I have never had to ask her about counting the instruments. As no instruments were put out of sight, it was unnecessary to do so. Some, if not all, of my colleagues have, I know, acted much in the same way. Thus, the house surgeon, the sister, and all concerned have had constantly held up before their eyes the importance of counting the sponges, while actual recent experience has tended to minimise the ancient and necessary rule that instruments should be counted too.

We think that the view taken by the senior surgeon is almost certainly right, and confirmation is given to it by the fact that the present theatre sister, for whose care and conscientiousness we are in a position to vouch, had only returned to the position after an absence from work in the operating theatre of over six years. If we further bear in mind that this unfortunate oversight took place in connexion with a case of acute hæmorrhage of the most dangerous description, and if we appreciate that the operations of surgery must sometimes be done under conditions of emergency and haste which resemble those found in the operations of war, it will be recognised by every fair-minded person that even the most careful surgeon, aided by the most scrupulous assistants, is liable to be visited by a similar calamity. Just as it is impossible to make any delicate mechanical contrivance absolutely "fool-proof," so it is impossible to invent any system of counting instruments and sponges which will entirely do away with human fallibility. We have the deepest sympathy with the husband of the unfortunate woman, and are in no way attempting to lessen the catastrophe when we say that it is quite likely that the overlooked forceps had nothing to do with her death.

DISTRIBUTION OF PLAGUE.

LORD MILNER in a telegram received at the Colonial Office on May 2nd states that since April 23rd 14 fresh cases of plague have been notified in the Transvaal, 11 being in coloured persons and 3 in white persons. Out of the suspected cases 32 have been found to be not suffering from plague, making the total number of suspected and proved cases to be 142—viz., coloured persons 123 and whites 19. Since April 23rd 5 deaths have been reported, all being of coloured persons. For the week ending May 7th the total number of fresh cases reported since April 30th is 11, 6 being white persons and 5 coloured; 19 cases have been found not to be plague, making the present total of suspected and proved cases 134, 22 whites and 112 coloured. The number of deaths for the week is 4, 1 of a white and 3 of coloured patients. In Cape Colony for the week ending April 16th only 1 case of plague was reported—namely, a coloured male at Port Elizabeth. Plague-infected rodents were also found in the town. As regards the Mauritius a telegram from the Acting Governor received at the Colonial Office on May 6th states that for the week ending May 5th there was 1 case of plague which proved fatal.

DOES SYPHONAGE OCCUR IN THE LARGE INTESTINE?

A LIVELY controversy has been going on lately in our columns as to the way in which the colon propels its contents into the rectum preparatory to their evacuation. Dr. R. W. Leftwich is an advocate of a novel view, for he seeks to explain this action of the colon on purely hydrostatic principles. He considers that hydrostatic pressure is brought to bear on the large bowel by the small intestine at the ileo-cæcal orifice and that the colon, in man at all events, acts after the manner of a syphon of which the descending colon and its continuation form the longer limb. In a small volume in which he has published the results of his speculations and experiments Dr. Leftwich advocates the avoidance of the recumbent position in strictures of the colon, points out that the proper position after the administration of an enema is the erect one, conjectures that intussusceptions are the results of cæcal vacua, and states that in typhoid fever the patient should be made to sit up, during the first ten days at all events, for stated intervals. He certainly has the courage of his opinions. His opponent, Dr. A. Keith, has with persistence asserted that this view of the purely hydrostatic action of the colon in emptying itself is erroneous. Dr. Keith's chief reasons for dissenting from the theories of Dr. Leftwich are the known consistence of the contents which is not such as to favour syphonage; the impossibility under normal conditions of maintaining a rigid and at the same time freely pervious colon; the great development of the muscular coats of this part of the bowel; and, lastly, the actual demonstration of peristaltic movements in it. Dr. Leftwich, on the other hand, doubts the power of the human colon to propel its contents against gravity and infers that the rigidity of the tube is sufficiently provided for by tonic contraction of its longitudinal bands and the support yielded by the doubling in of the ridges between the saccules. He holds that the failure of saline purges if the patient retires to bed after taking them, the occurrence of morning diarrhœa in some conditions, and the normal morning evacuation all support his contention of syphonage as the active agent in causing the onward passage of the contents of the colon. We think that Dr. Keith has advanced cogent reasons for doubting the presence of such a mechanism as that which Dr. Leftwich invokes and our scepticism is strengthened when we turn to a description of the mechanism as given by Dr. Leftwich in his own book, for at one stage he postulates the following condition of affairs: an inverted rigid U-tube (the colon) with a vacuum at the cæcal end and a fæcal column suspended between the cæcum and the rectum, the end which lies in the descending column in some mysterious way supporting the end which lies in the ascending colon. Since the publication of Dr. Keith's last letter we have received a further communication from Dr. Leftwich in which he still maintains his original position. The discussion is of use in that it draws attention to the possible normal condition of the colon during life. This portion of the bowel is probably in a condition of slight tonic rigidity and in its empty state has practically no lumen. Considerable lengths of the colon may occasionally be seen in a firmly contracted condition during abdominal operations on man and a similar appearance is not infrequently met with after death, especially in the descending, iliac and pelvic sections of the bowel. This is quite comparable with the condition held to obtain in the living empty stomach. We cannot see, however, that any advantage will accrue by further discussion of the matter in our columns.

HENRY MORTON STANLEY.

BY the death of Sir Henry Morton Stanley, which occurred on May 10th from pleurisy and pneumonia, the country has lost a typical British explorer. Born in very humble surroundings in Denbighshire, he raised himself, partly by his own innate talent and partly owing to the kindness of a merchant named Stanley whose name he adopted, to a position on the staff of the *New York Herald*. The chief incident in his career of interest to our own profession was that he was the discoverer of Livingstone who had for years disappeared within the heart of what was then literally "the Dark Continent." The historic meeting between Livingstone and Stanley took place at Ujiji in 1871. Two years afterwards Livingstone died alone except for the presence of one faithful servant at Ilala and his body being brought home Stanley was one of the pall-bearers when it was laid to rest in Westminster Abbey. In 1874 Stanley again left England for Africa to undertake an exploring expedition under the auspices of the *Daily Telegraph* and the *New York Herald* and explored a great deal of the Congo territory. Of the foundation of the Independent State and the expedition for the relief of Emin Pasha we have no space to give details, but it may justly be said that Stanley's explorations put the coping-stone to the building raised with such toil and indomitable energy by Denham, Barth, Burton, Speke, Grant, and Baker, to mention only a few of those who have devoted their lives to solving the problems of Africa.

THE WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

THE twenty-second anniversary dinner of the West London Medico-Chirurgical Society was held on May 4th at the Empire Hall of the Trocadéro Restaurant, Piccadilly-circus, London, W., Dr. Seymour Taylor, the president, being in the chair. After the usual loyal toasts had been honoured Colonel T. H. Hendley, I.M.S., in responding to the toast of "The Imperial Forces," which was proposed by Mr. C. B. B. Keetley, referred to the serious misgivings caused by the determination of the authorities to omit from the Army Council the head of the Army Medical Service. If the Medical Service of the army was expected to show successful results in war there should be full preparation in time of peace and that could only be secured by continuity of administration and by full representation. The Indian Medical Service had no official representation on the supreme or provincial legislative councils. However, the good sense and courtesy of lieutenant-governors and other officials minimised this want of representation in the Indian Medical Service. Few realised perhaps in how many ways the men in the Indian Medical Service were in touch with the history and daily work of the empire. Boughton and Hamilton were among the founders of the Indian Empire and Holwell, the hero of the Black Hole of Calcutta, was for a time Acting Governor of Bengal. Continuing, Colonel Hendley pointed out that two officers who had recently served under him were now on special service, one Colonel L. A. Waddell, I.M.S., medical officer and antiquary with the expedition in Tibet, and the other, Major R. Bird, I.M.S., in Cabul on a mission to the Ameer. Colonel Hendley concluded an interesting speech by affirming that such variety of work and responsibility demanded unusually wide powers of control and representation. Mr. H. Percy Dunn and Mr. W. McAdam Eccles were each presented with a silver bowl for the services which they had rendered in editing the journal of the society. The toast of "The Kindred Societies and Guests" was intrusted to Mr. Stephen Paget and was replied to by Dr. F. de Havilland Hall and Dr. C. Theodore Williams. Mr. F. Swinford Edwards proposed "The President and the Society" which was acknowledged by Dr. Seymour Taylor. In the course of the evening those present were entertained with songs and recitations by Dr. J. Blumfeld and Mr. Walter Ivimey, assisted by others.

STUDYING FOR THE BAR.

MEDICAL men desirous of becoming qualified as barristers-at-law not infrequently apply to us in quest of information as to the proper course to take. Omitting details, the following is a rough outline of the necessary procedure. Three important conditions have to be complied with—namely, (1) the student must join one of the Inns of Court; (2) a certain number of terms must be kept; and (3) certain examinations must be passed. Finally, certain fees amounting to about £150 must be paid. There are four Inns of Court, the Inner Temple, the Middle Temple, Lincoln's Inn, and Gray's Inn, but it matters little to the non-practising barrister which he joins. Before joining an inn, the student must produce evidence of education sufficient to satisfy the Council of Legal Education. This is easily done by means of a certificate obtained from the inn which he proposes to join, showing that he has passed a public examination at one of the universities, such as Responsions at Oxford, the "Little-go" at Cambridge, the matriculation examination of the University of London, or such other examinations of like nature as may be approved by the Council. Those who are unable to produce evidence of the first two requirements may pass an entrance examination instituted by the Council. Having satisfied himself as to his eligibility the student should obtain a form of application for admission to his proposed inn, not omitting to send a guinea at the same time. This application when returned must be accompanied by two separate certificates of respectability and general fitness for membership of an inn signed by barristers of at least five years' standing. With regard to fees on admission, it is usual at all the inns for the student to pay a deposit of £50 towards his commons, the balance over (at the time of call) going towards his call fees. At certain inns caution money to the extent of £100 is required from non-university men. The other entrance fees at all inns amount to about £40. This sum includes £25 for Government stamp and a sum of £5 5*s.* to admit to all law lectures. With regard to the keeping of terms 12 terms spread over three years are required. In order to keep a term six dinners (three for members of any university in Great Britain and Ireland) must be attended. The subjects of the examination are (*a*) Roman law; (*b*) constitutional law and legal history; (*c*) the law of evidence and procedure and criminal law; and (*d*) the law of real and personal property, the law of contracts and torts and the principles of equity. Parts (*a*), (*b*), and (*c*) can be taken separately and at any of the four annual examinations after joining an inn but (*d*) cannot be taken until eight terms have been kept, when the three other divisions can be taken with it if so desired. Those who have already passed certain examinations in Roman law can claim exemption from (*a*), but no other subject is excused by reason of the results of examinations passed elsewhere. The standard required for a pass has been considerably raised during the last few years; therefore steady reading on the part of the candidate is necessitated. Those who have the leisure should attend the lectures, delivered by the readers and assistant readers, which deal with the special subjects forming the basis of the examination questions. It should be noted that those who obtain a first class in division (*d*), generally known as the final examination, can be called in their tenth term. Lastly, the fees payable before call amount to about £100, which sum includes £50 for a Government stamp, dues for 12 terms' dinners, and an amount which compounds for all future dues. Those of our readers who desire more particulars can obtain all the necessary information from the treasurer's office at any of the Inns of Court.

MENINGITIS IN TYPHOID FEVER.

THE modern method of lumbar puncture enables meningitis to be diagnosed under conditions in which this was formerly impossible and reveals its existence in mild forms in many infectious diseases. We have recently called attention to this fact in the case of mumps.[1] At the meeting of the Société Médicale des Hôpitaux of Paris on April 15th M. Ch. Achard and M. G. Paisseau showed that the same holds true in typhoid fever and other infections. The views held with regard to meningitis in infectious diseases have passed through several phases. For a long time cases presenting meningeal symptoms were scarcely considered instances of meningitis if they were not fatal and were termed by French writers "*méningisme.*" Then it was shown that by lumbar puncture recovery was possible in meningitis and even in suppurative meningitis. Later, cytoscopy showed the existence of slight meningitis with purely histological lesions in cases formerly termed "*méningisme.*" At the same time it was found that "histological meningitis" might exist without any meningeal symptoms. M. Achard and M. Paisseau reported the following case. A lad, aged 18 years, entered hospital on Oct. 23rd, 1903, complaining of severe headache and backache which had obliged him to leave work. He was in good health until the beginning of October, when he began to suffer from malaise, lassitude, and want of appetite. For some days before admission he had had headache and repeated rigors. Nevertheless, he worked until the day before admission. On the 24th there was rigidity of the neck with limitation of flexion and rotation of the head, which were painful. Kernig's sign was well marked. During the previous night there had been delirium. The patient was constipated and several times vomited glairy matter. There was a little albumin in the urine and the diazo reaction was distinct. The temperature was 103·1° F. in the morning and 104·3° in the evening. Lumbar puncture yielded clear fluid which was found on centrifugalisation to contain an abundance of lymphocytes. Culture media were inoculated with negative result. The puncture was followed by marked relief of the meningeal symptoms. On the 26th rose spots appeared on the abdomen and Widal's reaction was obtained. On the 27th puncture of the spleen was performed and yielded cultures of the typhoid bacillus. On the following days the temperature was lower and Kernig's sign and the rigidity of the neck disappeared and convalescence followed. In this case the meningeal symptoms were sufficiently marked to establish a strong presumption of meningitis. When the symptoms are ill marked a similar "meningeal lymphocytic reaction" may be obtained. The fact that the fluid was sterile shows that the meningitis was due to the action of toxins. In the same way cases occur in which there are meningeal symptoms without the cerebro-spinal fluid showing any signs of meningeal reaction. The explanation of such cases is that the symptoms of meningitis are "borrowed"—i.e., are not due to the meningeal lesion but to vascular or inflammatory troubles of the subjacent nervous tissue. Hence it is conceivable that the nervous elements may be altered without the serous membrane being inflamed. Further, another explanation is possible: the meningitis may be limited to the cerebral membranes and cause no change in the fluid extracted by lumbar puncture. Several examples of this have been published. At the same meeting of the Society M. Netter read an important paper on a similar subject. Since 1898 he has systematically looked for Kernig's sign and found it one of the easiest and most certain means of recognising meningeal irritation. He has frequently found it in two diseases—typhoid fever and pneumonia. Out of 313 cases of typhoid fever he found it in 44. Some of these cases showed other signs of meningitis—rigidity of the neck and trunk, pains in the head and limbs, contractures, convulsions, and paralysis of limbs. Cases of typhoid fever in which Kernig's sign occurs are unusually serious. M. Netter has found that the mortality and the liability to relapses are about thrice as great as in cases in which the sign is absent. When Kernig's sign is present the nature of the fluid obtained by lumbar puncture varies as described above. On several occasions M. Netter has isolated microbes from fluid obtained by lumbar puncture in typhoid fever, not always the typhoid bacillus, but sometimes the pneumococcus, the staphylococcus, and the streptococcus. Even if the fluid is apparently normal meningitis is not negatived.

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[1] THE LANCET, May 7th, 1904, p. 1297.

THE RUSSIAN MEDICAL COUNCIL.

THE Russian Medical Council was confirmed by Imperial Decree on March 22nd last in its premier position as the highest medico-scientific institution in the empire in the matter of advising as to questions affecting the public health, medical practice, and medico-legal inquiries. The new charter is composed of 23 articles which, *inter alia*, charge the Council with the preparation of the Pharmacopœia, taxing and classifying medicines and regulating their sale, and controlling the preparation and sale of new medicines and the importation of such from abroad; its duties will also include the censorship of medical works. The Council will deal with medical practice in Russia by holders of foreign diplomas, certain categories of whom will only be admitted to practise after the customary examination in the Imperial Military Medical Academy or in one of the universities, resulting in the granting of a degree; others of a certain reputation may be admitted after an oral examination before the Council; and, finally, those who may have made a name in the professional world by their works or by the occupation of professors' chairs, or the like may be accepted without any examination at all by a simple decree of the Council confirmed by the Minister of the Interior. Article IX. provides that the Council shall consist of a president holding the degree of a doctor of medicine, *ex-officio* members and consultative members, and a professional secretary. The *ex-officio* members are the Chief Medical Inspector of Public Health, the Chief Military Medical Inspector, the Chief Medical Inspector of the Fleet, two Court Medical Inspectors, a Director of the Imperial Institute of Experimental Medicine, a president of one of the departments of the Orthodox Religion, the Ministers of Finance, Public Education, Agriculture and Government Property, Justice, Public Highways, and Foreign Affairs; the chief of the Commercial Navigation and Ports Department, the President of the Veterinary Committee and the Chief of the Veterinary Executive, all to be appointed by decree of the Senate. Consultative members are to be chosen from scientific circles by a two-thirds majority of a minimum of half the total membership.

INVALID CHILDREN'S AID ASSOCIATION.

A CONFERENCE has been arranged by the Invalid Children's Aid Association, to be held by the kind permission of the Lord Mayor at the Guildhall on June 7th and 8th, the object of which is to bring into communication those working in aid of crippled and invalid children, to make known the various needs of this class and the agencies available for supplying them, and to consider the education of crippled and invalid children and the means of fitting them for future occupation and independence. The relation of this work to the Poor-law and to charity organisation will also be discussed, as well as the possibility of preventive measures. The Lord Mayor will preside at the opening meeting and at the four sessions of the conference the chair will be taken by the Earl of Aberdeen, Sir William Broadbent, the Duchess of Sutherland, and Lord Stanley of Alderley respectively. It is hoped that the social, economic, and ethical importance of the subjects to be discussed will render the conference both attractive and useful and that there will be a large attendance of active workers and of those interested in its objects. Programmes, tickets, and other information can be obtained from the Secretary, Invalid Children's Aid Association, 8, Henrietta-street, Covent-garden, London, W.C.

CHONDRODYSTROPHIA FŒTALIS.

AN important paper dealing with this comparatively rare affection, which has often hitherto been mistaken for rickets and miscalled "fœtal rickets," is published by Dr. P. W. Nathan of New York in the *American Journal of the Medical Sciences* for April. Most children affected with chondrodystrophia fœtalis are either born prematurely or born dead at full term. The affection is, therefore a serious disease with a high mortality. Those infants who are born alive, says Dr. Nathan, are usually very weak and for some time life is precarious. In 1836 Busch gave a very accurate description of a case which he then called "congenital rickets," noting all the salient features—viz., the very large head with prognathous jaws and flattened nose, the short and deformed limbs, the large epiphyses of the long bones, the "rosary" on the ribs, the deformed pelvis, and general obesity. Müller (1860) showed that this was really a disease of the fœtal cartilage preceding the period of bone formation and that it had nothing in connexion with rickets. The most important advance in our knowledge of chondrodystrophia fœtalis was due to Kaufmann (1892) who, having had the opportunity of studying 13 cases, was enabled to clear up many points in its pathology. Dr. Nathan's observations were made on five cases of chondrodystrophia fœtalis and the following results were ascertained. The head was very large and appeared disproportionate in contrast to the defective length of the fœtus as a whole. Its circumference was from 18 to 20½ inches. The arms were short and did not reach the waist-line and the legs were so short and bent that the middle point of the body instead of coinciding with the navel was nearer to the ensiform cartilage. The epiphyses of the long bones were enlarged and the ribs were beaded in "rosary" fashion. The skin and subcutaneous tissues were hypertrophied, causing an exaggeration of the natural folds of the skin. The abdomen was prominent and the fœtus as a whole was very obese. Finally, there was epicanthus, the lips, tongue, and eyelids were thickened, the tongue protruded from the mouth, and there were decided prognathism and flattening of the entire nasal region—a group of conditions which simulated closely the features of congenital cretinism. Dr. Nathan found characteristic disturbances of development of the body of the sphenoid, the basilar part of the occipital, the ethmoid, and the nasal bones which caused the peculiarities of cranial and facial physiognomy of chondrodystrophia fœtalis. The long bones showed a peculiar affection of the growing cartilage in every case—viz., increased vascularity, a more or less complete arrest of the normal formation of rows of cartilage cells which precede the deposit of osseous tissue proper in a growing bone, and a softening of the cartilage almost to a gelatinous condition favouring deformity. Illustrative photographs are reproduced of Dr. Nathan's cases and he adds, "the hair on the head is abundant, fine and soft, not brittle." The legs are shortened out of all proportion to the trunk, unlike cretinism, where both are shortened. The mental faculties are always intact, the gait is steady and not peculiar, and the patient learns to walk and to talk like other children. As the patient gets older the obesity disappears. Chondrodystrophia fœtalis is also different, says Dr. Nathan, from the Mongolian type of idiocy. Finally, no lesions or changes of the thyroid gland have been found in this affection, whereas it is atrophied or defective in cretinism. The three conditions—chondrodystrophia fœtalis, congenital cretinism, and congenital rickets—are entirely different from one another.

THE BEHAVIOUR OF ENTERIC FEVER IN PRUSSIA.

THE council of the Epidemiological Society is to be congratulated cordially upon its recent departure in inviting distinguished epidemiologists from other countries to read papers at its meetings. We published in the columns of THE LANCET of April 23rd the full text of a paper read before that society by Dr. Reincke, the able medical officer of health of Hamburg, upon the behaviour of enteric fever and cholera in that great commercial city, and we are glad to hear that the society is this week entertaining Dr. Moritz Pistor of the Ministry of the Interior of the Kingdom of Prussia at its annual dinner. Dr. Pistor is reading a paper before the society to-night (Friday) at 11, Chandos-street, Cavendish-square, W., the subject of the paper being the Prevalence of Enteric Fever in Prussia during the Decade 1892–1901. Some of our epidemiologists are somewhat prone to take a rather insular view of certain infectious diseases and to generalise too widely upon the limited experience of this country. It is only by a careful study of the behaviour of communicable diseases under varying social and climatic conditions that the real etiology of such diseases can be elucidated and it is much to be hoped that the Epidemiological Society will continue its efforts in the direction of international epidemiology. The Transactions of the society contain contributions from most parts of the empire and from many parts of the world, yet it is but rarely that these papers have been delivered by the authors in person.

THE SUNSHINE OF ENGLAND AND SWITZERLAND COMPARED.

IT is very doubtful whether the amount of bright sunshine actually recorded in Switzerland and the southern counties of this country has ever previously been compared and the following figures cannot be considered otherwise than extremely striking. They demonstrate clearly that although on some parts of our south-west coast there has been less sunshine than during an average April and that in other places the month was not exceptionally bright, the most favoured portion of this country was so superior to one of the most favoured spots of the continent that it had from 35 to 80 hours more sunshine at a period of the year when the direct rays of the sun have such an incalculable influence upon the public health. There are unfortunately no averages available with which to compare the Swiss values but it is an undeniable fact that the weather in that country during the past month was not at all of a rainy or unsettled description. Even London, which is noted above all places for its lack of bright sunshine, was brighter than most of the Swiss resorts and had 32 more hours than Basle. Only the statistics for the south-west, south, and south-east of this country are given in the appended table, but at other localities further north, where the hours of sunshine have been less numerous, they exceeded those in Switzerland. At Aberdeen, for instance, there were 157 and at Llandudno and also at Nottingham 162 hours of sunshine. It is probably nothing but an unusual coincidence that the stations with the least altitude had both the greatest and the least sunshine. Lugano had 158 and Basle only 106 hours of sunshine.

April Sunshine in the South of England and in Switzerland

Stations.	No. of hours.	Difference from average.	Stations, with altitude.	No. of hours.
Aberystwyth.	179	?	Geneva (405 metres)	133
Scilly Islands.	183	+ 4	Lausanne (553 ,,)	137
Plymouth.	154	– 18	Montreux (553 ,,)	126
Jersey.	165	– 29	Berne (572 ,,)	131
Torquay.	180	*nil*	Basle (278 ,,)	106
Bournemouth.	160	?	Zurich (493 ,,)	138
Hastings.	170	– 4	Santis (2500 ,,)	113
Margate.	158	+ 4	Davos (1560 ,,)	144
Bath.	145	?	Lugano (275 ,,)	158
London (Westminster).	138	+ 28	—	—

THE WORKING OF THE MIDWIVES ACT.

AN interesting report on the action taken in carrying out the provisions of the Midwives Act has been presented to the Midwives Act committee of the Lancashire County Council by its medical officer, Mr. E. Sergeant. In February last the committee determined that a short advertisement should be inserted in 56 of the newspapers circulating within the county to the effect that "every person desirous of practising in the administrative county of Lancaster as a midwife must forthwith send in her name to the medical officer, Preston." Up to April 6th applications to be placed on the register have been received from 354 persons residing in the county districts. Of these 96 held certificates of examining institutions recognised by the Central Midwives Board and 305 claimed to be placed on the roll as having been in *bonâ-fide* practice as midwives for at least one year previously to July 31st, 1902; in addition 96 who had applied in mistake, were referred to their own authorities. A list of applicants is furnished by Mr. Sergeant showing the number from each of the county districts and also the number of midwives practising at the present time in these districts as shown by the lists supplied by the medical officers. An examination of this return shows that while the lists of the medical officers contain some 1069 names only the small proportion of 378 of these up to the time the report was furnished—viz., April 6th—had applied for registration. Possibly many of the women will apply before April 1st, 1905, after which date they will no longer be able to call themselves midwives according to the provisions of the Act. No doubt many from ignorance of the requirements of the new Act or from carelessness will fail to avail themselves of the privilege of having their names enrolled on the register as having been in practice as midwives, and we foresee that the local authorities will have a good deal of trouble in dealing with these women when the limit of time expires. Mr. Sergeant's report is of interest as showing the relatively small number of midwives in the county of Lancaster who have so far responded to the invitation of the county council to enrol themselves.

INDIAN MEDICAL SERVICE DINNER.

THE annual dinner of the Indian Medical Service will be held at the Café Monico, Piccadilly-circus, on Thursday, June 9th, at 7.45 P.M., when Surgeon-General Sir Colvin Colvin-Smith, K.C.B., will preside. Officers intending to be present should communicate with the honorary secretary, Lieutenant-Colonel P. J. Freyer, 46, Harley-street, London, W.

THE SPOROZOA IN RELATION TO DISEASE IN MAN AND ANIMALS.

IN the seventh lecture on the sporozoa, delivered by Professor E. A. Minchin at University College, London, on May 2nd,[1] the group of sporozoa known as the microsporidia was dealt with. The microsporidia constitute an order separate from the myxosporidia. They are characterised by being cell parasites living within cells or in the interstices of solid tissues but they are never found free in the visceral cavities as is the case with some of the forms mentioned in previous lectures. The trophic stage is in some marked by a large spore-producing form of body, in others by extreme minuteness. The spores produced are in every case of very minute size, sometimes being almost invisible. In specially stained specimens a single polar capsule can be seen. These little spores, in the form of minute oval bodies, are met with in insects and occasionally in fishes but they do not occur in warm-blooded vertebrates. In this respect they differ from the sarcosporidia which are parasitic on the higher warm-blooded animals. In the angler-fish and the stickleback tumours of round or ovoid form are occasionally seen in the tail, fins, and ocular region, while in the flounder cysts are produced in the gall-bladder, the cause of these tumours or cysts being the presence of a species of microsporidium in the tissues. Some of the microsporidia are parasitic on the silkworm and prove to be very deadly. The ordinary "silkworm disease" is due to a form (microsporidium or glygea bombycis) which infests the caterpillar and the mulberry trees on which it feeds. Professor Thélohan of Paris has shown that crayfish in France are liable to infection by species of microsporidia which grow within the muscles in such numbers as to cause death and extermination of the crayfish in several rivers. The life cycle of the microsporidia comprises a stage of partial budding like the torula of yeast (partial schizogony or merogony) and the sporulation stage which follows this. Each spore divides itself repeatedly until eight oval-shaped daughter spores result, each of which is provided with a long stinging thread. The microsporidium which occurs in the stickleback is a large parasite with many nuclei. It undergoes a peculiar form of sporulation, ending with the formation of minute sickle shaped spores. The more important microsporidia, so far as concern the higher animals or human industries, are glygea bombycis (the disease of the silkworm) and the thelohania which affects the crayfish. The sarcosporidia are another group of sporozoa which has been as yet little studied. They occur in warm-blooded animals, such as the pig, sheep, mouse, and occasionally man. They occur rarely in cold-blooded animals. They were first discovered in the mouse by Miescher. The parasite dwells within the muscular fibre of the animal. The life cycle includes a multinuclear phase comparable to that of glygea bombycis and a stage of spore formation in which numerous sickle-shaped young spores are produced. Mice infected by feeding with the spores of sarcosporidia exhibit symptoms of illness only after a long incubation period during which the parasite probably undergoes a series of trophic changes before it becomes an active spore producer. Laveran and Mesnil also found microsporidial parasites in the sheep. A form identical with that in the sheep occasionally infects man. It is probable, concludes Professor Minchin, that further research will show that the sarcosporidia are important agencies in the production in the human subject of disease—i.e., disease hitherto unsuspected to be due to such agencies and but little investigated.

"DR." BELL AND THE POST-OFFICE.

FOR about the two-hundredth time we have received one of "Dr." Bell's filthy little pamphlets which has been forwarded to us by a correspondent who is anxious to know if the circulation of such literature cannot be stopped. We have more than once applied to the police authorities who say that they can do nothing, but on May 5th a man named George William Burgess was summoned before Sir Horatio Davies at the Mansion House police-court for sending certain objectionable prints through the post. The Alderman said that he should not be doing his duty if he did not do his best to put a stop to a business of this kind and Mr. Burgess was fined £10. Now, if one man can be summoned and fined for sending objectionable prints through the post there is no reason why another should not be punished likewise, and we should like to ask the police authorities and the Postmaster-General why they continue to allow the man who calls himself "Bell" to send his filthy literature through the post. We may remind our readers that on Jan. 28th, 1896, "Bell," whose name was then "Henry Walters," was fined £20 and six guineas costs for using the titles "M.D." and "Dr." without being a duly qualified medical man. He still continues to call himself "Doctor," he still sends his dirty little pamphlets broadcast, and he still gives testimonials purporting to come from medical men whose names, however, do not appear on the Medical Register.

THE ACTION OF MINERAL WATERS.

THERE is among medical men a lack of unanimity as to the way in which the beneficial results obtained in certain cases by the use of mineral waters are brought about. Some attach importance to the exact composition of the water and regard subtle differences in the proportions of the various salts contained in it as of the greatest consequence, while others incline to the view that it is the quantity taken rather than the quality of the fluid which matters and suggest that what is chiefly accountable for the progress made by those undergoing a "cure" at some health resort is the alteration involved in the mode of life of the patient or the habit of temperance which he is constrained to adopt. Light is perhaps thrown upon the subject by a communication made to the Académie des Sciences at Paris by M. F. Garrigou at the sitting of April 25th. He has observed that certain mineral waters contain organic matter in two forms—a crystalloid and a colloid. The heavy metals present are associated with the colloidal substances, which latter constitute what he describes as "*oxydases naturelles.*" Those patients whose tissues have lost their oxidising power as the result of debilitating infectious disease and anæmia derive benefit from the employment of a water containing traces of the heavy metals with their accompanying colloids—e.g., the waters at Eaux-Bonnes—since these oxidise the nitrogen which the tissues are unable to cope with and cause a great increase in the amounts of urea and uric acid excreted. This explanation, of course, will only cover a few of the numerous varieties of water used medicinally but it may afford some hint as to the *modus operandi* of the large groups of saline and alkaline waters the use of which has become so widespread.

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[1] References to the previous lectures will be found in THE LANCET of March 12th, p. 736, and 26th, p. 889, April 2nd, p. 950, and 9th, p. 1009, and May 7th, p. 1296.

MALARIA IN EGYPT.

IN the notice of Lord Cromer's report on Egypt which we published in THE LANCET of April 30th, p. 1228, want of space precluded reference to his remarks under the heading "Fever at Ismailia." "I wish to draw public attention," he says, "to the very remarkable hygienic results which have been obtained at Ismailia by the application of Major Ross's plan for the destruction of mosquitoes." The town of Ismailia was founded in 1862 and until 1877 the public health remained satisfactory. Various works were then undertaken in the neighbourhood, one of the effects of which was a considerable increase in the area of stagnant water. Malaria then showed itself and before long the disease became endemic. During the 14 years from 1884 to 1897 the yearly average number of cases was 1700 out of a population of about 8400, of whom about 1800 were Europeans. Large sums were spent with the intention of improving the sanitary condition of the town not only by the Suez Canal Company but also by the Egyptian Government, "still no impression was made on the fever." The yearly average number of cases during the five years from 1898 to 1902 was 1800. The President of the Canal Company then invited Major Ross to visit Ismailia and to report on the situation and on Dec. 27th, 1902, it was decided to give effect to his recommendations. To show the results Lord Cromer supplies the following table :—

Number of Cases of Malarial Fever at Ismailia.

—	1902.	1903.
January	162	13
February	100	20
March...	101	16
April	621	14
May	133	9
June	154	15
July	120	23
August	130	18
September...	176	25
October	159	39
November	176	12
December	73	9
Total	2105	213

Words could add little to the eloquence of these figures and yet, as Lord Cromer points out, the facts are even more remarkable than would at first sight appear. Out of the 213 cases which occurred in 1903 no fewer than 203 were relapses. The number of fresh cases during the twelvemonth was consequently only ten. "There is," says Lord Cromer in conclusion, "one point in connexion with this branch of the subject which is worthy of note. Expert authorities are agreed in holding that mosquitoes do not range far from the place where they are bred. It would therefore appear possible for a few neighbours to coöperate together and free their special locality from this insect pest. The experiment is now being tried in the quarter of Cairo in which I reside. In order to encourage other residents in Egypt to follow the example of my neighbours and myself I may mention that I am informed that it has become possible to dispense with mosquito curtains at Ismailia."

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

THE next general or quarterly meeting of this association will take place, under the presidency of Dr. Ernest W. White, on Wednesday next, May 18th, at 4 P.M., at the Langham Hotel, Portland-place, London, W. The following papers will be read: Quantitative and Qualitative Leucocyte Observations in Various Forms of Insanity, by Dr. Lewis C. Bruce, physician-superintendent, and Dr. A. S. M. Peebles, assistant physician, Perth District Asylum, Murthly; a Statistical Note on the Social Causes of Alcoholism, by Dr. W. C. Sullivan; the Psychology of Hallucinations, with diagrammatic illustrations, by Dr. W. H. B. Stoddart; and Notes of a Case of Combined Spinal Degeneration with Unusual Mental Symptoms, with microscopical sections of the cord, by Dr. J. Kennedy Will. The members will afterwards dine together at 6.30 P.M. at the Café Monico, Regent-street, W. Further information can be obtained from Dr. Robert Jones, the honorary general secretary, 11, Chandos-street, Cavendish-square, London, W.

THE annual dinner of the British Balneological and Climatological Society will take place on May 18th at the Criterion Restaurant, Piccadilly, London, W., at 7.30 P.M. After the dinner there will be a smoking concert by invitation of the President. Further information may be obtained from the secretaries, Dr. Septimus P. Sunderland, 11, Cavendish-place, London, W., or Mr. H. Shirley Jones, "Ravenstone," St. Andrew's-road, Droitwich.

THE Right. Hon. C. Scott Dickson, K.C., M.P., Lord Advocate for Scotland, will preside at the dinner of the Glasgow University Club, London, to be held on Friday, June 3rd, at the Café Royal, Regent-street, London, W. Applications for tickets should be made to the honorary secretaries, 63, Harley-street, W.

Mr. George Herring, who during the past five years has contributed £53,000 to the Metropolitan Hospital Sunday Fund, has again offered to give either £10,000 to the Fund or to add one-fourth of the amount collected in places of worship on June 12th, limiting this to a collection not exceeding £100,000.

THE oration of the Medical Society of London will be delivered by Sir Isambard Owen on May 16th at 8.45 P.M. in the rooms of the society, 11, Chandos-street, W. The subject is the Future of Medical Education in London.

THE death is announced on May 1st at Leipsic of Wilhelm His, the eminent professor of anatomy in the university of that city. We shall publish an extended account of his career in a future issue.

NEXT January the University of Kharkoff will celebrate its hundredth anniversary with an exhibition of documents and various objects of interest connected with the life of the institution.

THE Harveian Oration will be delivered on Tuesday, June 21st, by Dr. Richard Caton, at the Royal College of Physicians of London, Pall Mall East, at 4 P.M.

Sir George Hare Philipson, M.D. Cantab., M.D. Durh., D.C.L., LL.D., has been elected president of the Newcastle Royal Infirmary.

THE Moscow Physico-Medical Society will in the month of October this year celebrate its hundredth year of existence.

THE ANTIVIVISECTIONISTS AND THE "JUNGLE THEORY OF MORALS."

THE antivivisectionists issue "a humane monthly journal" which they entitle the *Animals' Guardian.* Humanity in this case seems to consist in seeking to prevent the progress of such scientific research as is most likely to lead to the discovery of the cause of disease and the best means for its cure or prevention. Nor does this paper display any greater concern for the available scientific methods of saving the life and health of the animals of which it has most fallaciously entitled itself the guardian. Persons really desirous of acting as the guardians of animal life would naturally devote themselves to the study of the very elaborate scientific researches made for the prevention of cattle plague and other epizootics. From all parts of the world calls have been made on such men as Professor Koch or the eminent bacteriologists of the Pasteur Institute. For anthrax among the sheep in Australia, for cattle disease in South Africa, and for cattle plague to-day in Egypt eminent men of science have gone to study on the spot these devastating epizootics. With the aid of the knowledge acquired by vivisection they have produced antitoxins that have saved millions of animals. A journal professing to be "the animals' guardian" should be teeming with information in regard to these researches. All its eloquence should be devoted to extolling the virtues and the achievements of those who, with the aid of vivisection, have done so much to save the lives of men and animals. As the paper is illustrated we might expect to find in it the portraits of Koch, of Pasteur, of Claude Bernard, of Lister, and of the many other eminent men whose scientific researches have so largely contributed to reduce the sufferings of both man and beast.

This is not, however, the antivivisectionist's conception of "a humane monthly." For illustration he prefers the head of a savage tiger which picture he dedicates, by a special inscription printed underneath, to the Society for the Advancement of Medicine by Research. Then marked copies of this particular number have been sent to persons known to uphold vivisection. The article that accompanies the tiger's head is written by the editor and infers that this tiger is meant to be the portrait of vivisectors and their supporters. Apparently the latter have very little to say for themselves for we are told that they invariably quote the same thing—namely, Tennyson's line on "Nature red in tooth and claw." Then this learned and polite editor of the "humane monthly" kindly explains how the vivisector's theory of morals is that of the jungle, where wild beasts "seek their meat" by preying upon each other. We are further informed: "Defenders of vivisection, intrenching themselves behind the jungle concept of morals, are appealing to the savage instincts of primitive man. Innate human savagery finds fitting expression in the savagery of the jungle. 'Deep answereth unto Deep.' Both follow their instincts, but—the lower beast is not morally culpable because he has no moral responsibility, not being a rational being. Even if nature be cruel that cannot be any justification to a man in carrying on such a practice as vivisection. For do we not spend our days in opposing nature and putting a curb upon her?" Then the conclusion is: "To sum this question up, the vivisector's appeal to the cruelty of Nature, alleged or real, is an appeal to the non-moral law of the jungle."

Thus we are left to infer that the portrait of the tiger is symbolical of the character, the morals, and the general disposition of the vivisector and his partisans.

That such balderdash should be treated with contempt by the world of science is but natural. It is humiliating to have to stoop to deal with such flagrant manifestations of crass ignorance. Unfortunately, the question at issue is not wholly in the hands of the learned section of the community. These absurd pictures do appeal to ignorant sentimentalists. The latter are not likely to reflect, otherwise it would be obvious to them that tigers do not practise vivisection. It is equally certain that tigers do not apply anæsthetics when they devour alive any animal that they can catch. On the contrary it is precisely the scientific investigator who, when obliged to cut or to kill, does so with every care to prevent unnecessary suffering. He it is, too, who daily studies nature the better to put "a curb upon her." The jungle theory of morals is to leave things alone and to let disease prey upon us and the animals, and to permit the strongest to kill the weakest. Science, on the contrary, drains the jungle, tames or destroys the wild animals; studies, analyses, dissects, vivisects—in fact, employs all available means to unravel the laws of nature and to learn how to apply them, not to destroy and to devour, but to protect and to save both the weak and the strong, both man and beast. The tiger doubtless objects to this and so does the antivivisectionist but it is nevertheless what man calls human and humane progress.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AT the election of members of the Council on the first Thursday in July there will be three vacancies. Three members of the Council retire every year and this year it is the turn of Mr. T. Bryant, Mr. T. Pickering Pick, and Mr. J. Tweedy to retire. Mr. Bryant's third term of office, 24 years in all, will then come to an end and we believe that he does not intend to offer himself for re-election. Mr. Pick has already resigned, as he has left London. In ordinary circumstances Mr. Tweedy's term of office would end in July but as he will be President on the day of election his term of office lasts for another year. Thus only two vacancies occur in the natural course. The third vacancy is occasioned by the death of Mr. T. R. Jessop. This year three new members of Council, assuming that neither Mr. Bryant nor Mr. Pick will apply for re-election, have to be appointed. It is certainly unusual to have so many vacancies with no old member applying for re-election and we shall therefore expect a large number of candidates.

ASYLUM REPORTS.

The District Asylum, Ballinasloe (Report for the year ending March 31st, 1903).—The average number of patients resident during the year was 1210, comprising 733 males and 477 females. The admissions during the year amounted to 240—viz., 135 males and 105 females. Of these, 198 were first admissions. The report of the late Mr. R. V. Fletcher, the medical superintendent, states that in 37 of the cases admitted the mental disease "had existed for over 12 months and the delay in seeking efficient treatment is without doubt injurious to the prospect of recovery." Moreover, 26 of the patients admitted "were over 60 years of age and likely therefore to remain permanently" as chronic and incurable cases. The number of patients discharged as recovered during the year amounted to 85—viz., 53 males and 32 females, or 7 per cent. of the average number resident. The deaths during the year amounted to 80, or 6 6 per cent. as calculated on the same basis. Of the deaths, three were due to dysentery, five to bronchitis, five to cardiac disease, eight to epilepsy, 13 to senile decay, 20 to pulmonary tuberculosis, and the rest to other causes. The high death rate from pulmonary tuberculosis "is due to the overcrowding which prevailed in the early part of the year before the new hospital was opened." "The experience of asylum physicians," the report continues, "is generally in favour of segregating the epileptics, and this idea is still further developed abroad in Germany and the United States, where special asylums or colonies for epileptics have been established with marked beneficial and curative effect. The establishment in Ireland (by groups of counties) of such asylums and colonies could not but tend to the comfort of the sufferers, afford opportunity for the wider study of the disease, and relieve the admitted congestion of district asylums without appreciable increase of cost." At the close of the year the number of persons suffering from imbecility and idiocy in the asylum was found to be 58. "It is much to be regretted that the younger persons of this class cannot in Ireland be sent to a training institution for imbeciles, where their capacity for improvement might be developed." The inspector of lunatics states in his report that the day-rooms and dormitories were bright and cheerful and afforded ample cubic space for the occupants, that the patients were quiet, contented, and well behaved, that overcrowding existed as regards sleeping accommodation, a condition which called for speedy remedy, and that the medical case-books and records were well and carefully kept. A recommendation is also made that the committee should consider *the importance of providing* the necessary fittings and apparatus for the pathological room of the institution "so that the medical officers may be able to take advantage of this great field for scientific study."

Looking Back.

FROM.

THE LANCET, *SATURDAY*, May 13, 1826.

INFLAMMATION of the iris first received the name of iritis from J. A. Schmidt, of Vienna, who published a small but admirable description of the affection in 1801. When the clear account of the phœnomena, symptoms, progress, and consequences of this inflammation, contained in the work of Schmidt, is contrasted *with the entire* ignorance which then prevailed, in this and other countries, on the same subject, we shall become sensible how far the Germans have preceded all other nations in cultivating the ophthalmic department of our profession. A good analysis of this essay, which is in the German language, may be seen in the first volume of the Quarterly Journal of Foreign Medicine and Surgery; the intelligent writer gives a general account of the views entertained by the German practitioners on the subject of iritis.[1]

AT a general Meeting of the LONDON OPHTHALMIC INFIRMARY, held on the 18th of June, 1823, it was resolved—"That certificates to pupils be in future countersigned by the Chairman, or by the secretary, and registered by the latter; that a fee of five shillings be paid and set apart towards the *increase of the library*." Three years, within a month, have now elapsed, since this resolution was adopted, *and yet, not a single book has been purchased*, either for the use of the surgeons or of the students. As the money is ordered to be set apart, we should like to know where it is collecting, and who have the control of the fund.

Is it true that Dr. FARRE receives ONE THIRD of the fees paid by students for witnessing the SURGICAL PRACTICE? If so, it certainly is a most liberal reward for a *triennal rhubarb prescription*; this is indeed, FARRE *fetched* liberality, and caps, with one exception, every thing of the kind with which we have the happiness to be acquainted. The exception we allude to, is to be found in the ST. GILES'S INFIRMARY, where the *nominal* surgeon (fascinating creature!) positively OGLES the Governors out of one hundred guineas a year; whilst the *actual* surgeon who performs, in a most efficient manner, all the duties of the charity, cannot TWEEDLE them out of one hundred pence. Verily the *charitable* institutions of this metropolis are queerly conducted.[2]

MEDICINE AND THE LAW.

Reckless Exposure of Others to Infection.

AT Derby recently a flagrant and somewhat unusual case of the reckless exposure of others to infection was suitably punished by the infliction of a fine of £5 with the alternative of one month's imprisonment. The culprit was a Captain Feilden, stated to be a well-known resident, who appears to be the proprietor or compounder of an "ointment." With the idea of exhibiting the virtues of this salve he visited three houses where there were cases of small-pox and it was mentioned before the magistrate that he recommended the inmates of one of these dwellings not to permit the officers of the local health authority to enter. Having paid his visits he went about his usual avocations without any change of clothes or any disinfection of the garments which he was wearing, and being, fortunately for his neighbours, detected in this the punishment mentioned has been meted out to him. He may count himself lucky that no case of infection was traced to his negligence, for in such an event he would presumably have incurred a heavy civil liability in addition to a possible increase of the penalty inflicted.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

A QUARTERLY meeting of the Royal College of Physicians of Edinburgh was held on May 3rd, Dr. T. S. CLOUSTON, the President, being in the chair.

The Curator submitted his report for the last year regarding the research and reporting work undertaken in the laboratory during the year and the expenditure incurred. The report showed that 35 workers had been engaged in research; that 2365 specimens had been reported on, being an increase of 497 on the number for the previous year; and that the expenditure had amounted to £1038 1*s*. 6*d*. The report was adopted by the College.

By a vote of the College Allan Douglas Cameron, a Licentiate of the College, was expelled from the College and deprived of his Licence to practise as granted by the College and of all his rights and privileges as Licentiate.

On a motion by the PRESIDENT the College instructed the Council to take action in favour of a clause being inserted in the Education Bill for Scotland providing for medical inspection of schools, so that school hygiene and the physical education and condition of the school children may become part of the educational system of the future in Scotland.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

The Borough of Crewe.—There were 64 stillborn children buried in Crewe in 1903, the proportion of stillbirths to total births having been 4·4 per cent. Dr. A. J. Laird criticises adversely the fact that the registration of stillbirths is not required and that such bodies are frequently buried on the certificate of a midwife or a nurse. He also quotes the county medical officer of health to the effect that "under the present system there appears to be nothing to prevent an infant who has lived a few minutes or a few hours being clandestinely conveyed to a nameless grave without the cause of death being certified or inquired into. It is also obvious that through there being no regular register for stillbirths concealment of births is facilitated." In connexion with this question of infantile mortality generally Dr. Laird expresses the opinion that "the only educational measures which promise any benefit are the frequent visits of sanitary inspectors and, most important of all, the teaching of schoolgirls the elements of hygiene and the proper management and feeding of infants." We are glad to read further on in this report that recently a considerable amount of attention has been given to the elementary schools and that the local education authority is about to remedy all the defects which have been discovered. More light, ventilation, and cubic space are apparently required in many instances and two of the schools are likely to be closed altogether. Doubtless, Dr. Laird will also urge upon the education authority the importance of the periodical inspection of the scholars and of a well-directed system of physical education.

The Borough of Hove.—Dr. Augustine Griffith, in referring to the important subject of infantile mortality and to the connexion which such mortality bears to improper feeding, has drawn up leaflets which are left at houses where births have taken place and which in simple language explain the principles that should govern the feeding of infants. Dr. Griffith also urges the importance of educating girls in the preparation of food and in the management of children. We referred in a recent leading article on the Education Act and Physical Fitness[1] to the importance of taking action in our schools with respect to the education of girls in these particulars and we hope that the matter will have the attention of every medical officer of health. An interesting illustration is furnished in the report before us of the importance of cooking mussels even although such cooking may not always amount to complete sterilisation. The mother of a family boiled some mussels for her husband, her children, and herself and all partook thereof. The mother was subsequently attacked with enteric fever and she eventually admitted that she had eaten a few of the mussels in a raw state. Presumably there was no other cause more likely than this to account for the attack.

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[1] Excerpt from lecture on the Anatomy, Physiology, and Diseases of the Eye by Mr. Lawrence, *delivered in the London Ophthalmic* Infirmary, Moorfields.

[2] Editorial observations.

[1] THE LANCET, April 9th, 1904, p. 1004.

St. Thomas's Rural District, Exeter.—Mr. Mark Farrant reports the fact that in a certain house in his district there have been six cases of enteric fever, the cases having occurred in this fashion—one in 1898, two in 1899, two in 1901, and one in 1903. The house is built almost on the solid rock and the sanitation and water-supply are, it appears, quite satisfactory. Mr. Farrant thinks it possible that infection may have remained in the bedding, although it was disinfected on each occasion. This repeated invasion of one house is, in our experience, not so uncommon as is believed. We have ourselves seen numerous instances of it and there has in all cases been evidence pointing to the conclusion that disinfection had not been thoroughly carried out. The necessity for disinfection after cases of enteric fever does not appear to be recognised so generally as the facts merit.

Stockton Rural District.—Mr. J. W. Blandford has strong views with regard to the alleged deterioration of the working classes. He regards the deterioration, which he apparently accepts as a fact, as due in large measure to the defective feeding of infants and to the tendency on the part of mothers to forego the duty of suckling their offspring. He adds, "If the people would as carefully consider what is the best way of feeding for developing the human animal as farmers must do to make a profit out of the feeding of their animals, the general physique of the population would improve quite as much as it has done in the beast and sheep. The question of proper feeding is not so much a question of increased cost as a knowledge of what to feed on and how to prepare it." There is of course a good deal of truth in this statement, but it has to be remembered that in cattle breeding artificial selection is largely practised and we are not likely to arrive at this form of control in the human species for some years to come.

Taunton Urban District.—Epidemics of measles and whooping-cough occurred in this district during 1903 and Dr. H. J. Alford deplores the small amount of attention which is paid to these two diseases by the parents as compared with the panic which arises in connexion with any illness having the affix "fever." Possibly it might really be worth while in order to impress the serious nature of measles upon the people to apply the term "spotted fever" to it. Dr. Alford also deplores the fact that nearly all the infants' lives are insured and he holds the opinion that the practice of insurance in this sense should be put a stop to.

Burgh of Govan.—Dr. James Barras thinks that no appreciable reduction in the death-rate from tuberculosis will take place until the public are convinced of the infectious nature of the disease, but on the opposite page he furnishes figures which seem to show that from 1864 to 1868 tuberculosis caused 23·6 per cent. of the total deaths whereas in 1899 to 1903 the percentage was but 12·8. The tuberculosis death-rate per 1000 of the population does not appear to be furnished but the general death-rate of the population has fallen from 33·0 in 1864 to 18·9 in 1903 and the population has increased from 9058 in 1864 to 91,103 in 1903. In 1864 there were 65 deaths from tuberculosis, in 1903 there were 214. Another illustration of the desirability of boiling cockles before consuming them is contributed by Dr. Barras. A family consisting of four persons ate cockles at a watering-place on the west coast of Scotland, all the cockles being consumed in the raw state. These four persons after the usual period of incubation developed enteric fever and two of them (father and son) died. About the same time other cases were brought to notice and it was found that they, too, had consumed similar shell-fish. The family first referred to brought home cockles for their friends and these were divided amongst four families in the burgh. In each of these families one member who had alone partaken of the cockles in a raw state developed the disease, while the remaining eight persons who had boiled the cockles for from five to ten minutes all escaped. Two other persons who took both cooked and raw cockles were indisposed for several days with diarrhœa, &c. This appears to be a strong chain of evidence tending to incriminate the cockles, and this suspicion is still further strengthened by the fact that the molluscs were collected from a foreshore which was apparently obviously liable to pollution. The fact that the examination of cockles collected from the same locality as those which were consumed in the cases in question revealed "the presence of the bacillus coli communis" does not in view of the report of the Royal Commission on Sewage Disposal and of Dr. A. C. Houston's appendix thereto amount to very much, but the fact that some of the cockles contained the bacillus of enteric fever in great numbers is conclusive evidence that the cockles which are believed to have caused the disease were exposed to the risk of specific pollution. Having regard, however, to the difficulty in demonstrating the presence of this bacillus in shellfish it would have been well had the precise methods used by the bacteriologist been set forth.

The Borough of Lowestoft.—A case of small-pox occurred in the district during the summer of 1903 which illustrates the importance not only of providing isolation accommodation for cases of this disease but also of appointing a medical superintendent to such hospital. A visitor from Cambridge developed small-pox at Lowestoft and the medical attendant sought the assistance of Dr. A. Marshall, the medical officer of health, who at once removed the case to the small-pox hospital, situated about four miles from Lowestoft. But the medical attendant who had been called in refused to attend the case, as also did the medical officer of health in whose district the hospital was situated, and finally Dr. Marshall felt morally bound to attend the case himself. This is a somewhat unsatisfactory state of affairs and we trust that this incident has led to the appointment of a medical superintendent, or at least some medical practitioner whose duty it is to attend the cases in the hospital. We are, however, glad to see that the corporation appreciated the timely assistance of Dr. Marshall and also that the patient and her husband expressed to him their gratitude for his kindness.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8403 births and 4359 deaths were registered during the week ending May 7th. The annual rate of mortality in these towns, which had been 17·6, 16·0, and 16·3 per 1000 in the three preceding weeks, declined again last week to 14·9 per 1000. In London the death-rate was 14·9 per 1000, which was also the mean rate in the 75 other large towns. The lowest death-rates in these towns were 4·3 in Smethwick, 5·2 in Leyton, 6·0 in Burton-on-Trent, 6·2 in Devonport, 6·7 in Willesden and in East Ham, 7·8 in Tottenham and in King's Norton, and 8·0 in Walthamstow; while the highest rates were 18·6 in Liverpool, 19·4 in Wigan, 20·0 in Salford, 21·3 in Blackburn, 21·5 in Plymouth, 23·1 in Manchester, 23·7 in Merthyr Tydfil, and 26·5 in St. Helens. The 4359 deaths in these towns last week included 514 which were referred to the principal infectious diseases, against 530, 556, and 527 in the three preceding weeks; of these 514 deaths 195 were referred to whooping-cough, 158 to measles, 56 to diarrhœa, 51 to diphtheria, 32 to scarlet fever, 17 to "fever" (principally enteric), and five to small-pox. No death from any of these diseases was registered last week in Leyton, Bournemouth, Reading, Burton-on-Trent, Wolverhampton, Smethwick, Barrow-in-Furness, or Halifax, while the highest death-rates from the principal
infectious diseases wer
Manor, St. Helens,
Burnley, and Blackburn.
from measles occurred
Warrington, Manchester
Rhondda
Kings Nc
Manchaste.,
Swansea. The mortality from each of the other principal infectious diseases showed no marked excess in any of the large towns. Of the five fatal cases of small-pox registered in these towns last week one belonged to London, one to Stockport, one to Manchester, one to Tynemouth, and one to

Newcastle-on-Tyne. The number of small-pox patients remaining under treatment in the Metropolitan Asylums hospitals, which had been 144, 123, and 104 on the three preceding Saturdays, had further declined to 88 on Saturday last, May 7th; 14 new cases were admitted during the week, against 37, 23, and 12 in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital at the end of the week was 1590, against 1523, 1543, and 1541 at the end of the three preceding weeks; 242 new cases were admitted during the week, against 172, 210, and 185 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 295, 254, and 224 in the three preceding weeks, further declined last week to 193, and were 69 below the number in the corresponding period of last year. The causes of 47, or 1·1 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Leicester, Nottingham, Salford, Leeds, Newcastle-on-Tyne, and in 49 other smaller towns; the largest proportions of uncertified deaths were registered in Portsmouth, Ipswich, Birmingham, Liverpool, St. Helens, Manchester, and Preston.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 20·9, 21·0, and 20·0 per 1000 in the three preceding weeks, further declined to 18·0 per 1000 during the week ending May 7th, but was 3·1 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 9·2 in Perth and 12·3 in Leith to 20·1 in Glasgow and 20·4 in Dundee. The 594 deaths in these towns included 25 which were referred to whooping-cough, 16 to measles, nine to diarrhœa, four to scarlet fever, four to "fever," three to small-pox, and three to diphtheria. In all, 64 deaths resulted from these principal infectious diseases last week, against 65, 79, and 71 in the three preceding weeks. These 64 deaths were equal to an annual rate of 1·9 per 1000, which was slightly in excess of the mean rate last week from the same diseases in the 76 large English towns. The deaths from whooping-cough, which had been 20, 29, and 22 in the three preceding weeks, rose again to 25 last week, and included 13 in Glasgow, six in Edinburgh, two in Dundee, and two in Paisley. The fatal cases of measles, which had been 21, 26, and 19 in the three preceding weeks, further declined last week to 16, of which 12 were registered in Glasgow and two in Greenock. The deaths from diarrhœa, which had been 15, 11, and 13 in the three preceding weeks, declined again to nine last week and included five in Glasgow and two in Dundee. The fatal cases of scarlet fever, which had been four and three in the two preceding weeks, rose again last week to four, of which three occurred in Glasgow. The three deaths from small-pox corresponded with the number in the preceding week, and included one in Glasgow, one in Paisley, and one in Greenock. The deaths from diseases of the respiratory organs in these towns, which had been 152, 115, and 121 in the three preceding weeks, declined again last week to 100, and were slightly below the number in the corresponding period of last year. The causes of 24, or more than 4 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 24 4, 23·3, and 20·8, per 1000 in the three preceding weeks, rose again to 23·1 per 1000 during the week ending May 7th. During the past four weeks the death-rate has averaged 22·9 per 1000, the rates during the same period being 15 8 in London and 16·6 in Edinburgh. The 168 deaths of persons belonging to Dublin registered during the week under notice were 17 in excess of the number in the preceding week, and included 18 which were referred to the principal infectious diseases, against 17, ten, and eight in the three preceding weeks; of these, 11 resulted from whooping-cough, four from measles, two from "fever," and one from diarrhœa, but not any from small-pox, from scarlet fever, or from diphtheria. These 18 deaths were equal to an annual rate of 2 5 per 1000, the death-rates last week from the principal infectious diseases being 1·8 in London and 1·1 in Edinburgh. The fatal cases of whooping-cough, which had been 11, five, and three in the three preceding weeks, rose again last week to 11. The deaths from measles, which had been four, three, and two in the three preceding weeks, increased again to four last week. The 168 deaths in Dublin last week included 38 among children under one year of age and 37 among persons aged 60 years and upwards; the deaths of infants considerably exceeded the number in the preceding week, while those of elderly persons showed a slight decline. Eight inquest cases and five deaths from violence were registered, and 56, or exactly one-third, of the deaths occurred in public institutions. The causes of five, or nearly 3 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: A. M. Page to the *Suffolk* on commissioning; J. Shand to the *Glory*, additional, for Wei-Hai-Wei; and H. O. Beatty to the *Boscawen*, for *Boscawen* (No. III.). Staff Surgeon L. Kilroy to Bermuda Hospital. Surgeons: *R. H. St. B. E. Hughes to the Hogue and to the Suffolk;* M. H. Knapp to Plymouth Hospital; N. S. Meiklejohn to the *Monmouth;* W. G. Westcott to the *Egmont*, for Malta Yard; G. F. Alderdice to the *Albemarle;* and T. D. Liddle to the *Exmouth* and to the *Prince of Wales.*

ROYAL NAVAL VOLUNTEER RESERVE.

John Alexander Campbell Kynoch to be Surgeon.

Scots Guards: Surgeon-Lieutenant-Colonel G. S. Robinson retires on retired pay (dated May 7th, 1904).

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel W. W. Kenny to be Colonel on augmentation (dated April 1st, 1904).

Lieutenant-Colonel W. L. Lane retires on retired pay (dated May 11th, 1904).

The undermentioned Lieutenants to be Captains:—M. F. Foulds (dated April 9th, 1904); J. B. Clarke (dated April 14th, 1904); and D. L. Harding (dated April 26th, 1904).

Colonel G. D. N. Leake has been transferred from the Bombay and Nagpore Districts to the Oudh and Rohilkund Districts. Lieutenant-Colonel T. B. Tuckey (retired) is noted for appointment as medical officer in charge of the Cork Military Prison.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain H. D. Brook to be Surgeon-Major (dated April 23rd, 1904).

IMPERIAL YEOMANRY.

Denbighshire (Hussars): Surgeon-Captain R. Williams resigns his commission (dated May 7th, 1904).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st West Riding of Yorkshire: Surgeon-Lieutenant P. J. S. Bird to be Surgeon-Captain (dated May 7th, 1904).

Rifle: 1st (City of Dundee) Volunteer Battalion the Black Watch (Royal Highlanders): Surgeon-Lieutenant G. F. Whyte to be Surgeon-Captain (dated May 7th, 1904).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The Leeds Company: William McGregor Young to be Lieutenant (dated May 7th, 1904). The Manchester Companies: Captain J. B. Mann to be Major (dated May 7th, 1904).

BEARER COMPANY ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Sussex and Kent: James Augustus Rooth to be Lieutenant (dated May 7th, 1904).

THE KING'S BIRTHDAY.

The King's Birthday will be celebrated in London and at all Home Stations on Friday, June 24th next. At all Foreign Stations His Majesty's Birthday will be celebrated on Wednesday, Nov. 9th next.

PHILANTHROPY IN WAR.

The Times, apropos of voluntary aid to the sick and wounded in the Russo-Japanese war, alluded not long ago to the desirability of having a philanthropic organisation which only aims at an impartial alleviation of the sufferings of the combatants and is quite untainted by any race hatred or by any political or national prejudice. The subject is really one which deserves far more consideration than it obtains. To say nothing of the difficulty of apportioning aid in relief of the sick and the wounded in war equally and fairly between the belligerent forces there is another point which should not be altogether lost sight of. Such philanthropic movements and systems on the part of neutrals have the effect, in some measure at any rate, of relieving the belligerents of the cost and responsibility of war by freeing them from the care of their sick and wounded, and of throwing into the purchase of war material the sums saved in not having to provide for their wants, thereby enabling a general, it may be, to prosecute a campaign with greater energy, activity, and success. All will agree that the aim and the object as well as the work actually performed by Red Cross societies in time of war are most laudable and praiseworthy, [illegible] out of the Geneva [illegible] great. If we are to [illegible] aiding one of the [illegible] our benevolent efforts should be directed and confined to the relief of the sick and the wounded as such, and quite irrespectively of our sympathies with one side or the other in regard to nationality, race, creed, or politics. General Kuroki, telegraphing on May 3rd, reported that a careful search of Sunday's battlefield disclosed 200 dead and wounded among the Russians in addition to the number previously reported and he expected that more would be found when the searches of the Japanese medical corps were complete. The general added that among the prisoners was a medical field officer whom the Japanese ordered to assist in caring for the wounded Russians and Japanese. This officer at once obeyed and is now engaged in treating the wounded of both armies. That is the proper spirit and an illustration of the line to be followed.

THE WAR IN THE FAR EAST.

Whatever may be the final outcome of the present war in the Far East and whether Russia will be able hereafter to reverse the results or to repair the disastrous fortunes that have attended her arms up to the present time no one can say. But the strength, leadership, and tactics of the Japanese as compared with the weakness of their giant adversary have been such striking features of the war that no one could miss seeing them. We have no complete returns of the total losses sustained on either side in the various naval operations and engagements, but according to the official accounts of those on land in the recent fighting on the Yalu and in the subsequent retreat of the Russian forces it appears that the Russian losses are officially placed by General Kuropatkin at 70 officers and 2324 men killed, wounded, or prisoners. The Japanese return their losses at five officers and 180 men killed and 25 officers and 690 men wounded. According to the special correspondent of the *Standard* at Tokio the Japanese, as the result of the fighting on the Yalu, are said to have buried over 1300 Russians between Kiu-lien-cheng and Tang-shan, a distance of 20 miles. From a St. Petersburg telegram we learn that General Kuropatkin has requested the Russian Red Cross Society to supply 2000 more beds for the use of the military hospitals at the front.

ARMY ORDERS FOR MAY.

There are a few subjects of medical interest in the Army Orders for May promulgated by direction of the Army Council to which we may call attention, such as the following:—An amended regulation regarding pay and allowances of Queen Alexandra's Imperial Military Nursing Services and one regarding additional pay, corps pay, and extra duty pay of the non-commissioned officers and men of the Royal Army Medical Corps. Soldiers who are detained in hospital after discharge or transfer to the Army Reserve shall not be subject to hospital stoppages. Revised hospital equipment schedules have been approved. These schedules are confined to the hospitals shown therein. A scheme of centralisation under which important central hospitals only will be retained is now under consideration.

MILITARY DENTISTRY.

The subject of the care and the preservation of soldiers' teeth in our army has occupied of late the attention of the War Office in this country and a start has been already made in this direction by the appointment of some surgeon-dentists for our troops serving at home. Military dentistry is also receiving a considerable amount of attention at the present time in the German army where practical instructions have been issued and lectures given on the hygiene of the mouth and care of the teeth. Our service contemporary the *Broad Arrow* of last week has some timely remarks as to the importance of the subject as regards the health and efficiency of the soldier.

Correspondence.

"Audi alteram partem."

THE TENURE OF OFFICE OF THE MEDICAL OFFICER OF HEALTH.

To the Editors of THE LANCET.

SIRS,—The very nature of the employment of a medical officer of health, if he conscientiously does his work, subjects him to the risk of a want of appreciation from his council. It is true that tact will accomplish much for him, but sometimes no amount of tact is sufficient to mollify the ruffled feelings of a member of a council who has been put to considerable personal expense through the zeal of the medical officer of health. This possibility appears to have been foreseen by the framers of the Public Health Act of 1875, for that Act contains provisions intended to prevent that official being ousted from office by his local authority without sufficient reason. By providing for the payment of one-half of his salary from county funds—if the appointment is sanctioned by the Local Government Board—the Act puts him in the same position as a district medical officer of a union with regard to duties, tenure of office, &c.—that is, he cannot be dismissed from office by the local authority without the consent of the Local Government Board.

It is curious, however, that in many instances these very provisions for his security not only afford him no protection but actually render him more insecure than those other officials who are not so provided for. The spirit of the Act is set at naught by most local authorities by making the appointment for a limited time, generally from year to year. During the continuance of the year's appointment the officer's dismissal would have to be sanctioned by the Local Government Board. At the end of the year the appointment is vacant and it is open to any member of the local body to propose its advertisement or to move for the appointment of someone else. No reason for this course need be given except to his [illegible] familiar with [illegible] know that th[illegible] acquainted with one rural district council which numbers three members, so that an agreement between two of them would constitute a majority of the council.

It will be seen that the annual raising of the question of the re election of the medical officer of health yearly reminds the members of his authority that they have the option of electing him or not. I am personally acquainted with a case where this possibility of non-re-election was for years held as a threat over the head of the medical officer of health if he did this or if he did that. In the case of other officials who can be dismissed at the wish of the council the yearly question does not arise and their positions are to that extent the more secure. I have heard it represented that if all medical officers of health were appointed permanently one result would be that a number of existing inefficient officials would be secured in office to the detriment of their districts. It is just this type of medical officer who is already quite secure—the less he does the better he is liked. I venture to obtrude on your space on this matter because I feel certain that this is one of the factors at present tending to impede sanitary progress in many districts. It is not a question which personally affects me because my council has already made my appointment a permanent one.

I am, Sirs, yours faithfully,
E. H. SNELL,
Medical Officer of Health of Coventry.
May 10th, 1904.

To the Editors of THE LANCET.

SIRS,—As one who is vitally interested in this question I was glad to see two letters on it in THE LANCET of May 7th, both full of good points. Has it ever struck any of your readers th[illegible] inspector, [illegible] the only [illegible] years past it has been my desire to try the effect of the oil obtained from the pilchard as a substitute for cod-liver oil and in October, 1903, I asked Mr. Peck, the dispenser of the Hospital for Sick Children, Great Ormond-street, if he could obtain a sample of such oil. When the oil was first obtained I was informed that it could not be taken internally and on inquiry as to the reason I was informed "that a mistake had been made and that it could be taken internally and, in fact, was given to children in Cornwall as a substitute for cod-liver oil." I have not verified this statement. Having procured the oil it was necessary first to find out if the oil possessed any toxic properties and for this purpose I took some of the crude oil and also an emulsion which was prepared for me by the dispenser. I cannot say that either the crude oil or the emulsion was pleasant to take, but I do not think, if my memory serves me, that the taste was worse than the older preparations of cod liver oil. Certainly no unpleasant symptoms resulted saving the "repeat" which may, in certain individuals, occur with any form of cod-liver oil.

I then selected cases both from among the out-patients and in-patients to try the effect of the oil. I may say at once that some children, generally the younger ones, took it fairly well but it was resented by the older children who complained that "it was nasty and repeated." The sister and nurses also said that the children would not take it as readily as they would cod-liver oil. I then asked the dispenser if he could obtain a better and more refined sample of this oil and this he succeeded in doing. I tried this sample and certainly in appearance, smell, and taste it was preferable to the original sample. It made a good emulsion and I found the children took this much better. I may say that for the last six months I have had this oil in constant use, both in out-patient and in-patient practice, and have used it in all cases in which I considered cod-liver oil was indicated. The children who have taken it have, as a rule, done well and gained weight. Some children would not take it but I do not think this happened in any greater proportion of cases than occurs with cod-liver oil. Neither among the children in the wards nor among those in the out patients have I seen any bad symptoms which could be attributed to the "detrimental qualities of fish oil" and I consider the preparation quite as beneficial as the oil obtained from the cod. It is almost unnecessary to add that the oil is not prescribed as oleum morrhuæ but as oleum clupeæ, the name being derived from the family of the pisces clupeidæ to which the pilchard belongs.

I am, Sirs, yours faithfully,

FREDERICK E BATTEN,
Assistant Physician to the Hospital for Sick Children, Great Ormond-street.

May 9th, 1904.

THE METROPOLITAN STREET AMBULANCE ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—May I be permitted so far to correct the account of the meeting of the Metropolitan Street Ambulance Association which appears in THE LANCET of May 7th as to say that the remarks attributed to "Dr. F. W. Cock" on the subject of the New York ambulance system were really made by Yours very faithfully,

E. MARION COX, M.D., L.S.A.

Curzon-street, W., May 9th, 1904.

REMOVAL OF THE OVARIES FOR INOPERABLE CANCER WITHOUT EFFECT.

To the Editors of THE LANCET.

SIRS,—It is of great importance that all cases of removal of the ovaries for inoperable cancer should be recorded with a view to establishing the value of this operation.

Early in June, 1903, a woman, aged 43 years, consulted me concerning a swelling in her breast which she had had for some months. It was a well advanced scirrhus of the left breast. I admitted her into hospital on June 12th and next day removed the breast, cleared out the axilla as thoroughly as it could be done, and gave her thyroid gland for some months. She left the hospital on July 1st, 1903, in good health, though I feared that I should have her return some day as the cancer was so far advanced before operation.

On Jan. 8th, 1904, she returned with many nodules along the cicatrix. I readmitted her into hospital, explained the state of the case to her, and with her consent on Jan. 9th removed the ovaries as her menstrual functions were perfectly regular, and again gave her thyroid gland. I also used the Roentgen rays twice a week. She left the hospital on Feb. 4th well in herself and living in hope that the operation would cure her cancer. I could never see (although she attended the hospital regularly as an out-patient and continued her thyroid gland) that the operation made any impression in even retarding the growth of the cancer and on April 21st, 1904, she died.

I am, Sirs, yours faithfully,

Rugby, May 9th, 1904. CLEMENT DUKES.

THE ASSOCIATION OF DIPLOMATES OF THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH.

To the Editors of THE LANCET.

SIRS,—May I ask you for space in THE LANCET to state that the general meeting of the above association will be held at 20, Hanover-square, London, W., on Thursday, May 19th, at 4 P.M. Circulars are being sent to diplomates in London and the provinces but as some may not receive them will they kindly accept this as an invitation to attend?

I am, Sirs, yours faithfully,

C. ST. AUBYN-FARRER,
Westbourne Park-road, W., May 10th, 1904. President.

SOUTH AFRICAN CIVIL SURGEONS' FOURTH ANNUAL DINNER.

To the Editors of THE LANCET.

SIRS,—May I call attention in your columns to the above dinner which will take place on Tuesday, June 28th, at the Hotel Cecil at 7.30 P.M.? Mr. G. H. Makins, C.B., will take the chair. As the addresses of those who served in the war are frequently changing I take this opportunity of catching the civil surgeon's eye. Reply cards will be sent out to all whose names and addresses are at my disposal and I shall be glad to hear as soon as possible from those who intend to be present. Tickets (price 10*s.* 6*d.*) should be paid for at the dinner. There will be a plan of the table in the reception room and those dining can thereby secure seats to suit their convenience beforehand. Miniature medals and decorations should be worn and guests are welcome.

I am, Sirs, yours faithfully,

44, Welbeck-street, W., May 11th, 1904. C. GORDON WATSON

CASE OF ECLAMPSIA WITH TWINS.

To the Editors of THE LANCET.

SIRS,—Mr. A. H. Haines's case of eclampsia in THE LANCET of April 9th, p. 1017, reminds me of a case I attended some time back. The patient was a primipara, aged 21 years. On my arrival at the house I found her in convulsions which had been going on for eight hours. I prescribed bromide and chloral and sought the assistance of a friend, Mr. C. H. Thackrah of Halifax, and on our arrival at the house we found the convulsions were in no way abated by the drugs. After a short consultation we decided to empty the uterus under chloroform. The anæsthetic was taken well and when the patient was well under the os was dilated by digital means, the membranes were ruptured, and the forceps was applied to the presenting head. The child was a very small one and was easily delivered, but on placing my hand on the abdomen to follow down the uterus I found another child in the womb. My friend examined and found the presentation to be the right shoulder. A little more chloroform was used and he had no difficulty in getting hold of a leg and turning, delivery being very easy. The placentæ were separate, both children were born alive and lived. There was a good deal of post-partum hæmorrhage, but with external kneading of the abdomen the uterus was kept well contracted and no further hæmorrhage occurred. The patient got on very well until about the twelfth day when she complained of pain in the left groin and calf. Her temperature was 102° F. and the leg began to swell. I treated the white leg with the general routine treatment and it got all right. Both children died in convulsions, one three weeks after birth and the other a month. I am, Sirs, yours faithfully,

Ernest E. Crowther, L R.C.P., L R C.S. Edin., &c.
Luddenden, May 10th, 1904.

LIFE IN CRYSTALS.

To the Editors of The Lancet.

Sirs,—Acting on the principle expressed by the motto which heads your correspondence columns you recently afforded to Dr. H. Charlton Bastian an opportunity of expounding views on heterogenesis to which exception is very generally taken in scientific circles. In the same spirit may I call attention to an article by M. F. di Brazza and M. P. Pirenne in the *Revue Scientifique* of April 22nd, entitled "La Vie dans les Cristaux" which may be regarded as indirectly supplying some measure of confirmation to Dr. Bastian's opinions? The article referred to consists mainly of an exposition of the theories of M von Schrön, director of the pathological institute of the University of Naples, as to the origin and mode of development of crystals, and the writers are led to the conclusion that they have to do with undoubted instances of the spontaneous generation of living things from aggregates of molecules. The living things are, it must be admitted, crystals, but M. von Schrön is convinced that young and growing crystals are alive though old ones may have ceased to be so, and he traces a marked analogy between crystals and the cells of animals and plants. He has watched the formation of crystals under a magnification of 800,000 and he describes the appearance from an initial "pétroplasme," which is comparable with the "bioplasm" of animals and plants, of "petro-cellules" with nuclei containing a nuclear network. The petro-cellules give rise to crystals and the young crystals have the power of locomotion and, like the lowest zoological or botanical types, can reproduce their kind by division, gemmation, and endogeny. The young crystal has also its special pathology and may exhibit hereditary maladies in the way of bifurcation, torsion, or erosion. M. von Schrön suggests that Redi's dictum, *Omne vivum ex ovo*, and Virchow's *Omnis cellula e cellula* call for revision and he proposes the formula *Omne vivum e molecula* as more in accordance with the facts of the case. If these observations are verified the result can hardly fail to be curious and interesting. I am, Sirs, yours faithfully,

S.

THE CHOLERA AND ENTERIC FEVER EPIDEMICS AT HAMBURG.

To the Editors of The Lancet.

Sirs,—Dr. Reincke writes to correct some statements made in your leading article on the paper which he recently read to the Epidemiological Society. As these statements were evidently based on the description which I wrote when visiting Hamburg to investigate the causes of the cholera[1] perhaps I may offer some explanation. I then described Altona as being built on a hill and that it juts out in a somewhat startling manner, so that it may well be compared to a rock or a cliff. I confess that I did not investigate the exact composition of the subsoil of this hill but Dr. Reincke now informs you that it consists of North German geest, the same soil as that of the greater part of Hamburg. If reference is made to the map published with my article on Hamburg it will be seen that "the greater part of Hamburg" did not suffer half as much as the smaller part of Hamburg which is built on damp subsoil, marshy land recently redeemed from the river. Thus the topographical differences produced their effect, not only in regard to Altona as compared with Hamburg, but within the boundaries of Hamburg itself. The sanitary authorities, who showed me every courtesy, and I am pleased after the lapse of so many years to have another opportunity of again publicly thanking them, assured me that there was a low-lying and damp part of Altona where a good many cases of cholera had occurred. Whatever the composition of the subsoil these low lying districts did suffer the most, but they are also the poorest and the most overcrowded and it is not one cause but many causes that bring about such an epidemic. Therefore, and in spite of the great importance of water-supply, these other causes must be carefully considered.

I am, Sirs, yours faithfully,

London, May 7th, 1904. Your Special Correspondent.

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[1] The Lancet, August 25th, 1894, p. 457.

THE GERMAN SURGICAL CONGRESS.[1]

(From our Berlin Correspondent.)

(*Continued from p. 1309*)

Operations on the Bones and Joints.

Dr. **Samter** (Königsberg) recommended in old dislocations of the jaw the performance of operative reposition instead of by resection.

Professor **Riedel** (Jena) said that subcutaneous catgut sutures yielded the best results in recent and old fractures of the patella. He showed some patients who had been treated in this way and had excellent use of the knee joint.

Dr. **Bockenheimer** (Berlin) showed a patient whose scapula had been removed and had afterwards undergone regeneration. For this to take place it was, of course, essential that the periosteum should be preserved. One of Dr. Bockenheimer's patients continued to follow his employment as an acrobat.

Dr. **Konig** (Berlin) recommended suture of fractured bones, especially of the epiphysis; this proceeding was very valuable in cases of fracture-dislocation. He had used this method in 11 cases, one being that of a patient with several fractures. One patient had an intracapsular fracture of the neck of the femur in which accurate suture of the capsule was essential. The results were very satisfactory.

Dr. **Samter** mentioned a case of pseudo arthrosis of the tibia where he had obtained consolidation by implanting a large periosteal flap and a piece of bone from the femur.

Professor **von Bramann** (Halle) said that in a case of sarcoma of the humerus he had replaced the diaphysis by a sterilised piece of bone from the tibia six inches in length, the result being that complete consolidation was obtained.

Dr. **Neuber** (Kiel) said that a piece of wood, which, of course, must be removed after a sufficient formation of bone had taken place, was likewise efficacious.

Operations on the Kidney.

Professor **Kümmell** (Hamburg) discussed tuberculosis of the kidneys. He recommended early operation as serious lesions of the kidney might sometimes be attended by only slight symptoms. In every case of old cystitis, especially in women, the urine should be examined as to the presence of tubercle bacilli; when those bacilli were present a radical operation should be performed as soon as possible; the results were generally good. Of 260 operations performed by him 48 were for tuberculosis.

Professor **Kronlein** (Zürich) confirmed Professor Kummell's statement that tuberculosis of the kidneys was more frequent in women than in men. Since 1890 he had operated on 34 patients of whom 12 had no other symptoms of tuberculosis whilst in 32 there were multiple localisations of the disease. He was of opinion that an ascending form taking its origin from the bladder did not exist but that infection always occurred by way of the circulation.

Professor **Kuster** (Marburg) said that he had observed that the disease was more frequent in men than in women. Tubercle bacilli were not always present in the urine nor was their presence a sure symptom of renal tuberculosis.

Dr. **Steinthal** (Stuttgart) reported that he had once operated in two stages At the first operation one of the ureters was tied and when by this proceeding the healthy state of one kidney was ascertained the other was removed by a second operation.

Appendicitis.

Dr. **von Büngner** (Hanau) read a paper on the size, structure, and shape of the appendix and discussed the methods available in the different forms of appendicitis. He distinguished an acute and a chronic form with many subdivisions. He generally insisted on early operation.

Dr. **Lauenstein** (Hamburg) said that he dissented from the view held by Dr. Büngner to the effect that there existed so many forms of appendicitis showing distinct symptoms. His classification of appendicitis was into acute and sub-acute or chronic with or without perforation. When the cases were operated on early there was no perforation.

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[1] For this report we wish to tender our thanks to the editor of the *Deutsche Medicinische Wochenschrift*, through whose courtesy it has been forwarded to us by our correspondent.—Ed. L.

Dr. **KAREWSKI** (Berlin) expressed the opinion that in acute cases an operation should be performed at once when medical treatment did not completely relieve the symptoms. Operation in the interval should also not be too long postponed.

Professor **SONNENBURG** (Berlin) insisted on the fact that opinions as to the necessity of an operation have naturally changed because the clinical material itself has changed on account of patients now presenting themselves at an earlier stage of the disease than formerly. The very acute forms of appendicitis with septic symptoms and the early stages of subacute peritonitis were now better known and surgical aid was thus sought at once. Professor Sonnenburg, however, did not advise early operation when the suppuration had no tendency to spread and when the symptoms nearly disappeared after some days.

Dr. **FEDERMANN** (Berlin) reported six cases of ileus following operation for appendicitis. The patients' temperature was normal; the pulse also was normal at first and only became frequent in an advanced stage. The number of leucocytes was normal or even subnormal and only increased when an abscess developed.

Hernia.

Professor **MADELUNG** read a paper on very large herniæ which frequently occurred after operations for strangulation or after unsuccessful radical operations. These cases were seldom improved by a simple operation; resection of the prolapsed portion of the intestine and suture were necessary.

Professor **HELFERICH** (Kiel) called attention to the fact that shock might ensue on the reposition of enormous herniæ.

Dr. **KAUSCH** (Breslau) expressed the opinion that these herniæ ought always to be operated on while the patient's general state was still satisfactory. Previously to the operation the patient must be confined to bed for several days with his pelvis raised so that the protruding intestines might tend to fall back.

Professsor **BRAUN** (Göttingen) said that these herniæ might be considerably reduced in size by elastic compression.

Dr. **BRODNITZ** (Frankfort) said that he had resumed the old method of Schwalbe—namely, the treatment of herniæ by injections of alcohol into the sac; he had treated 73 patients in that way of whom 45 had since been observed for more than six months. He found that of these 45 cases 19 were serious and four had relapses; ten milder cases and 16 herniæ in children were completely cured.

Operations on the Bladder.

Professor **REHN** (Frankfort) reported recent observations on growths of the bladder in workmen employed in aniline factories. A report of such cases had been already given by him at the congress last year. He proposed a collective investigation of the matter, the number of his own observations now being 23; five were papillomata, of which two afterwards degenerated into malignant growths; the others were originally sarcoma or cancer. The prognosis was very bad.

Dr. **SCHWERIN** (Hoechst) surgeon to the Hoechster Farbwerke, said that his attempts to produce such growths in animals by adding aniline to their food had failed; in the human subject the development of these tumours was very slow.

Dr. **STRAUSS** (Frankfort) said that he had once operated on a large benign fibroma of the bladder with a small peduncle; besides that fibroma there was a small indurated growth which was ascertained to be a cancer.

Professor **KRASKE** (Freiburg) mentioned some rare cases of vesical growths—namely, a myoma which was cured by partial excision, and an ulcerated gumma cured by anti-syphilitic treatment.

Dr. **PAGENSTECHER** (Wiesbaden) spoke on malformations of the bladder such as the bladder of hour-glass shape; the double bladder, each loculus containing one ureter and associated as a rule with other deformities; and diverticula of the bladder, cases of which last abnormality he had had under his own care.

Intraspinal Injections of Cocaine.

Dr. **KLAPP** read a paper on experiments made on animals for the purpose of preventing the rapid absorption of the fluid in intraspinal injections of cocaine. He found the action of adrenalin to be very unsatisfactory, whilst mucilaginous, oleaginous, and gelatinous solutions or emulsions were better.

At the general meeting of the German Surgical Association Professor **KRÖNLEIN** of Zürich was elected president of the next congress.

LATIN-AMERICAN MEDICAL CONGRESS AT BUENOS AYRES.

(FROM OUR SPECIAL CORRESPONDENT.)

[OUR Special Correspondent sent us photographs of the exhibition building at Buenos Ayres, of the building of the Faculty of Medicine, and of the San Roque and Isolation Hospitals, which were published with a preliminary note in our issue of April 23rd, p. 1155.]

IMPORTANT DEBATE ON YELLOW FEVER.

The Second International (Latin-American) Medical Congress was opened at Buenos Ayres with great *éclat* by President Roca in person. The inaugural ceremony took place in the Opera House, a handsome building, which was packed on the occasion, some 2000 people being present. On the stage, which was carpeted and artistically decorated with flowers and evergreens, were the President of the Republic, the Ministers of Public Instruction and Foreign Affairs, the members of the organising committee, the press, and the foreign delegates, numbering over 40, from the different South American republics and also from Mexico and Cuba. After the usual formalities had been gone through the foreign delegates in turn spoke for their respective Governments and each vied with the other in eulogy of the country, the great and beautiful city, and the energy displayed by the organising committee—a display of oratory well worth listening to. As is usual in Latin countries all were in full evening dress and white tie although the meeting was at 3 o'clock in the afternoon.

In the evening at 9 o'clock of the same day the Exhibition of Hygiene, which is being held in connexion with the Congress, was officially inaugurated and promises to be not the least interesting part of the Congress. The installations of the exhibition not being all completed it is not yet possible to give an exact and full description, but I may say that the display made by the Army Service Corps (*Sanidad Militar*) is most complete and very interesting and I doubt if in any European capital this department would be better represented. Many of the things are made by Lefévre of Paris, notably a cart filter with a capacity of 600 litres. At the back of the cart is the filtering apparatus (asbestos and charcoal) and a long inch hose conveys the water from any well or lake or puddle by means of a pneumatic pump to the filter from which the water issues perfectly clear and is conveyed by another smaller hose to the tank which occupies the rest of the cart which is drawn by two horses. I was much struck by the ease and rapidity with which the water was obtained and filtered. A fine portable camp oven for baking bread made in sections like a collapsable boat also drew my attention. Novelties in the shape of saddles for cargo mules, stretchers, and portable sterilisers for surgical instruments also call for notice. Some very creditable work was also apparent in aseptic furniture for hospital operating theatres and consulting rooms and there were some very fair specimens of surgical instruments all manufactured in Buenos Ayres. With one or two exceptions British manufacturers are conspicuous by their absence with regard to sanitary fittings, furniture, surgical instruments, and the like, but Messrs. Allen and Hanburys have a good show of infant foods and pharmaceutical preparations; Messrs. Brand and Co. and the Sanitas Co. are also represented but not fully. The place simply teems with French and German pharmaceutical specialities, especially French, while the show of mineral waters is a good one, "Taunus," "Kristalz," and "Birresbora" being all well represented.

Turning to the Medical Congress itself the most important paper read as yet (the Congress is still proceeding) is one on the International Prophylaxis of Yellow Fever, by Dr. J. B. Lacerda and Dr. Azevêdo Sodré of Rio Janeiro, Brazil, and the following are their conclusions: 1. Yellow fever is transmitted by means of the mosquito stegomyia fasciata which infects by the blood sucked from a yellow fever patient during the first three days of the disease. 2. The prophylaxis of yellow fever should tend to protect patients against the bites of mosquitoes and prevent the latter when infected from biting healthy persons. 3. All the old prophylactic measures such as quarantine, disinfections, cordons sanitaires, obligatory isolations, &c., should be abolished as illusory, inefficacious, and prejudicial.

These conclusions are also supported by Dr. William Dolz y Arango of Cuba, and Dr. Sodré proved that, working on the above lines, they are in a position to state that yellow fever had almost disappeared from Rio Janeiro. So much enthusiasm was provoked by these assertions that the Congress there and then resolved to send congratulatory telegrams to Dr. Octavio Cruz, chief of the sanitary service of Rio, and to Dr. Agramante and Dr. Carrol of the United States for their work in connexion with yellow fever. The contrary side was taken by Dr. Penna, chief of the isolation hospitals in Buenos Ayres, who sustained the following propositions: 1. The results of the studies of Dr. Sanarelli on the etiology and pathogeny of yellow fever have not suffered the slightest modification and may be considered at the present time as perfectly established. 2 These investigations have been confirmed in France, Italy, Brazil, and in the Argentine. 3. The conclusions arrived at by the United States military committee that the mosquito stegomyia fasciata serves as intermediate host between the yellow fever patient and the healthy individual have not been demonstrated and lack sufficient proof. 4. The counter proof of specific prophylaxis made in Cuba and San Paulo (Brazil) by destruction of the specific mosquito is not conclusive (insufficient). 5 The Havana committee has not proved that the disease transmitted experimentally by the mosquito is really yellow fever and the same applies to the French committee. 6. The prophylaxis of yellow fever should be conducted on the old system of disinfection and isolation. 7. International prophylaxis of yellow fever should suppress all measures tending to interrupt free commercial and individual traffic. 8. If it be true that the transmission of yellow fever is made by a mosquito of a certain species and that the statistics of the results obtained by artificial transmission of yellow fever are also true, then the means adopted for prophylaxis should not be "death to the mosquito" but preservation of these providential beings destined to act in the [illegible] [illegible]isers" exactly as we preserve an [illegible]

The last conclusion is [illegible], many speeches were made for and against, but no vote was taken as the subject possibly may be discussed afresh. Some good work was done in other sections but I must postpone the mention of these for a later date.

Buenos Ayres.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool Cancer Research.

Dr. A. S. F. Grünbaum, the director of the Liverpool cancer research, has issued his report of the first year's work of investigation for the discovery, if possible, of the causes and cure of cancer. The plan of work adopted was (*a*) therapeutical and (*b*) experimental. The cytolytic milk of a cow and subsequently, when it yielded no more milk, its serum were tried. It was expected that it would have effect only on cancer of the breast but it was tried also on two cases of cancer of the stomach and one of the rectum. In one case of cancer of the stomach the milk was taken constantly until death; the other two patients did not continue to send for it so that their subsequent history is not known. Of two cases of cancer of the breast in one the disease is apparently arrested; the other, in which the disease was too far advanced, died. Three cases of uterine cancer are being treated with the serum from a horse; they all show objective signs of improvement. It is, of course, obvious that while surgical interference is considered the most hopeful treatment any new method tried only on cases beyond surgical skill will be severely handicapped. Of the value of the x rays as a curative agent in certain cases there can be no doubt but at the present moment the clinical and pathological characteristics of such cases are not defined and require minute investigation. Experimental work has been directed towards the causes of cancer. Until these are known very little can be done towards its cure and practically nothing towards its prevention. If once a strain of human cancer can be experimentally secured and continued the goal will be appreciably nearer. In carrying on the work the developmental and the parasitic hypotheses have consequently been kept in view. The recent additional evidence obtained by the London observers towards the germinal theory raises the hope that a comparatively simple physiological cure may be possible when it is remembered by what simple means experimental embryologists are able to alter the development of germinal cells. The occurrence of malignant disease in animals also came under investigation. A number of tumours from the human body were received in response to appeals made by Dr. Grünbaum to his professional brethren for specimens: about 57 per cent. came from the Liverpool Royal Infirmary, 16 per cent. from the London Hospital, 1 per cent. from the Royal Southern Hospital, and 26 per cent. from outside sources. Several tumours, mostly malignant, from animals have been received and examined; they include specimens from the horse, the cow, the sheep, the dog, the pig, the cat, the mouse, and the trout. The report practically includes only nine month's work to Feb. 1st, 1904, as the rooms in the laboratory of experimental medicine at the University of Liverpool were not ready until April, 1903.

The Roentgen Rays Department at the Royal Southern Hospital.

Through the liberality of Mr. John W. Hughes the x-ray room at the Royal Southern Hospital has been enlarged and fully equipped with the most up-to-date scientific apparatus. A few days since the new room was formally opened by Mrs. Hughes, the wife of the donor, in the presence of the honorary medical staff and several members of the general committee. Immediately afterwards Mr. C. Thurstan Holland, the honorary medical officer of the x-ray department, gave a demonstration on radium to an appreciative audience.

Health of Liverpool.

The death-rate for the past week was 22·3 per 1000. Three cases of small-pox were reported during the past week. There are 320 cases of scarlet fever in the corporation hospitals.

Death of Alderman John Lawrence, J.P.

By the death of Alderman John Lawrence the medical profession of Liverpool has lost a warm friend. He was a man of great abilities for business and public affairs and was especially interested in hospital administration. He was a prominent member of the committee of the Royal Infirmary since the year 1881; he was also a member of the council of the University of Liverpool as a civic representative. During the rebuilding of the Royal Infirmary his advice on legal matters, especially in reference to the purchase and the acquisition of neighbouring property, was invaluable. He also took a great interest in the subject of the renewal of the lease of the Medical Institution buildings, which has nearly run out and which is now a source of much anxiety to the trustees of the institution. At a general meeting of the society two months ago, at which he was specially invited to be present, he strongly expressed the opinion that as the objects of the institution were for the cultivation of medicine, surgery, and the collateral branches of science, thus tending to benefit society in general, a nominal fine ought to meet the circumstances of the case. His help was looked forward to when the matter would again come before the estate committee of the city council but it was decreed otherwise. He was a man of wide culture and possessed a charm of manner which made him a general favourite. His death occurred in pathetic circumstances, the intelligence of which came as a great shock to his numerous medical friends and others. He left Liverpool on March 31st, not specially ailing but in the hope that a trip to the Mediterranean would be of benefit after having somewhat overworked. He visited Constantinople, Smyrna, and Athens but, unfortunately, when nearing Gibraltar developed pneumonia, to which he succumbed in two days. He passed away on Sunday, April 24th, and was buried at sea on the following day. Mr. Lawrence, who was a solicitor, was brother-in law of Mr. T. Pickering Pick, consulting surgeon to St George's Hospital, London, and inspector of anatomy for England and Wales.

Liverpool Baths and Washhouses: Opening of a New Bath.

The new public bath in Lister Drive was formally opened on May 2nd. The building is a very imposing one. The style of architecture is Free Renaissance and has a very pleasing effect. After passing the turnstile the visitor finds himself in a very commodious entrance hall, from which there is direct access to the several sections and classes of baths which are all situated on one floor level. Each section has its waiting and cooling rooms. The first-class accommodation provides for eight private baths, slippers, sprays, Russian and vapour baths, and a swimming bath 75 feet by 35 feet, with dressing accommodation for from 75 to 100 bathers. This bath is designed for an entertainment bath but for the present the necessary spectators' gallery has been omitted. This feature can be added later. The ladies' section is capable of accommodating six bathers. Space has been reserved for the construction of a ladies' swimming bath when the demand justifies such a provision. A large bicycle stable is provided for the storage of bathers' bicycles. There is also a large room for swimming-club meetings. The administrative department includes a power-driven laundry and complete installation of up-to-date heating appliances both for atmospheric and water heating. The whole of the baths are top-lighted. The artificial lighting is electric, the current being supplied from the corporation mains. The ventilation is natural. The construction of the building is fire-proof. The interior of the walls is faced with enamelled bricks and tiles. The water-supply is from the corporation fresh-water mains, and by the coöperation of the water and the electric-power and lighting committees the baths committee has been enabled to make arrangements for the supply of fresh water for the swimming baths to be heated on its way to the baths in the following manner. A special supply of water is taken from the corporation main and is conducted in pipes to the electric generating section adjoining the baths, where it is passed through a specially designed heater placed in one of the exhaust steam mains of the station. The water heated to a suitable temperature for bathing purposes is then conveyed in pipes to the baths. In testing the heater it was found capable of heating 25,000 gallons of water per hour, raising the temperature from 43° to 73° F. This can be done without in any way affecting the water and electric-lighting committee's revenue, whilst it means a saving of at least £140 per annum to the baths committee. The total cost of the establishment of the baths is £24,000.

The Royal College of Physicians of London.

Dr. T. R. Bradshaw, honorary physician to the Royal Infirmary and lecturer on clinical medicine at the University of Liverpool, has been elected to the Fellowship of the Royal College of Physicians of London.

May 10th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Poor-law Conference at Malvern.

THE thirty-fifth annual conference of delegates from the 82 unions in the West Midland registration district was held at Malvern on May 2nd and 3rd. The area included in this registration district comprises the counties of Gloucester, Hereford, Salop, Stafford, Warwick, and Worcester. A very instructive discussion was introduced by Mr. J. D. Birchall of the Gloucester board of guardians upon "boarding out." He compared the advantages to the children themselves as well as to the ratepayers of placing children in scattered homes, in cottage homes, and of boarding them out in families both within the union to which the child is chargeable and in other unions. He emphatically recommended the adoption of the last-named course—namely, the placing of children "beyond the union" and deplored the fact that the number of children thus dealt with in 1900 being 1910 in 1903 it had fallen to 1674 although the total number of children chargeable to the unions had increased between the two dates from 57,453 to 61,993. There was a consensus of opinion among those who took part in the discussion that the children should not be kept in the workhouse proper but there was not the same unanimity with regard to placing them in groups in cottage homes or in scattered houses and boarding them out singly. Mr. E. B. Wethered, Poor-law inspector of the Local Government Board, said that everything depended upon proper supervision. He declared that the boarding-out system had worked very well at Bristol and that since the children had been removed from the workhouse they had developed both mentally and physically. Miss Mason, who is also a Poor-law inspector of the Local Government Board, agreed with Mr. Wethered that there was a great difficulty in finding suitable homes in which to place children. At the second day's meeting of the conference Mr. Geoffrey Drage read a paper upon Training Ships for Poor-law Boys. He pointed out that while in 1857 there were 97,000 British subjects employed in the mercantile marine and in 1899 there were 60,000 in 1901 there were only 44,500, and he suggested that boards of guardians by sending boys to a training ship would be doing the best thing possible for the boys and at the same time would be contributing to the nation's prosperity and safety.

Disinfection after Death from Phthisis.

Now that phthisis is recognised as an infectious disease it is probable that the keepers of lodging houses will more frequently exact payment for the disinfection of rooms occupied by phthisical patients. Such a claim was unsuccessfully defended in the Cardiff county court on May 5th. A lady who was suffering from phthisis occupied with her companion certain lodgings in Cardiff during the whole of last November and died at the end of that month. The proprietor of the lodgings claimed £50 from the husband of the patient as damages said to have been sustained owing to the occupation of the lodgings by his wife and to her subsequent death. Nearly half of this sum was for the rent of rooms which it was alleged certain persons refused to hire when they heard the cause of the previous lodger's death. The remainder was for the wear and tear of the house at the time of the funeral and for the value of bedding and other articles which had been destroyed. The county-court judge gave judgment in favour of the lodging-house keeper for £25 but would not entertain the claim for loss of rent. A somewhat similar case has been previously reported[1] where the cost of disinfecting rooms occupied by a consumptive person in a hotel was recovered in a county court. In this instance the judge held that on the evidence of the medical officer of health consumption is an infectious disease and that it would be dangerous to let the rooms again without disinfection. He did not, however, allow the claim made for damages in addition to the cost of disinfection.

Damages against a Quack Company.

A commercial traveller obtained £20 as damages in the Cardiff county court on May 5th against the Good Health Alliance Company. He purchased two "foot drafts," a form of plaster which it was said would relieve rheumatism but he contended that owing to the irritation which they set up on the soles of his feet where they were applied he was unable to follow his employment. Mr. Frederick Buckham, who attended him, ridiculed the suggestion of the defendant company that the "foot drafts" drew uric acid out of the system through the pores of the feet, but according to the newspaper report of the case Dr. Boyd, who was described as a London consulting physician, said that a good deal of the uric acid could be expelled from the body through the pores of the skin and that was what the plasters did. The county-court judge said that the company was liable for damages as the plaintiff had not been warned in any way as to the effect which the plaster might have.

Tramps and Small-pox.

The Leominster board of guardians recently adopted a motion expressing the opinion that it is urgently necessary to pass through Parliament a short Bill compelling all tramps to be vaccinated if they cannot produce evidence of recent vaccination. During some months of last year the public vaccinator was instructed to offer vaccination to all tramps who passed through the Leominster workhouse and in this way a great deal of good work was done. The board becoming alarmed at the cost involved the practice was suddenly dropped.

Royal Mineral Water Hospital, Bath.

At the annual court of governors of the Royal Mineral Water Hospital, Bath, which was held on May 2nd, it was stated that the hospital was closed for a few weeks during 1903 in consequence of a slight outbreak of small-pox in the town. The hospital, which was incorporated in

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[1] Law Times, 1899, vol. cvii., p. 101.

1737, contains 165 beds and there were admitted for treatment last year 1163 patients, of whom 1027 were discharged during the year; of the latter number 84 were cured, 871 were much relieved, and three died; the remainder left for various reasons. The expenditure incurred during the year was £5343, or £444 in excess of the income.

Swansea Hospital.

Among many other charitable bequests of the late Mr. William Williams of Swansea is a munificent one of £2000 to found and to maintain a bed in the Swansea General Hospital. Dr. J. Arnallt Jones, medical officer of health of Aberavon, is a son-in-law of Mr. Williams.

The Vaccination Acts.

At the meeting of the Exeter guardians held on May 3rd a communication was read from the Reading union asking support to a petition to Parliament for the repeal of the Vaccination Acts and the rejection of the Vaccination Bill of 1904 on the ground that vaccination was dangerous to life and limb and useless to prevent the infection of small-pox. The Exeter guardians, however, decided to take no action in the matter.

May 10th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

General Council of the University of Edinburgh.

THE statutory half-yearly meeting of this body was held on May 4th. There were no matters of distinctively medical interest before the meeting. A committee was appointed to watch the progress of the Education Bill and a discussion took place on the merits of modern languages.

Lunacy in Scotland.

The annual report by the General Board of Commissioners in Lunacy for Scotland, which has just been issued, states that on Jan. 1st, 1904, there were in Scotland 16,894 insane persons under official observation. This number included inmates of schools for imbecile children and of the lunatic department of Perth General Prison. Of the total number, 2532 were maintained from private sources, 14,309 by parochial rates, and 53 at the expense of the State. The total showed an increase of 236 over the numbers of the previous year. When the Commissioners first took up office on Jan. 1st, 1858, the total number of lunatics officially known had been 5824, or 11,070 less than the numbers reported on Jan. 1st, 1904. The numbers of private patients in asylums had increased during the year by 111 and in private dwellings had decreased by two, an increase of 109 in all. The number of pauper patients in establishments had increased during the year by 80. This figure did not include inmates of training schools. As, however, the average annual increase of pauper patients in establishments had been 293 during the past ten years the increase for last year was 213 below the average. The number of pauper lunatics in private dwellings had increased during the last ten years from 2566 to 2658. Of registered lunacy as a whole the increase of 205 was the smallest increase recorded since 1891. Of the total increase of 205, 191 rose from an increase in the number in establishments and of this number 80 were pauper patients. This increase in pauper patients was the smallest that had occurred during the past 19 years. 16 counties show a total increase of 178 and the remaining 17 counties a total decrease of 98. The most prominent contribution to the increase was the county of Edinburgh with 48, or 27 per cent. of the whole. Inverness, Ross, and Sutherland showed together an increase of 41, or 23 per cent. of the whole. Aberdeen and Renfrew showed an increase of 29, or 17 per cent.; while Forfar with a growing population showed 21 fewer than last year. Lanark, Linlithgow, Dumbarton, Selkirk, as well as Caithness, Orkney, and Shetland, all showed a decrease. The number of pauper lunatics in establishments now amounted to 249 per 100,000 of the population, as against 250 per 100,000 in 1892. 21 years had elapsed since a similar fall had been recorded. It might be merely a passing phenomenon but it also possibly might be an indication that pauper lunacy, which had lately been so rapidly increasing, was at last reaching a point beyond which it would not materially rise.

University of Glasgow Court.

At a meeting of the University of Glasgow Court held at Gilmorehill on May 5th, Principal Story presiding, the finance committee reported that it had agreed to purchase from Mr. Alexander Stenhouse certain property in University Avenue, consisting of dwelling houses and shops with hall adjoining, at the price of £3800, subject to the court granting the vendor a lease of the shops for four years from Martinmas next. The report was adopted. This property is at present partly occupied by the Western Medical School. Lord Kelvin, who was recently appointed Chancellor of the University in room of the late Earl of Stair, has nominated Mr. Henry Gordon of Aikenhead as his representative on the University of Glasgow Court.

Annual Meeting of the Aberdeen District Registered Plumbers.

The annual meeting of the Aberdeen, Kincardine, and Banff district plumbers, registered by the National Registration of Plumbers, was held on May 4th in Robert Gordon's College, Aberdeen, Professor Matthew Hay, president, being in the chair. There was a good attendance. The fourteenth annual report submitted by the council stated that the plumbing classes carried on at Robert Gordon's College by Mr. W. A. Watt and Mr. A. Forbes, members of the council, continued to do excellent work, and the instruction and training which they afforded must have an important bearing on the qualifications of young plumbers who had the foresight to attend them during their apprenticeship. The number of students in attendance during the session was 43. The classes were arranged in three different grades of proficiency. A special feature was instruction in "lead burning"—a part of plumbing work hitherto confined to a very small section of the craft. Ex-Bailie Pyper had kindly renewed his generous donation of prizes, but the awards would not be announced till the end of the session. A balance of £15 1s. 6d. remained in hand after paying all accounts of the registration. Professor Hay commented on the satisfactory state of affairs and moved the adoption of the report. Councillor Robertson, vice-president, seconded the motion and the report was unanimously adopted. Both of these gentlemen referred to the Plumbers' Registration Bill and hoped that at no distant date they would see compulsory registration of plumbers. The following motion was proposed by Mr. John Clarke, lecturer on education at the University of Aberdeen, and was unanimously passed:—

> That the annual meeting [illegible]
> and district council for the [illegible]
> its emphatic opinion that [illegible]
> [illegible] economy, and that [illegible]
> Members of Parliament.

Tragic Death of a Stonehaven Medical Man.

The body of Dr. James Gordon of Stonehaven was found by two lads on May 8th suspended by a rope from a tree in a wood at Carsegownie Muir, about five miles from Forfar. Dr. Gordon succeeded to the late Dr. W. B. Leslie's practice in Stonehaven some two years ago. He was a native of Aberdeen and graduated with distinction at the University of Aberdeen. Deceased was, in not a few respects, a young man of great promise. After graduating he spent some time in practice in Aberdeenshire and in England and Wales, gradually building up a considerable reputation and sound knowledge of his profession. He was unmarried. The utmost sympathy is expressed for his father and mother and other relatives in the painful circumstances which have attended their sad bereavement.

May 10th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Meath Hospital and County Dublin Infirmary.

Dr. F. Conway Dwyer, professor of surgery, Royal College of Surgeons in Ireland, and surgeon to Jervis-street Hospital, has been appointed surgeon to the Meath Hospital and County Dublin Infirmary.

Cork-street Fever Hospital, Dublin.

The James Weir Nurses' Home in connexion with the

Cork-street Fever Hospital was opened on May 7th by his Excellency the Lord Lieutenant who delivered an interesting address on the occasion.

The Westmorland Lock Hospital, Dublin.

Mr. George E. P. Meldon has been appointed surgeon to the Westmorland Lock Hospital, in succession to Mr. M. A. Donnelly, recently deceased.

Sanitary State of Lisburn

The medical inspector of the Local Government Board (Dr. C. J. Clibborn) has drawn attention to the fact that no inspector of dairies, cowsheds, and milkshops has been appointed in Lisburn and the Local Government Board advises the Lisburn urban council to adopt a code of regulations for these places. It is reported that the sewerage of the town is defective and the Local Government Board advises steps to be taken to have maps of the sewerage system completed as soon as possible. A properly equipped disinfecting apparatus for use in the district is much needed as 66 cases of infectious disease (38 of scarlet fever, 10 of erysipelas, 16 of enteric fever, and two of diphtheria) were noted during the year.

Newry Fever Hospital.

At the annual meeting of the friends of this charity, held on May 6th, it was reported that the public subscriptions for the year were £310 9*s.* which with the county council grant of £400 make the annual income £710 9*s.* It takes £800 a year to maintain the hospital and at the end of 1903 there was a balance due to the bank of £182 17*s.* The county council proposes to reduce the grant per annum to £300 and when this is done, unless the public come forward with a generous and hearty support, the operations of this most deserving hospital will have to be curtailed largely.

Derry Eye, Ear, and Throat Hospital.

In place of the late Mr. E. Donaldson, former surgeon to this hospital, two appointments have been made—Dr. W. B. Hunter and Dr. G. K. Smiley.

Medical Relief in Coleraine Union.

Dr. H. S. Morrison, medical officer of Aghadowey dispensary district, has pointed out to the Coleraine guardians that in his district he had to attend on red ticket shopkeepers, tradesmen, dealers, road contractors, and millowners, and in two cases he had to attend on families who had a credit account in the bank of over £500. He had since the beginning of the year 250 new cases in the dispensary, many of which were unnecessary and would not have occurred if the people were farmers and had to pay. In reference to this the Local Government Board wrote that in order to enable the issuers of tickets to be in a position to judge whether applicants for medical relief are or are not "poor persons" the board of guardians may invite each of their medical officers to furnish in writing a scale of charges for attendance upon persons whose circumstances would not admit of their paying the medical man's usual fees. A special form of ticket, different in colour and wording from the medical relief tickets, has been adopted in some unions. It was decided by the Coleraine guardians to consider the question at a general meeting to be held in a fortnight.

May 10th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Alternate Administration of Arsenic and of Sulphate of Quinine in Malaria.

AT the meeting of the Therapeutical Society held on April 27th M. Goldsmidt read a paper pointing out that arsenic would act favourably in cases of malaria where quinine failed and *vice versâ.* If, for instance, an attack of malarial fever would not yield to sulphate of quinine or to arsenic given in the second place it was almost sure to yield to a second dose of quinine given after the arsenic. The use of arsenic consecutively to sulphate of quinine had been found successful in intermittent affections other than malarial fever. More than 30 years ago M. Goldsmidt had cured in this way a young girl who suffered from intermittent attacks of torticollis. As regards the various preparations of arsenic he considered that arrhenal had *manifest* advantages over arsenious acid, especially from the point of view of its lesser degree of toxicity which rendered it easier to employ subcutaneously. But it remains to be seen whether the results obtained with arrhenal are better than those obtained with arsenious acid.

Antivenomous Sera.

M. Calmette of Lille, who has just been elected a corresponding member of the Institute, read an important paper on May 5th before the Academy of Medicine upon the above subject. As is well known, the discovery of antivenomous serum is due to M. Calmette. But on continuing his researches he found that the venoms of different serpents were not all of the same type. There are two main species to which all the others conform, cobra venom and viperine venom. The first is especially toxic, the second produces hæmorrhages. M. Calmette has succeeded in preparing one polyvalent serum which acts equally well in both kinds of poisoning. By studying the action of the neurotoxins which serpent venom contains upon the globules of the blood and upon gelatin M. Calmette has devised a method for standardising the toxicity of venom with accuracy.

Death of M. Duclaux.

M. Duclaux, the director of the Pasteur Institute, died on May 3rd from a seventh attack of apoplexy. M. Duclaux was foremost among men of science and his researches upon milk, amongst others, were a direct continuation of the work of his old master, Pasteur.

The Voices of Deaf-Mutes.

M. Marge has for some time past obtained remarkable results in the education of the voices of deaf-mutes by the use of sirens and tuning forks. In this way he makes the patients appreciate the sounds for the obtaining of the enunciation of which he has shown them how their lips and cheeks should be placed. On April 26th he gave a demonstration at the Academy of Medicine upon the pronunciation of the vowels. As a matter of fact, every vowel has more than one sound and hitherto patients have been taught the same method of emission for the "a" sound, whether short or long, or the "e" sound, whether mute or "é." By employing sirens in a new fashion and by accustoming the patient to sing a given note in unison with the siren until he mastered how to dispose his vocalising organs in conformity with the sound perfection has been nearly attained.

French Congress of Climatotherapy and Hygiene in Towns.

The first French Congress of Climatotherapy and Hygiene of Towns was held at Nice from April 4th to 9th, the subjects discussed being practically the same as stated in the preliminary announcement published in THE LANCET of Jan. 2nd, p. 44 Discussions were held and papers were read on April 5th, 6th, 7th, and 9th, the work beginning at 8 A.M. each day. Each afternoon, and the whole of April 8th, were occupied in excursions and the evenings were devoted to fêtes, receptions, or operatic performances. The Congress was in every respect a great success. The attendance exceeded 1000 and the arrangements were excellent not only with regard to the business of the sections but also in respect of the excursions and the various festivities. The bulk of the members were naturally Frenchmen, with whom there were a few Belgians, Italians, and Swedes. The British contingent was unexpectedly small, only two names of English medical men appearing on the list. Mr. S. Osborn, F.R.C.S., was present and Dr. I. Burney Yeo (London) read a paper entitled "Les Auxiliaires de la Climatothérapie."

Musical Expression in a Condition of Hypnosis.

A hypnotic subject named [illegible] has just been giving in public certain [illegible] rious and quite individual character. [illegible] who is obviously of a hysterical nature, possesses the property common to all persons like herself of being able vividly to express while in a state of hypnosis the emotions which correspond to auditory impressions which she receives. She recently gave an exhibition at the Théâtre des Mathurins before the Association of the Medical Press. When thrown into the hypnotic state by M. Paul Magnin, Madame Magdeleine, as soon as she heard the music, appeared to attune herself to the instrument and translated into terms of the most expressive mimicry the various symptoms which the music expressed. By impassioned gestures, by joyous dances, or by attitudes of sorrow she gave a picture of emotions which even professional actors were obliged to say were very remarkable. Selections from the works of Beethoven, Chopin, Massenet, and of Schumann, when played before her called forth on her part the most artistic interpretation. When, however, the pianist improvised so that Madame Magdeleine could not have known anything about the music her expression and the richness of her improvisation were just as good as when music which she might have known was played and this test obviously did away with all idea of trickery. When awakened from the hypnotic state she is an intelligent and amiable woman but one quite incapable of reproducing the same passion and emotions which she experiences while in the hypnotic state. After the *séance* Dr. Berillon, who was present, pointed out that such phenomena have been known in a general way for a long time past to hypnologists, but that Madame Magdeleine exhibited a receptivity altogether out of the ordinary for auditory impressions and was able to give expression to them in a most exceptional way which was both interesting and artistic.

May 10th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Epidemics and the German Red Cross Association.

RECENT legislation requires towns and rural districts to make certain arrangements in the event of epidemics occurring. For instance, the families of patients must be isolated in special premises and patients' clothing which it may have been found necessary to destroy must be replaced. Apparatus for disinfection must be provided and any loss or damage inflicted on individuals by processes of disinfection must be made good at the public expense. The smaller towns will obviously have some difficulty in complying with these requirements and it is therefore satisfactory that the German Red Cross Association, in return for an annual sum to be paid to it by the public authorities of the places concerned, has proposed to assume the duties imposed by the law on the smaller towns and rural districts. The system is, in fact, a kind of mutual insurance of the small communities against the expenses of epidemics. It is proposed that communities of fewer than 1000 inhabitants shall pay only 5 marks (i.e., 5*s.*) a year. As there are in Prussia 48,993 towns, villages, and districts of fewer than 1000 inhabitants and 3688 having from 1000 to 5000 inhabitants a considerable sum will evidently be collected every year in this way. Of this money a certain portion is to be spent every year in providing portable huts, tents, apparatus for disinfection, clothing, and other requisites which are to be kept in the stores of the association and conveyed when required to the places where epidemics have broken out. The committee of the association hopes to be able in a few years to meet all the wants of the rural towns, provided that a sufficient number of communities accept those proposals.

The Hygiene of Health Resorts

[illegible] of spas and health resorts and finally a series of definite recommendations was made, of which the following is an abstract. A sanitary commission ought to be formed in every spa and health resort. The notification of scarlet fever, measles, diphtheria, enteric fever, and phthisis ought to be made compulsory. In the smaller spas and health resorts, where there is no hospital, arrangements ought to be made with a hospital of the neighbourhood for the reception of patients, especially those suffering from contagious diseases. [illegible] premises for the isolation of [illegible] provided in every spa. The [illegible] hould be authorised to inspect [illegible] dwelling houses and places of [illegible] ng the bathing season [illegible] to be corrected. In [illegible] cf Colberg rightly observed that not only the spa but also the public had obligations to fulfil in the interests of the general welfare; he especially drew attention to the fact that parents took their children [illegible] whooping-cough to [illegible] en as a rule did not [illegible] go and were a source [illegible] they met there.

Blindness and Deaf-mutism.

The number of the blind has been continually decreasing in Prussia since 1871. According to the *Statistical Correspondence*, quoted in the *Vossische Zeitung*, there were 92·09 blind persons in each 100,000 of the population in 1871, 82·49 in 1880, and 61·04 in 1900. With respect to sex, the proportions of blind persons were 65·13 males and 58·56 females in each 100,000. Whilst in 1871 the number of blind females (11,759) exceeded that of the [illegible] ons were [illegible] d 11,504 [illegible] articulars [illegible] 1871 and 31,278 in 1900. Although their absolute number has increased the proportion of the deaf-mutes to the general population has somewhat decreased, being 97·51 in each 100,000 in the year 1871 and 90·73 in the year 1900. More than 50 per cent. (16,856) of the deaf mutes were able to work, upwards of 6000 being employed in agriculture and upwards of 5000 in various trades. It was rather remarkable that the decrease occurred only in the male sex, the females showing even a slight increase.

May 9th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Experiments on Feeding.

ON April 20th a paper was read before the National Academy of Sciences describing a series of experiments recently carried out by the Sheffield Scientific School of Yale to determine the amount of food necessary to sustain the human frame in good health. Professor Russell H. Chittenden, the director of the school, who conducted the experiments, read the paper. He said that three classes of men were experimented on—namely, several professors of the school, some students, and a squad of United States soldiers. There was a gradual reduction of meat and other proteid foods with little if any increase in starch and other foods in nearly all the tests. No fixed regimen was required in any case, the endeavour being to satisfy the appetite of each subject. At the end of the experiments, which lasted six months, the whole body of men who had been the subjects were in the best of health. Their weight in some cases was almost exactly the same as when the experiments were begun and in some slightly lower. The daily consumption of food was found at the close of the experiments to have been much less than the recognised standard and from a third to half as much as the average man eats.

Bellevue Hospital, New York City.

The inadequacy of the accommodation at Bellevue Hospital has been a subject of complaint for a considerable time and affairs have recently reached a climax. Owing to the inclement weather which has been experienced in New York city for the past few months the hospital has been greatly overcrowded, the consequence being that the work of the medical staff has become very heavy. At the present time three and sometimes four or five physicians are compelled to sleep in one room. As to the patients, according to Mr. Mabon, superintendent of the hospital, not only is every cot occupied but a large number of the inmates must sleep on mattresses placed on the floor. It is gratifying, therefore, that the plans for the new Bellevue Hospital to cover three city blocks are now on exhibition. The sum of $702,000 (£140,400) has been asked for from the New York City Board of Estimate for the first pavilion, and no considerable delay in proceeding with the work is expected.

The Discovery of Anæsthesia by Ether.

Mrs. Elizabeth Morton, the widow of Mr. W. T. G. Morton of Boston, Massachusetts, the American to whom is attributed the discovery of anæsthesia by ether, died on April 21st from pneumonia at the Hotel Martha, Washington. Mrs. Morton, whose maiden name was Whitman, was born in 1826 in Farmington, Connecticut, and was married to Mr. Morton in 1844. Soon after marriage her husband began that series of experiments which ended in the famous public demonstration that by the inhalation of ether vapour surgical operations could be rendered painless. It is a sad illustration of the proverbial ingratitude of republics that the American Government never admitted that Mrs. Morton had any claim on it, although the reports of six Congressional committees during her husband's lifetime had recommended that an appropriation of several hundred thousand dollars should be made in recognition of the value of ether anæsthesia during the Civil War.

The United States Commission to the Isthmus of Panama.

The United States Commission to the Isthmus of Panama was accompanied by Dr. Gorgas and Dr. Le Garde of the army, Dr. Ross of the navy, and Captain Gillette of the United States Engineer Corps, who are now engaged in making investigations of the various hospitals heretofore established by the French company and in looking into the general sanitary regulations which will be necessary. Mr. Parsons, one of the commissioners, who has recently returned to the United States, while acknowledging that the present death-rate on the isthmus is high, has expressed confidence that with a supply of good water furnished both to Colon and Panama and with a complete system of sewers, supported by proper sanitary regulations vigorously enforced, both of these cities can be made healthful places of residence.

April 30th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Plague.

A CASE of bubonic plague of a mild character has occurred in Sydney. It appears that the patient, a boy, had been employed at a produce store where rats had been dying in numbers and he had to remove their bodies. As rats on the premises were found to be plague-infected the mode of infection in this case seems clear. When cases of plague were found some time ago in Queensland the New South Wales authorities prohibited grain and fodder from Queensland from entering New South Wales. The Queensland Government protested that such prohibition was a violation of the regulations of the Venice Convention and an unfriendly act. Now that plague exists in New South Wales Queensland has retaliated by prohibiting produce from New South Wales. A fatal case of plague has occurred at Cairns, Queensland, in an aboriginal woman.

The Declining Birth-rate.

The Government statistician of Victoria, Mr. W. McLean, read a paper on the Declining Birth-rate in Australia at the last meeting of the Medical Society of Victoria. He stated that after a careful investigation he was unable to agree with Mr. Coghlan, the New South Wales statistician, that there was only one explanation of the decline—viz., the application of artificial checks to conception. Mr. McLean maintained that the decline was due mainly to natural causes. First of all he observed that the ordinary birth-rate per 1000 of the total population was untrustworthy in young communities. In the earlier years the population, owing to immigration, consisted mainly of men and women at the reproductive period of life. As time goes on the proportion of such to the actual population must diminish and with it the birth-rate. A more correct rate is the ratio of legitimate births to married women under 45 years of age. But even the correct rate, as estimated by Mr. McLean, showed a decline. One of the causes assigned by Mr. McLean is the cessation of immigration, the immigrants being specially selected and of a type likely to be prolific. The next cause, in Mr. McLean's opinion, is a low and declining infantile mortality. He quoted a number of figures from different countries showing *primâ-facie* evidence of the intimate connexion existing between the two events (birth-rate and infant mortality). This association, he said, cannot be regarded as fortuitous and the death of an infant under one year does not present any obstacle to conception of another child but nurture of the child does. It was then shown that in Victoria there had been a decline in infantile mortality and also in New South Wales. The infant mortality was also relatively low compared with some European states. In this connexion Mr. McLean takes exception to a statement made in this column in THE LANCET of Jan. 16th last, p. 200: "Not only is there a declining birth-rate but also an excessive infantile mortality in New South Wales." This assertion was made with reference to a recommendation of the health officer of Sydney for the purpose of trying to diminish "the excessive infantile mortality" in that city. The relative infantile mortality may be comparatively low and yet, because far from the lowest possible in a young country with relatively small population and a healthy climate, actually excessive. The Royal Commission on the birth-rate also inquired into the infantile mortality. It reports as follows:—

> The mean infantile mortality (i.e., the number of deaths of infants under one year of age in every 1000 children born) for a period of ten years, 1892 to 1901, in the Australian States and New Zealand, is as follows:—New South Wales, 110 6; Victoria, 109 0; South Australia, 106 0; Queensland, 103 2; West Australia, 146 1; Tasmania, 95 3; New Zealand, 81·4. The figures representing infantile mortality in New South Wales for each year, from 1864 to 1902, show that for the period of 29 years since 1874 the rate has been a fairly level one; for the ten years prior to 1874 the mean-rate was somewhat lower; and in the 40 years reviewed the infantile mortality has not increased. Infantile mortality in Sydney compares favourably with that in other large cities. The study we have made of the causes underlying infantile mortality has satisfied us that it is far higher than it would be if all were done that could be done and might reasonably be expected to be done to protect the new-born from the many risks to life to which their helplessness exposes them.

Mr. McLean also took exception to the following statement by Mr. P. E. Muskett in his work, "The Feeding and Management of Australian Infants in Health and Disease": "It is now nearly 14 years ago since I first called attention to the appalling infantile mortality obtaining in the different Australian States." Mr. McLean maintains that the Australian mortality is not appalling when compared with that of European States, Sweden and Norway excepted. He gives the rate for Great Britain as 15 and for Australia as 11 per 100 births. Saxony, the highest, is 28. In discussing the paper Dr. Barrett considered that to account for a low birth-rate as a consequence of a low death-rate was an inversion of cause and effect. With fewer children increased care was taken of those that were born. In Australia the death-rate had not dropped in proportion to the birth-rate.

Sale of Poisons and Patent Medicines.

Incidentally the Birth-rate Commission inquired into the sale of certain drugs and patent medicines and obtained a report from the Government analyst on 22 much advertised nostrums, nearly all of which were found to be dangerous to life unless used under proper advice. Careful consideration of the whole of the evidence regarding the Poisons Act leads the Commission to make the following recommendations:—

> 1. That the Act be amended so as to apply to the sale distribution, gift, or disposal o[illegible] e abortifacient. 2. That t[illegible] sale of patent medicines, [illegible] whether they contain poisons [illegible] which contain poison, if accurate formulæ of such articles be not printed or written plainly on the bottle, case, box, or wrapper immediately containing them, together with the name of the vendor.

The Balmain Hospital and its Honorary Medical Staff.

As stated last month, the board of the Balmain Hospital appointed as paid medical officer Dr. P. J. Kelly who had been ostracised by the New South Wales branch of the British Medical Association for accepting the position of medical officer to the Balmain United Friendly Societies' Dispensary. The honorary medical staff warned the hospital board that if Dr. Kelly was appointed the honorary staff would not work with him. At the meeting of the board on March 21st the staff announced that its members had decided to give a fortnight's notice of their intention to resign unless Dr. Kelly withdrew. At the board's meeting on March 27th the staff wrote tendering their resignations but stating that they would continue to act until arrangements could be made to relieve them. The resignations were accepted and applications were invited for the positions. The board placed on record its appreciation of the services rendered to the hospital by the late members of the honorary staff.

Women's Hospital, Sydney.

The report presented at the eighth annual meeting of the supporters of the Women's Hospital, Sydney, stated that at the last annual meeting it had been decided that the institution should amalgamate with the Benevolent Society of New South Wales upon a scheme which was recommended by the directors. Steps were taken in this direction and for a period of over three months the Women's Hospital was under the administration of the Benevolent Society. After the experience then gained it was found that the basis of agreement had evidently not been clearly understood by the authorities of the Benevolent Society and it was agreed that the Women's Hospital should withdraw from the amalgamation at the stage it had then reached. One of the advantages looked for in the proposed amalgamation had been the securing of an up-to-date hospital building. Failing the completion of those arrangements the matter had been seriously considered by the directors and they were determined to make special efforts during the coming year

to obtain funds from the public to purchase a suitable building. During the year 438 patients were treated by the indoor department, 412 were discharged, one died, and 25 remained in the hospital. There had been 272 births (143 males and 129 females). No less than 1692 patients had been treated by the outdoor department and there were 431 births. The average cost per bed was £51 16*s.* With reference to this hospital Dr. A. W. Munro, in an address to the Obstetric Nurses' Association, said that by the practice of the hospital the total mortality of childbirth in the State had been reduced by half. He also showed how in the ten years of the history of the institution just completed the scourge of puerpera
obstetric practice in
which fact was main
3891 cases were attended by officials of the institution in the ten years under review. In order that the practice of midwifery might attain its proper level he advocated the raising of the educational and social status of those who engaged in the art of obstetrics.

April 5th.

Obituary.

RICHARD SISLEY, M.D., M.R.C.P. LOND.,

LATE MEDICAL REGISTRAR, CURATOR OF THE MUSEUM, AND PATHOLOGIST TO ST. GEORGE'S HOSPITAL.

WE regret to announce the death at Florence of Dr. Richard Sisley, which occurred on Saturday last, May 7th.

Dr. Sisley was but little known in the medical profession, where he never took the position to which he had a right by his learning, originality, and industry—qualities of his which our connexion with him, as a member of our staff, enabled us to appreciate thoroughly. He was born at Godalming on August 4th, 1856. He came of an old Huguenot stock, his ancestors settling in Sussex and later in Surrey, after the Revocation of the Edict of Nantes, and following the occupation of millers. His mother was a Miss Webber, of Morchard Bishop, Devon. He was educated at Reading School and St. George's Hospital and as a student his individualities made him a marked man, for in methods of working, choice of recreation, and even in clothes he was a law to himself. And to such a height did his hatred of anything like conventionalism rise that he could not bring himself to pretend docility, however perfunctory, where his feelings were those of resistance—he justified in fact his Huguenot origin. Consequently he found it impossible to conform to the curriculum provided for him by his medical school, certain lecturers being so antipathetic to him that he was driven to obtain instruction in their subjects at other hospitals. Having duly become qualified he served his turn as house physician at St. George's Hospital, which office at that time, being necessarily preluded by the offices of assistant medical registrar and house physician to out-patients, implied a two years' residential appointment. As a resident he was quickly found by the hospital authorities to be an able man and a vigorous thinker, while his displayed prejudices and antipathies passed unnoticed because in the main they were so just and generous. Having taken the M.B. Lond. with honours in botany, chemistry, obstetrics, and medicine he went to Vienna and worked hard at practical pathology. On his return to England he was elected pathologist and curator of the museum at St. George's Hospital and later medical registrar. As medical registrar it was his business to examine and to make notes upon every case admitted to the medical wards and Sisley toiled enthusiastically in the splendid clinical field now at his disposal. In this appointment he will be remembered by several generations of students at St. George's Hospital because of his unvarying kindness to them as a coach. Sisley's generosity in respect of those who needed instruction, and especially of those to whom the fees of the usual coach were prohibitive, was literally unbounded. If a man showed a desire to learn, if he was "hard up," and if he was not a swaggering man or an untruthful man, Sisley would coach him gratuitously in the wards, the deadhouse, and at his private rooms until he could not help passing his examinations. In fact, all through his too short life, where he gave his service either as a duty to his views of generosity or out of affection to a friend, he gave it fully and without stint.

At the end of his term as medical registrar it was expected confidently by all his friends that Sisley, who had now taken his M.D. at London University and had also graduated in State Medicine, would be elected upon the staff of the hospital but the hospital authorities thought otherwise. They saw Sisley's difficult side as a colleague, they knew him as a man of firm opinions and uncompromising views, but they did not apparently see in him a strong and loyal man who would have worked ably and hard for the school, the charity, and his profession. He was twice passed over and having been made to feel that further candidature was useless he retired from the contest and to a great extent from the practice of his profession. At the same time his interests in medicine, and especially epidemiology, impelled him to continue at medical work, and in 1891 he produced an able and highly interesting monograph on the Influenza Epidemic of 1889–1890, clearly proving the contagious nature of the disease at a time when the theory of miasmatic origin was still generally received. Dr. H. Franklin Parsons's official report on the same epidemic, which was published almost simultaneously, went over much identical ground, and from the day of the issue of these two independent treatises the method of spread of influenza has never been in doubt. In 1892 he made an investigation into the epidemic of cholera then prevalent in Russia, which appeared partly in our columns and partly in those of *Public Health*, and upon his return he planned a riding tour through England with the idea of making discursive remarks upon the rural sanitary conditions of the country. The scheme came to nothing, partly because Sisley saw almost at once that the labour of such a survey, however superficial would be too much for one man, and partly because the archæology, customs, and folklore of the counties through which he first rode—Norfolk and Suffolk—appealed to him so vividly that his interests became diverted. From this time forth for the rest of his life, although until 1900 he always kept a *pied à terre* in London, he lived largely in the country, and wherever he lived his mental energy and curiosity impelled him to acquire first-hand knowledge. At Godalming he had a beautiful house and here he embarked largely but without profit upon market gardening; at Southwold he kept a boat and took a practical interest in fishing and was a Past Master of the Martyn Lodge of Freemasons, No. 1983, which meets at that town; and latterly, when he resided on the coast of North Devon, he started to breed Exmoor ponies.

Some eight years ago he began to write occasionally for THE LANCET, his articles being always marked by originality of phrase and love of accuracy. His quaint erudition, shown in his practical knowledge of fishing, of gardening, of forms of agriculture, of many local sanitary or insanitary customs, of cooking, of many departments of art, of ecclesiastical music and church ritual, made him able to review with justice books dealing with other than medical issues, and as a reviewer he was distinctly kind, having no finicking over-appreciation of a writer's style but an unerring eye for the value of his matter and for the care with which he had striven to remove sources of mistake. In 1897 he performed a great journalistic feat for us by making an exhaustive survey of the premises, stations, filters, and distributing methods of the water companies of London. That the purchase of the undertakings of the various metropolitan water companies by Government, by a Water Board, or by the London County Council (as sanitary authority over a great part of the district supplied) would form part of the approaching political programme we had felt assured, and we found in Dr. Sisley, who had studied the question historically and politically, an ideal writer, anxious to clear up as far as possible all the public doubts as to the position of these splendid monopolies. Day after day he visited the various stations of the companies whose officials extended to him every facility for inspecting and reporting upon their work. The articles ran serially in our columns for over a year, they bristled with figures, and were fully illustrated with maps and plans drawn under Sisley's directions; but despite the technical and occasionally contentious nature of much of the information, and despite the many critical eyes that must have watched them for errors either of statement or deduction, for practical purposes his words passed unchallenged. A Royal Commission and a Court of Arbitration have gone with care over the same ground since and have confirmed the scrupulous accuracy of his statements. The articles, with slight alterations, were published later by the Scientific Press in a book which constitutes a small but significant memorial of Sisley's determination, powers of observation, and passion for being exactly right.

Although the end of his life came abruptly his health, which in spite of his big frame and strenuous ways of living had never been good, had begun to fail for the last five years. While pathologist at St. George's Hospital a severe attack of diphtheria, contracted in the post-mortem room, was followed by paralysis and signs of cardiac failure. This was nearly 20 years ago and during most of the intervening period he seemed sound and vigorous and not, indeed, to be damaged permanently. But his habits of life and multifarious interests and pursuits induced in him great physical strain that was frequently followed by collapse, breathlessness, a little tendency to anæmia, and occasional attacks of bronchitis. This should have warned him to be more sedentary, but his recovery always seemed complete and it was always followed by further long sailing expeditions in an open boat, long drives across the countryside in a dogcart, or long tramps over the Surrey hills or the Suffolk flats, and in each case his expeditions were taken regardless of temperature or weather. Some five years ago he could not disguise from himself that he was neither so robust as he had been nor so quick to recover from his periods of asthenia, and having no very close ties in London or in any part of the country he decided to try residence on the coast of North Devon, possibly being attracted to the neighbourhood by his late mother's connexion with it. At first the change did him good, if only because he made Devonshire his home and obtained the rest that he had never had when his time was divided between a Surrey house, a Suffolk cottage, and London chambers. But unfortunately in January of last year he contracted typhoid fever. Somewhat to the surprise of his medical attendants he pulled through a long and severe attack, in which on several occasions extreme prostration seemed to forbid hope. Then after a slow convalescence he seemed to have made a good recovery. A relapse, however, occurred in Florence last week in exceptionally pathetic circumstances. He was on his wedding journey, having married in April last, when an attack of hæmatemesis led to the end.

Sisley, as has been said, was not at all well known in the medical profession. He concealed his great kindness of heart by his sarcastic manner, he made little use of his erudition save anonymously in our columns or among his intimate friends in conversation at the Savile Club, he never spoke at learned societies, and he wrote no purely medical papers save the monograph on influenza to which we have referred. But those who did know him know that it was an unfortunate chapter of accidents which deterred him from securing the position in his profession which his originality of conception and sincerity of design must have won for him. And they will also feel that they have lost in him a remarkably loyal friend. He was a man of very few intimacies, but to be his friend was absolutely to command him, his time, his house, his purse, and his best thoughts. His young widow may feel assured that she has the deepest sympathy of all her husband's friends in her tragic loss.

GEORGE RICHARD SAUNDERS, M.B., B.C. CANTAB., L.R.C.P. LOND., M.R.C.S. ENG.

WE regret to announce the death on Feb. 25th of Dr. G. R. Saunders of Wanganui, New Zealand, at the comparatively early age of 50 years. Dr. Saunders was the eldest son of Deputy Inspector-General George Saunders, M.D., C.B., and was born at Buttevant, co. Cork, on July 25th, 1853. He was educated privately and subsequently went up to Caius College, Cambridge, in 1871. At about this time, we believe, he also entered his name as a medical student at St. Bartholomew's Hospital, London, mainly, if tradition can be relied upon (and we fancy the story is true), with the view of being able to compete in one of the sprint races in the inter-hospital sports on behalf of that hospital which by his aid is said to have won the odd event and thereby the Shield that year. During this period he probably devoted himself more to the athletic and social sides of university life than to hard reading and some time later he went out to New Zealand where he was for a while engaged in teaching and other scholastic work; he held the appointment of head-master of the Wanganui Collegiate School for some years and this school owes much of its present success to his efforts. While in New Zealand he met the lady who became his wife and his very happy marriage, together with the earnest wish of his friends at home, seems to have impressed him with the necessity of returning to England and completing his medical education. This, much to his credit, he successfully accomplished. Going back to St. Bartholomew's Hospital and passing his time between there and Cambridge he worked hard and in 1883 took his B.A. degree and subsequently in 1889 the M.B. and B.C. degrees of that university. In 1890 he also became L.R.C.P. Lond. and M.R.C.S. Eng. Having completed his medical education he returned to New Zealand and settled down in Wanganui where he became a well-known practitioner. He was on the staff of the Wanganui Hospital for some years and was consulting surgeon to that institution at the time of his death. He published a useful little work on infant feeding and children's diseases and was regarded in New Zealand as an authority in this particular branch of his work. In 1901 he had the honour of being chosen president of the New Zealand branch of the British Medical Association and he delivered an excellent opening address which was published at length in our columns on Jan. 11th, 1902, p. 69. Although many (alas, perhaps the majority) of those whom he delighted to call his friends at Cambridge have passed away there are still Cambridge men of the early "seventies" and many old St. Bartholomew's men who will feel a sense of deep personal loss when they hear of the death of George Saunders. He was eminently a good and sincere friend and his cheery, hearty, breezy manner endeared him to those who knew him well. An old friend and fellow student describes him as one of the most generous and open-handed of "pals" and recalls many instances both of his kindness and of his keen sense of humour. During his last illness, which was of a very painful nature, those about him spoke of his gentleness, his patience, and his fear of giving trouble. All these qualities were eminently characteristic of the man. Shortly after his return to New Zealand in 1890 he had the misfortune to meet with a very serious accident by being thrown from his horse and this necessitated his return to England for a period of some nine months.

He was devoted to all manly sports and took the keenest interest in athletics, nothing delighting him more than a sporting match with himself as one of the principals. One of the happiest days of his life witnessed his elder son's success (when a boy of six) in an open handicap sprint race at the old Lillie Bridge grounds.

Dr. Saunders had done welcome service for THE LANCET, having for a good many years occupied the position of our special correspondent in New Zealand. To the widow and two sons who are left to lament the loss of one of the very best of husbands and fathers we tender our sincere sympathy.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Tommasoli, professor of dermatology in Palermo.—Dr. A. B. Arnold, formerly professor of neurology in the Baltimore College of Physicians and Surgeons.—Dr. Bruchon, professor of anatomy in Besançon.—Dr. F. Holcombe, formerly professor of ophthalmology in New York University Medical College.—Dr. Ch. Rouget, formerly professor of physiology in Montpellier.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At the third examination for medical and surgical degrees, Easter term, the following candidates were successful:—

Part II. Surgery, Midwifery, and Medicine.—A. E. Barclay, M.A., Christ's; H. J. D. Birkett, B.A., Trinity; E. M. Brown, B.A., and S. Child, B.A., Pembroke; R. A. Clapham, B.A., Emmanuel; G. H. Colt, B.A., Sidney Sussex; A. W. D. Coventon, B.A., W. L. Cripps, B.A., H. M. Davies, B.A., and R. G. Elwell, B.A., Trinity; H. Falk, B.A., King's; G. R. Footner, B.A., Pembroke; D. H. Fraser, B.A., Caius; J. Goss, B.A., Jesus; C. F. Hadfield, M.A., and Everard Harrison, B.A., Trinity; W. Hastings, B.A., Christ's; T. G. M. Hine, M.A., and H. F. Horne, B.A., King's; W. E. Hume, B.A., Pembroke; K. H. A. Kellie, B.A., Caius; J. Lambert, B.A., Downing; R. O. Lee, B.A., Emmanuel; T. C. Lucas, B.A., Clare; S. M. Mackenzie, B.A., Trinity; C. W. F. Moffatt, B.A., Clare; W. M. Mollison, B.A., King's; A. R. Moore, B.A., Caius; R. F. Moore, B.A., Christ's; W. V. Naish, M.A., Emmanuel; R. G. Nothwanger, M.A., and C. T. MacL. Plowright, B.A., St. John's; C. A. W. Pope, B.A., H. Rischbeith, M.A., and R. H. Robbins, B.A., Trinity; B. H. Stewart, B.A., Jesus; C. Stiebel, Trinity Hall; G. A. Ticehurst, B.A., St. John's; H. N. Whitting, B.A., King's; and B. A. Worthington, B.A., Clare.

UNIVERSITY OF OXFORD.—In a Congregation held on April 28th the following degrees were conferred:—

Doctor of Medicine.—Thomas Edwyn Cecil Cole, Christ Church.
Bachelor of Medicine and Surgery.—William Edward Blackall, Non-Collegiate.

TRINITY COLLEGE, DUBLIN.—At the previous medical examination the following passed in the subjects indicated:

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[illegible] y, David

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Hugo Liepmann, *privat-docent* of Neurology and Psychiatry, has been granted the title of Professor.—*Buenos Ayres:* Dr. Diogenes Decond and Dr. Juan B. Justo have been appointed Professors of Clinical Surgery.—*Constantinople:* Dr. Rieder is retiring from the Directorship of the Medical School at Gülhane on account of the failure of his health. His assistant, Dr. Deycke, has been appointed to succeed him.—*Erlangen:* Dr. F. Jamin has been recognised as *privat docent* of Internal Medicine.—*Florence:* Dr. Teodoro Stori has been recognised as *privat docent* of Operative Medicine.—*Gratz:* Dr. Oskar Zoth of Innsbruck has been appointed Professor of Physiology.—Dr. Friedrich Pregl has been appointed Extraordinary Professor of Physiological Chemistry.—*Greifswald:* Dr. Sötbeer of Heidelberg has been recognised as *privat-docent* of Internal Medicine.—*Kieff:* Dr. Ianichevski has been recognised as *privat-docent* of Neurology.—*Naples:* Dr. Guglielmo Mondio has been recognised as *privat-docent* of Psychiatry and Neurology and Dr. Raffaele Albenzio as *privat-docent* of Midwifery and Gynæcology.—*Odessa:* Dr. A. Fawicki of St. Petersburg has been appointed to the chair of Clinical Therapeutics.—*Pavia:* Dr. Pier Francesco Arullani has been recognised as *privat-docent* of Neurology.—*Stockholm:* Dr. Henry Isaac Marcus has been recognised as *privat-docent* of Psychiatry.—*Strasburg:* Dr. Asch has been recognised as *privat-docent* of Urinary Diseases and Dr. E. Schlesinger as *privat-docent* of Children's Diseases.

ROYAL COLLEGE OF SURGEONS IN IRELAND: GENERAL MEETING AND ELECTION OF OFFICERS.—A meeting of the Fellows will be held on Saturday, June 4th, at 1 o'clock, to receive the annual report of the Council. A meeting will also be held on Monday, June 6th, at 1 o'clock, pursuant to the provisions of the Charters, to elect a president, vice-president, council, and secretary of the College for the ensuing year. Fellows who may desire to have their names printed on the list of candidates for office should signify their wish by letter to the registrar, at the College, on or before Tuesday, May 24th, as it is necessary to include the names in the voting papers which are forwarded to the Fellows, and no candidate is eligible unless his application is received within the date specified.

MANCHESTER SOUTHERN HOSPITAL.—The report of the committee of the Manchester Southern Hospital tells of important work done on insufficient means. The number of patients treated during the year was 5805 and at the Maternity Hospital 1820 cases were attended to. The expenditure was £4311 and the income £2962, leaving a deficit of £1349. It may be remembered that it was intended to remove the hospital to Stanley Grove and that a site which had been acquired there was wanted for the new Royal Infirmary. An amicable arrangement was made, the infirmary giving about £15,000 to the Southern Hospital which has a site in close proximity to that which was given up. It is expected that possession of the new site will be obtained during the summer. It is intended to begin the erection of the first portion of a new hospital for about 60 beds on a portion of the site, and when possession of the remainder is acquired rooms for 40 additional beds and the administration block, &c., will be built. The Lord Mayor, in moving the adoption of the report, said that the hospital conferred benefits over a very large area in South Lancashire, and that it ought to be supported more generously. Dr. A. Hopkinson spoke of the advantages of the cooperation [illegible] uthern Hospital and the [illegible] the hospital a future of [illegible] pain and distress, but in [illegible] tes for the medical pro- [illegible] of the infirmary board; pointed with satisfaction to the fact that the negotiations between the hospital and the infirmary had been conducted without the slightest difficulty.

MEDICAL GOLF TOURNAMENT.—We are asked to remind our readers that the seventh annual medical golf tournament will be held on Thursday, June 9th, on the course of the Northwood Golf Club. The events comprise 18 holes match play *v.* Bogey and a foursome sweepstake competition *v.* Bogey. Particulars may be obtained from Mr. Rolf Creasy, Windlesham, Surrey.

PRESENTATION TO A MEDICAL PRACTITIONER.—At the presentation of certificates and medallions to the successful candidates of the St. Austell (Cornwall) branch of the St. John Ambulance Association, on May 3rd, Mr. Archibald Shaw, M.D., C.M. Glasg., was presented with an oak stationery cabinet as a mark of appreciation for his services as honorary instructor.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN.—His Grace the Duke of Argyll, P.C., K.T., G.C.M.G., G.C.V.O., &c., will preside at the festival dinner of this hospital to be held on Monday, June 20th next, at 8 P.M. (Monday after Ascot), in the new rooms at the Savoy Hotel. It is hoped that any ladies or gentlemen willing to attend the dinner as stewards or to act as hosts and hostesses, bringing their own parties, will kindly send in their names as early as possible. There will be no payment for dinner tickets and separate tables to accommodate any number of friends (from two to 50) can now be reserved without charge. The ladies' committee, over which H.R.H. the Duchess of Albany presides, is giving its coöperation and support. The details are in the hands of the Social Bureau, 30, New Bond street, but information can be obtained from the ladies' committee, the managing director of the Savoy Hotel, or at the hospital.

WHITSUNTIDE ON THE CONTINENT.—Cheap tickets available for eight days will be issued by the Great Eastern Railway Company to Brussels, May 18th to 21st inclusive and May 23rd, *viâ* Harwich and Antwerp. Passengers leaving London in the evening reach Brussels next morning after passing the night on board the steamer. For visiting the Hague, Amsterdam, Utrecht, and other parts of Holland, the Rhine, North and South Germany, and Bâle for Switzerland special facilities are offered *viâ* the Great Eastern Railway Company's Royal British Mail Harwich-Hook of Holland route; through carriages and restaurant cars run in the North and South German express trains to Cologne, Bâle, and Berlin, reaching Cologne at noon and Bâle and Berlin in the evening. The General Steam Navigation Company's fast passenger steamers will leave Harwich on May 18th and 21st for Hamburg, returning on May 22nd and May 25th. The United Steamship Company of Copenhagen Royal Mail steamers will leave Harwich for Esbjerg, on the west coast of Denmark, on Thursday, May 19th, and Saturday, May 21st, returning on Tuesday, May 24th, and Wednesday, May 25th.

ROYAL INSTITUTION.—A general monthly meeting of the members of the Royal Institution was held on May 9th, the Duke of Northumberland, K.G., the President, being in the chair. The President announced that he had nominated the following vice-presidents for the ensuing year: Sir William Abney, K.C.B., Mr. Shelford Bidwell, Right Hon. Lord Kelvin, Dr. Ludwig Mond, Sir Thomas H. Sanderson, G.C.B., Sir Felix Semon, Sir James Crichton-Browne (treasurer), and Sir William Crookes (honorary secretary). The following were elected honorary members: Professor E. H. Amagat, [illegible] J. N. Craft, Professor H. [illegible] Professor E. C. Pickering, [illegible] fessor H. L. Le Chatelier, Professor G. Lippmann, Professor J. W. Bruhl, Professor G. H. Quincke, Professor E. Fischer, Professor F. W. G. Kohlrausch, Professor H. Landolt, Professor L. Boltzmann, Dr. H. Kamerlingh Onnes, Dr. G. Lunge, Professor P. T. Cleve, and Professor P. Zeemann. The special thanks of the members were returned to Mrs. Frank Lawson and to Sir Thomas Sanderson for their donations to the Fund for the Promotion of Experimental Research at Low Temperatures. The following were elected members: Mr. P. M. Brophy, Mr. W. J. Canter, Mr. Eyre Crowe, Mr. H. T. Ellis, Miss E. Morgan, Mr. Berkeley Portman, and Mr. Burnett Tabrum, J.P.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Bain, J. Gordon, M.B., C.M. Glasg., has been re-appointed a Member of the Medical Staff of the Wellington and District Cottage Hospital.

Barclay, William John, M.D., F.R.C.S. Edin., has been appointed Port Health Officer for the Port of Oamaru, New Zealand.

Bevan, Arthur, M.D. Lond., M.R.C.S. Eng , L R.C.P. Lond., has been appointed Anæsthetist to St. Thomas's Hospital.

Brown, A. T. F., M.B. Durh., has been appointed Certifying Surgeon under the Factory Act for the Chatham District of the County of Kent.

Dingle, C. V., M.D. Durh., has been appointed Medical Officer to the Tees Port Sanitary Authority.

Fletcher, H. Morley, M.D., F.R.C.P. Lond., has been appointed Assistant Physician to St. Bartholomew's Hospital.

Hillyar, C. B., L.R C.P., L.R.C.S. Edin., has been re-appointed a Member of the Medical Staff of the Wellington and District Cottage Hospital.

Horner, W. E L , M.D , B.S. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer of Health to the United Urban District of Wolstanton, Stoke-on-Trent.

Kennedy, A. J., L.S.A., has been appointed Certifying Surgeon under the Factory Act for the Shepley District of the County of York.

Lee, W. H., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer to the new Isolation Hospital at Morton, Yorkshire.

MacGregor, D. A., M.B., M.S. Edin., has been appointed Certifying Surgeon under the Factory Act for the Denby Dale District of the County of York.

Martin, John Middleton, M.B., B.Ch., D.P.H. Cantab., has been re appointed Medical Officer of Health for the Stroud (Gloucestershire) Urban District.

Meredith, John, M D., L.R.C.S. Edin., has been re appointed a Member of the Medical Staff of the Wellington and District Cottage Hospital.

Meredith, R. W. H., L R.C.P. Lond., M.R.C.S., has been re-appointed a Member of the Medical Staff of the Wellington and District Cottage Hospital.

Philipson, Sir George Hare, M.D. Cantab., M.D. Durh , D.C.L., LL.D., has been elected President of the Newcastle Royal Infirmary.

Reid, J., M.B., M.S. Aberd., has been appointed Certifying Surgeon under the Factory Act for the Portsoy District of the County of Banff.

Robertshaw, W. M., M.B., M.S. Edin., has been appointed Certifying Surgeon under the Factory Act for the Stocksbridge District of the County of York.

Shaw, W. F., M.B., Ch.B. Vict., has been appointed Resident Medical Officer to St. Mary's Hospital for Women and Children, Manchester.

Smith, Enid Marian, M B., B S. Lond., has been appointed Senior House Surgeon at the Victoria Hospital, Hull.

Tivy, Cecil B. F., M B., B.Ch., B.A.O. R.U.I., has been appointed Assistant House Surgeon to the Staffordshire General Infirmary, Stafford.

Wilson, R. Appleton, M.D., C M. Edin., has been re-appointed a Member of the Medical Staff of the Wellington and District Cottage Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Army Medical Service, War Office.—Examination for not less than 30 Commissions in the Royal Army Medical Corps.

Bournemouth, Royal Victoria Hospital.—Honorary Medical Officer for Electrical Department.

Bradford Royal Infirmary.—Dispensary Surgeon, unmarried. Salary £100 per annum, with board and residence.

Bury St. Edmunds, West Suffolk General Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board and lodging.

Dublin, Richmond District Asylum.—Clinical Assistant for six months. Salary at rate of £60 per annum, with apartments and rations.

Dumfries and Galloway Royal Infirmary.—House Surgeon. Salary £50 per annum, with board and washing.

East London Hospital for Children and Dispensary for Women, Shadwell, E —House Physician for six months. Honorarium of £25, with board, residence, &c

Ebbw Vale Workmen's Medical Fund.—Assistant Medical Officer at Beaufort and Assistant Medical Officer at Victoria. Salary in each case £200 per annum.

Evelina Hospital for Sick Children, Southwark.—House Surgeon. Salary £80, with board, residence, and washing. Also Surgeon to Out-patients

Finchley Urban District.—Medical Officer of Health. Salary £200 per annum and fees.

Glasgow Parish Council Barnhill Poorhouse, Springburn.—Resident Medical Officer. Salary £250 per annum, rising to £350, with board and lodging.

Hastings, St. Leonards, and East Sussex Hospital, Hastings.—Physician.

Hospital for Sick Children, Great Ormond-street, London, W.C.—House Physician, unmarried, for six months. Salary £20, washing allowance £2 10s., with board and residence.

Indian Medical Service, India Office.—13 Commissions in Indian Medical Service.

Lanark County Council.—Assistant Medical Officer of Health. Salary £140 per annum, with travelling expenses.

Leeds, General Infirmary.—House Physician. Board, lodging, and washing provided.

Leeds Public Dispensary.—Junior Resident Medical Officer. Salary £100, with board and lodgings.

London Hospital, Whitechapel, E.—Surgical Registrar.

London Lock Hospital, 91, Dean-street, W.—Surgeon to Out-patients.

London (Royal Free Hospital) School of Medicine for Women, 8, Hunter-street, Brunswick-square, W.C.—Lecturer on Anatomy.

London Throat Hospital, 204, Great Portland-street, W.—Third Honorar [illegible]

Manitoba, [illegible] Professorships in Botany (including Geology [illegible] Mineralogy and Crystallography), Chemist[illegible], [illegible], [illegible]siology (including Zoology). Salary $2500.

Miller Hospital and Royal Kent Dispensary, Greenwich road, S.E.—Junior Resident Medical Officer for six months. Salary £80 per annum, with board, attendance, and washing.

New Hospital for Women, [illegible] Physician, House Surgeon, and Residen[illegible]

Norfolk and Norwich Hospital. [illegible]

North-West London Hospital, Kentish Town road.—Resident Medical Officer and Assistant Resident Medical Officer, each for six months. Salaries at rate of £50 per annum, with board, residence, and washing. Also Second Honorary Anæsthetist.

Plymouth, South Devon and East Cornwall Hospital.—House Surgeon. Salary £100, with board, residence, and washing.

Reeth Union, North Yorks.—Medical Officer of Health and District Medical Officer. Salary £95 per annum and fees.

Royal College of Surgeons of England.—Hunterian Professors, the Erasmus Wilson Lecturer, and the Arris and Gale Lecturer.

Royal London Ophthalmic Hospital, City road, E.C.—Third House Surgeon. Salary £50, with board and residence.

Royal Westminster Ophthalmic Hospital, King William-street, West Strand, W.C.—Clinical Assistants for six months.

St. John's Hospital for Diseases of the Skin, 49, Leicester-square, W.C.—Honorary Assistant Anæsthetist. Also Honorary Dentist.

St. Peter's Hospital for Stone, etc., Henrietta-street, Covent Garden, W.C.—Junior House Surgeon for six months. Salary at rate of £50 a year, with board, lodging, and washing. Also six Clinical Assistants for six months.

Scarboro' Hospital and Dispensary.—Junior House Surgeon for six months. Salary £80, with board and residence.

Sheffield Children's Hospital.—Lady House Surgeon. Salary £80 per annum, with board, lodging, and washing.

Sheffield Royal Infirmary.—Junior Assistant House Surgeon. Salary £70 per annum, with board, lodging, and washing.

Sussex County Hospital.—Second House Surgeon, unmarried. Salary £60 per annum, with board, residence, and washing.

Valkenberg Asylum, near Cape Town.—Assistant Medical Officer, unmarried. Salary £250 per annum, rising to £300, with board, lodging, and washing.

Victoria Hospital for Children, Tite-street, Chelsea, S W.—House Surgeon for six months. Honorarium of £25, with board and lodging.

Wallasey Dispensary and Victoria Central Hospital, Liscard.—House Surgeon, unmarried. Salary £100, with apartments, board, and service.

West London Hospital, Hammersmith-road, W.—House Physician for six months. Board, lodging, and laundry provided.

Western General Dispensary, Marylebone-road.—Second House Surgeon, unmarried. Salary £80 per annum, with board, residence, and laundry.

Westminster General Dispensary.—Resident Medical Officer. Salary at rate of £120 per annum, with rooms, gas, coal, and attendance.

York County Hospital.—House Physician. Salary £100 per annum, with board, residence, and washing.

York Dispensary.—Resident Medical Officer, unmarried. Salary £120 a year, with board, lodging, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

Stiff.—On May 10th, at Bury St. Edmunds, the wife of Harold Stiff, M.B. Cantab., of a daughter.

Unitt.—On May 4th, at Quorn, Leicestershire, the wife of James Arthur Unitt, L R.C.P., M.R.C.S., of a son.

White.—On April 18th, at Vanbrugh-park, Blackheath, S.E., the wife of Finch White, M.R.C.S., L.R.C.P., of a daughter.

MARRIAGE.

Smith—Ross.—On April 18th, at Harlech Villa, Dunoon, by the Rev. R. S. Macmorran, M.A., and the Rev. J. W. Girvan, William Smith, M.B. Lond., of Brabourne, Kent, to Mary Tulloch, youngest daughter of B. C. Ross, Esq., of 4, Ardgowan-square, Greenock.

DEATHS.

Horden.—On May 5th, at Brixton-hill, S.W., suddenly, Herbert Henry Horden, M.D. Lond., M.R.C.S., L.R.C.P.

Sisley.—On May 7th, at Florence, Richard Sisley, M.D., of Saunton, Braunton, N. Devon, aged 47.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

AN INTERESTING POINT IN A GENERAL PRACTITIONER'S ACCOUNT.

A CASE of some interest came before his honour Judge Stonor and a jury on May 4th at Brompton. The plaintiff was a medical man practising in Chelsea and he sought to recover £23 from a retired army officer. The claim was in respect of professional attendance upon various members of the defendant's family, but principally upon a son, about eight years of age. The account originally amounted to a little over £50; cheques had, however, been paid from time to time. It was thought at first that the little lad suffered from stone in the bladder but an operation revealed the presence of a piece of wood in that organ. A communication was discovered from the bowel into the bladder. The wood had the *resemblance of an apple stalk and it appeared to have ulcerated* the bowel and then to have worked into the bladder. A first operation was performed by the present plaintiff, but a subsequent one was carried out by another surgeon, and an important point in dispute was whether the plaintiff was entitled to charge for assisting at this operation. The defendant said that he did not engage the plaintiff to assist. The plaintiff, on the other hand, said that it would have been a most exceptional procedure had he, as the boy's regular medical attendant, not been [illegible] charging an inclusive [illegible] from also charging for [illegible] produce his books, when the defendant's counsel discovered that 12 guineas had first been put [illegible] and 15 guineas afterwards [illegible] impressions" were generally [illegible] fairness to himself he was [illegible]ely the jury found in favour of the plaintiff for the full amount claimed and his honour gave judgment accordingly.

In our opinion no other decision was possible.

THE QUESTION OF ADMISSION TO HOSPITALS.

To the Editors of THE LANCET.

SIRS,—I should be glad if you could let me have some idea of the procedure to be followed to obtain the admission of a patient into one of the London general hospitals.

To-day I was called to a patient who had broken her patella. I improvised a back splint, bandaged, and sent her to the hospital. Her [illegible] me and state that after a long delay [illegible] attention) she was refused admission [illegible] As I sent her in hoping that she would have been operated on I am naturally surprised at the action of the authorities of the hospital. If there is any book, pamphlet, &c., which gives any information as to routine to be observed I should be glad to know. I am, Sirs, yours faithfully,

May 10th, 1904. W. A. T.

*** The decision as to whether a patient should or should not be admitted to a hospital rests with the officer of the hospital in charge of the admission room. Some hospitals require letters and some do not. We can hardly imagine that if the case mentioned had been one for operation—i.e., if the surgeons considered operation necessary and the patient had consented—admission would have been refused if there was a bed available.—ED. L.

PRECAUTION AGAINST BUGS.

A CORRESPONDENT writes to ask us if we can inform him of some method of protection against the attacks of bugs. If the bugs simply live in the walls of the room the simplest plan is to move the bedstead away from the wall and to place its feet in tins of water or oil. If, however, the bugs inhabit the bedstead, and we gather from our correspondent's letter that this is probably the case, the only certain method of preventing their attacks is the use of the following apparatus, called, from its inventor, the "Levinge." The "Levinge" consists of an ⅃ shaped sack, one arm of which is made of calico or fine linen and the other arm of muslin. In the linen (horizontal) part the sleeper lies, the end where the feet come being closed. The end of the muslin (vertical) part is open with a tape run round the opening, and about a foot or 18 inches from the opening is a hoop. The sleeper gets into the sack through the opening, tightens up the said opening and fastens it firmly by means of the tape running in the hem and suspends the tapes to a hoop or to a nail driven into the wall. It will thus be seen that he is inclosed in a chamber which is quite impermeable to a bug. The hoop serves to keep open the portion of the "Levinge" which covers his face. The only objection to this apparatus is that in very hot weather it is apt to be somewhat oppressive but such a complication is not likely to arise at the place to which our correspondent says that he is going. In our experience no so-called insect powders are of the slightest use against bugs.

A COMPLICATED LIABILITY.

A KINGSWOOD woman fractured her thigh recently, a medical man was sent for, and he advised her removal to the Bristol Royal Infirmary and as the patient was destitute communicated with the relieving officer. The woman was taken to the infirmary and the person who provided the cab sent a bill for 6*s.* to the relieving officer. This was brought before the Warmley guardians and there was an animated discussion at several meetings as to who was liable to pay. At first the guardians endeavoured to make the husband pay but he refused as he was living apart from her and said she was a member of the club of the medical man who was sent for to attend her. The guardians then applied to the medical man for the money. He replied that he did not order the cab, it was ordered by the relieving officer. Eventually the guardians sued the woman herself in the Bristol county court for the 6*s.* Her defence was that she never ordered the cab and it was against her wish that she was taken to the infirmary. She further stated that she did not remain in the institution and paid 5*s.* for a cab to take her home. [illegible] Ige [illegible] to [illegible] the Warmley guardians will now take in the little comedy.

THE CRUELTY OF FRIENDS.

THE paragraph which follows appeared in the *Midland Counties Tribune* of April 29th:—

> Mr. and Mrs. L——, ——, desire to thank many friends for kind inquiries, and to say that their son has successfully undergone the operation for appendicitis. Their sincere thanks are also tendered to Dr. J——, the operator, and Dr. P—— who administered the anæsthetic.

We have received a letter with regard to it from a medical practitioner who signs himself "Disgusted." We agree that the publicity is most unfortunate and that Mr. and Mrs. L. could hardly have done persons to whom they are grateful a worse service than advertising them in this manner. At the same time our correspondent will understand that no blame can attach to the medical men as they cannot be suspected of complicity.

MINOR SURGERY IN CLUB PRACTICE.

To the Editors of THE LANCET.

SIRS,—The question has been raised by a member of a club as to whether minor surgery is included in the fee for medical attendance. On taking the club no special agreement was made and I assumed that only purely medical attendance was to be given for the fee of 1*s.* per quarter. Is the committee right in contending that this is for minor surgery also? I should be obliged for advice, and desire to be guided by the usual custom in the matter.—I am, Sirs, yours faithfully,

C. E. S.

*** [illegible] advised to follow suit.—ED. L.

EYESTRAIN AND HEADACHE.

A CORRESPONDENT sends us the following joke from last week's number of our contemporary *Tit Bits* which he thinks has a direct bearing on the topical question of eyestrain and headache:—

> PATIENT: "I'm troubled with headaches in the morning. It may be on account of my eyes; perhaps I need stronger glasses."
>
> MEDICAL MAN: "No, I think you merely need weaker glasses—and fewer—at night."

GOATS AND RATS.

DR. George H. R. Dabbs in a letter to the *Westminster Gazette* of May 10th, referring to some recent remarks of Sir James Crichton-Browne on the goat as a milk source for the children of the poor, asks whether there is any truth in the prevalent idea in the Basque country that where goats are the rat is not. "Over and over again the Basque farmer has told me," he says, "that the rat will never come where the smell of the goat is. It is the only virtue, æsthetic or other, which I have ever known attributed to the rat, but if there is an antagonism of environment in the two animals Sir J. Crichton-Browne's recommendation may have an even wider value than he anticipates."

THE CHEMISTS' EXHIBITION.

AN exhibition full of interest to the drug and allied trades was opened at the National Skating Palace, Argyll-street, W., on May 9th. The occasion marked the tenth exhibition of the kind which has been held since the scheme was set on foot by the proprietors of the *British and Colonial Druggist.* The space in the skating palace was completely occupied with exhibits and the whole presented quite a picturesque effect. Most of the leading druggists were represented and the exhibits included pharmaceutical preparations, hygienic and sanitary products, photographic requisites, dietetic specialities, and a thousand and one other articles which are now recognised as inseparable from the pharmacist's business. A feature of the exhibition was an admirable series of photographs and a collection of photographic apparatus. Demonstrations were also given of the properties of radium, helium, krypton, and argon. At one stall was exhibited a splendid collection of crystals of chloride of gold which was stated to be worth close upon £2000. There was a very satisfactory attendance of members of the trade from all parts of the world and there were many members of the medical profession present who took an evident interest in the exhibits. The organisers may be congratutated on the continued success of this interesting annual event.

LONDON POST-GRADUATE ASSOCIATION.

THE scheme for providing clinical instruction for qualified medical men on a cooperative basis in the metropolitan hospitals continues to do good work. It is satisfactory to learn that a number of the ticket-holders renew their tickets after trying the scheme for a period of three months, thus showing their satisfaction with the plan. The scheme is already so well known that it is not necessary to recapitulate the advantages provided by a single ticket which secures admission to the 16 different hospitals forming the association for the very moderate fee of seven guineas for three months or ten guineas for six months. For those who desire to see as many cases as possible in a short period a wealth of material is thus made available and practitioners who desire to keep up to date in their clinical work will find here the most ample opportunities for doing so. Particulars may be obtained by writing to the Secretary, London Post-Graduate Association, Examination Hall, Victoria Embankment, London, W.C., or by interview between the hours *of 11 30 and 1 or of 2 and 3, except on Saturday.*

HOLMAN TESTIMONIAL FUND.

THE following further list of contributions has been forwarded to us by the honorary treasurer of this fund, Dr. John H. Galton, Chunam, Sylvan-road, Norwood, S.E., by whom or by the secretary, Mr. W. A. Berridge, Oakfield, Redhill, Surrey, subscriptions will be received:—

	£	*s.*	*d.*		£	*s.*	*d.*
Dr. G. B. Ferguson ...	1	1	0	Dr. R. Saundby	1	1	0
Rev. W. A. Thomas ...	1	1	0	Brigade-Surgeon John Wales, A M.D. (retired)	1	1	0
Mr. J. A. Newsom ...	1	1	0	Surgeon O B. Fairbank, R.N. (O.E.)	1	1	0
Mr. E. N. Gardiner ...	1	1	0	Mr. A. C. C. Parkinson (O E)	0	10	6
Mr. T. Neale	1	1	0	Mr. Bilton Pollard	5	5	0
Mr. J. W. Wilson... ...	1	1	0	Dr. H. Hetley	2	2	0
Mr. H. V. Plum	1	1	0	Dr. J Percy A. Gabb ...	2	2	0
Mr. H. E Gardner ...	1	1	0	Mr. A. Hope Walker ...	0	10	6
Rev. A. C. Knight ...	1	1	0				
Dr. H. F. Lee	1	1	0				
Miss Jones Parry... ...	1	1	0				

AN UNSUSPECTED SOURCE OF AN OBJECTIONABLE PARASITE.

IN reference to a paragraph under the heading of "Clean Heads" in the letter from our Manchester correspondent (vide THE LANCET, May 7th, p. 1311) we have received an interesting communication which suggests an unsuspected way in which pediculi may be conveyed to the human body. A child living in a suburb of London occasionally had her head washed in rain water obtained from the rain-water pipe which ran down the side of the house. This water was heated, though perhaps not to the boiling point, and then cooled with cold water from the tap. From time to time pediculi were found on the head of the child and as she did not often meet other children and the children she did meet were above suspicion the source of the objectionable parasite remained a profound mystery until it was noticed that the appearance of the pediculi synchronised with the washing of the child's head in rain water. On discontinuing the use of rain water the trouble ceased. Subsequently lice were found in water obtained from the rain-water pipe and our correspondent suggests that they must have been washed from the nests of sparrows which were known to be in the gutter supplying the pipe. This seems to be the only feasible explanation of a curious occurrence.

WATER SUPPLY.

To the Editors of THE LANCET.

SIRS,—A gravel pit is being opened about three-quarters of a mile from the village in which I live. The output is to be about 800 to 1000 tons of gravel a day for three years. The village lies between the pit and the river. The district is very flat and only about 40 feet above sea level. The water level is about seven feet from the surface. The bed of gravel is some 11 feet 6 inches deep and is to be worked out. At about ten feet deep constant pumping is required. The general character of the soil is sandy gravel. The water-supply of the village is entirely from wells. What is likely to be the effect on the water-supply (if any), and can any steps be taken in the matter?

I am, Sirs, yours faithfully,

May 10th, 1904. CIGARETTE.

AN ABNORMAL CLINICAL THERMOMETER.

WILL a correspondent who sent to us recently a clinical thermometer incorrectly graduated kindly supply us with his name and address?

◆

Schoolmaster.—We do not think that there could be any objection to the sick rooms of a school house being in connexion with the main body of the building by means of a covered way, seeing that the sick rooms have a separate entrance. We do not gather from our correspondent's letter whether the buildings are in process of erection or are already built, but supposing that it is decided to make the sick room building entirely separate from the other there is no danger or difficulty in moving a patient, even though the weather be bad, provided that he be well wrapped up. The risk of infection lies not so much in aerial conveyance from one building to the other as in the chances of infection being conveyed by attendants or by the common use of spoons, forks, crockery, and the like, by the patient and the other boys without thorough cleansing and disinfection of the same.

M.D. Lond.—Among the latest books dealing with hypnotism is "Hypnotism: its History, Practice, and Theory," by J. Milne Bramwell, M.B., C.M. Edin. Price 18*s.* net. Published by Grant Richards, 48, Leicester-square, W.C. The following books by Dr. Alfred T. Schofield and published by Messrs. J. and A. Churchill, 7, Great Marlborough-street, W., also contain references to the subject: "The Force of Mind; or, the Mental Factor in Medicine." Price 5*s.* net. "The Unconscious Mind." Price 7*s.* 6*d.* "Unconscious Therapeutics; or, the Personality of the Physician." Price 5*s.* net.

Strathcona.—There is nothing illegal in having the notices printed but we do not quite understand to whom they are to be sent. If they are to be distributed broadcast to the public—i.e., to the patients of other medical men—the procedure will be quite wrong. There is no difference between such a method of establishing a *clientèle* and canvassing or open advertisement.

R.—(1) Our correspondent must supply us with a copy of the rules and regulations of the society in question before we can answer his question. (2) No.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M., St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9 30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9 30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.).

WEDNESDAY (18th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (19th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (20th)—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (21st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (16th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Annual Conversazione. Reception by the President. 8.45 P.M. *Oration*:—Sir Isambard Owen: The Future of Medical Education in London.

THE SOCIOLOGICAL SOCIETY (School of Economics and Political Science (University of London), Clare Market, W.C.).—5 P.M. Paper:—Mr. F. Galton: Eugenics, its Definition, Scope, and Aims.

TUESDAY (17th).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-

WI

R

ical Society's Rooms, 11,
5 P.M. Paper:—Dr. J.
Point of View.
OF THE UNITED KINGDOM
ting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (16th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.)—4 P.M. Dr. A. Whitfield: Clinique. (Skin.) 5 15 P.M. Mr. W. G. Spencer: Diseases of the Lymphatic System.

POST GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.)—5 P.M. Dr. Davis: Affections of the Lung Substance

UATES' COLLEGE AND POLYCLINIC
. Dr. C. T. Williams: Clinique.
Fox: Seborrhœa Oleosa, its Con-

London Hospital, Hammersmith-
Hæmoptysis and its Treatment.
ALYSED AND EPILEPTIC (Queen-
0 P.M. Mr. Ballance: Cerebral
Abscess.

W

Hammersmith-
truation.
gical Theatre).
e Tracts of the

BRITAIN AND
ing.
CHEST (Brompton).—4 P.M. Dr. J. Mitchell Bruce: The Action of Digitalis in Cardiac Failure.

THURSDAY (19th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC
Hutchinson: Clinique.
rd: The Principles of

ospital, Hammersmith-
Obstruction.
quet: Demonstration of

AND DISEASES OF THE CHEST (7, Fitzroy square, W.)—5 P.M. Dr. J. E. Squire: Differential Diagnosis of Pulmonary Lesions (illustrated by cases). (Post-Graduate Course.)

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital N.)—4 30 P.M. Dr A J Whiting: Sensory Paralysis.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond street, W.C.).—4 P.M. Dr. Penrose: Demonstration of Selected Cases of Heart Disease.

FRIDAY (20th). MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.)—4 P.M. Mr. P. R. W. de Santi: Clinique (Ear.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. S Taylor: Hæmoptysis and its Treatment.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3 30 P.M. Dr. Ormerod: Myopathy.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

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Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 12th, 1904.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
May 6	29 68	WNW	0 04	110	60	46	46	49	Cloudy
" 7	29 48	S.W.	0 07	72	51	45	45	49	Cloudy
" 8	29 51	N.E.	0 06	59	47	40	43	44	Overcast
" 9	29 69	W.	0 02	87	55	38	42	45	Cloudy
" 10	29·74	S.E.	0 05	68	52	44	47	48	Raining
" 11	30 14	E.	0·19	69	56	44	45	48	Overcast
" 12	30·14	S.W.	0 03	81	60	48	51	52	Cloudy

During the week marked copies of the following newspapers have been received:—*The News, Liverpool Daily Post, Scotsman, Aberdeen Free Press, Aberdeen Free Press (Weekly), Buxton Advertiser, Boston Independent, Westminster Gazette, Hertfordshire Mercury, Literary Digest (New York), Windsor and Eton Express Standard, Cardiff News, South Wales Daily News, Surrey Advertiser, Coventry Herald, Birmingham Daily Mail, Mining Journal, Local Government Chronicle, Ipswich Times, &c.*

Communications, Letters, &c., have been received from—

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Annual Oration

ON

THE FUTURE OF LONDON MEDICAL EDUCATION.

Delivered before the Medical Society of London on May 16th, 1904.

By SIR ISAMBARD OWEN, M.D CANTAB., F.R.C.P. LOND.,

VICE-DEAN OF THE FACULTY OF MEDICINE OF THE UNIVERSITY OF LONDON.

MR. PRESIDENT AND GENTLEMEN,—Some years ago I met a distinguished foreigner on his first visit to London. He said: "What a strange people you are in England. Your country has given birth to some of the greatest leaders of modern thought. Had we been fortunate enough to call them compatriots their monuments would have been conspicuous in our towns, the public places of our capital would have borne their honoured names. I have traversed London," he pursued, "without once being reminded that I was in the country of Darwin and of Spencer; the name even of Newton met my eye only at the corner of a back street off Holborn." I did my best to explain the apparent paradox. I traced in detail the principles of English street nomenclature; I urged the probability that the Newton of High Holborn was not the author of the "Principia" but a local builder; I pointed out that a London statue was the very last form of memorial a philosopher would wish for; but my companion went away only half satisfied and left me, to speak frankly, as unconvinced as himself. One cannot in candour deny that the contrast is somewhat odd between the commanding position in the history of science which England owes to the labours of a few of her gifted sons and the attitude of comparative indifference which the mass of contemporary Englishmen display, I will not say merely to the personal fame of their illustrious pioneers, but in general to the entire question of the advance of scientific knowledge within their bounds and to the development of the means of national education which that advance demands. Elsewhere in civilised Europe we are made conscious of a franker public recognition of the change that the last century made in the conditions of the modern world, of the extent to which the cultivation of exact knowledge has revolutionised the requirements of public and private business, and of the obligations and necessities which the new order of things has imposed on the community. Elsewhere than among ourselves it is not thought a strange thing that the resources of a State should be employed to extend the bounds of abstract knowledge; elsewhere we see the organisation of education no less an object of government than the ordering of the police or the control of the highway. Even in comparatively poor countries we [illegible] not say that the time has come when England should make up its mind whether the continental view of the requirements of the age is right or wrong? If it be right one cannot without concern view the extent to which this country has lagged behind. At present England speaks with uncertain voice and mind. She evinces no real conviction of the practical value of scientific knowledge or scientific training. Science is lauded to the skies in words and left to starve in fact. Research is commonly treated as though it were a matter of merely private ambition or concern. Commerce and industry are still in doubt whether any more scientific training is necessary for their employés than sufficed a century ago. In questions of public education, except as far as they may concern a point of religion, the generality of Englishmen hardly affect an interest.

The prevailing note of indifference belongs to no particular class or section. The country squire who regards schools as an insidious means of undermining agriculture may be matched by the industrial magnate who frankly despises all technical knowledge gained outside the workshop. The Minister who with difficulty consents to make a public grant for research has himself to wrap its object in some specious guise of "utility" lest the popular voice should condemn it as a dole to a privileged class. In the matter of public education half-heartedness has led us into a course as wasteful as it is illogical. For 30 years past, at a vast [illegible] educating the entire population [illegible] providing no means for those [illegible] of it to proceed further. If a national system of education is to produce a national advantage worth the money it costs its aim must surely be largely a selective one. The ultimate object, from a statesman's point of view, of national education is to bring the best brains of the country, or, to speak more precisely, the best combinations of brains and energy, to the front; to bring them into the positions in which they can be turned to the best account in the national struggle for supremacy. In England we have stopped at the first stage, the most costly and least remunerative. We have produced year by year a mass of educable material and made nothing further out of it. Whatever individual talent the elementary school may have revealed we have taken no care to insure its after-development. We have laid a costly foundation and built nothing upon it. Can we wonder that so many Englishmen regard national education as a failure and speak of it as a device to convert useful workmen into unnecessary clerks? If it be not so in fact it is not the fault of the policy that has been followed.

To all this there is a significant exception. John Bull's carelessness about science and education stops with the shore. When he has to deal with his own chosen element—the sea—he is altogether another man. In nautical matters no one values exact knowledge more; no one, unless perhaps his recent pupil in the Far East, has more assiduously cultivated scientific methods or been more careful of the training of the men to whom he entrusts his destinies. We need not, therefore, commit the absurdity of supposing indifference to science to be any permanent feature of the English character. It is but a passing phase, the origin of which we may discern in patent historical causes. Great Britain entered on the Victorian era under peculiar advantages. Our previous rivals in Europe had been exhausted by long wars which had brought us no greater disaster than increased taxation. America was still almost a negligible quantity. Our early use of coal and the mechanical inventions to which it had given rise had aided in giving us a long start of our contemporaries in the modern world which those inventions were bringing into being. Other nations might claim superiority in the graces of life; in commerce, in industry, in material civilisation generally, the United Kingdom for many years was easily ahead of them all. We fancied, perhaps, that this was to last for ever. Other nations had painfully set about the task of organising their resources, systematising their knowledge, trying to make the most of the human material they possessed; we had, we thought, no need to do the same; our natural energies and superior aptitude would always keep for us the supremacy we had gained. In matters of education England no less enjoyed during this period a pre eminence it has been difficult for her to forget. The universities of the continent had long been in a state of decay, material as well as intellectual. The last relics of the great mother University of Paris, that had once ranked in authority with Pope and Emperor, had disappeared in the Revolution; of her half hundred of colleges nearly all had vanished. The collegiate foundations of Oxford and Cambridge, on the contrary, had steadily grown in opulence and lost nothing of external splendour. In the middle of the last century Oxford and Cambridge, to say nothing of Eton and Winchester, were as far in advance of anything of the kind elsewhere as the commerce of the Thames or the industries of Lancashire. As was natural, Englishmen grew to regard their two ancient seats of learning as the type-universities of the world and the particular kind of education prevalent there as the ideal of what university education should be. Universities elsewhere have since multiplied and gathered resources; economic causes have diminished the income of our once wealthy colleges; but England is slow to realise the new situation. The appeals for help which Cambridge has been lately making to its wealthy alumni are passing almost unregarded and the great majority of Englishmen would still, I believe, be surprised to be told that, measured by contemporary European, to say nothing of American, standards, neither Oxford nor Cambridge would be reckoned among first-class universities.

Whether it be that we forgot, in the later years of the nineteenth century, a familiar apologue, whether it be that we had grown into the habit of relying too much on our natural advantages and neglecting the means of improving them, or thought that the world would stand still for us, certain it is that of late we seem to have awoke rather suddenly to the disagreeable fact that in some of the departments of the world's business in which we thought our supremacy most secure we are being overtaken, and possibly distanced, by countries that we scarcely regarded as rivals a generation ago. It is not only that the tortoise shows signs of overtaking the hare; the new world, we begin to find, has bred a hare at once fleeter and more persistent than ourselves. Now perhaps one may hope that a hearing will be given to those who have long been speaking to unwilling ears and calling attention to the neglected state of national education in the heart of the empire. We have long had it pointed out to us with what heed these matters were regarded in continental countries, how carefully their educational systems were thought out, how liberally even poor nations were voting money for educational purposes, but to all this little attention has been given, these things being apparently regarded as necessary only for the foreigner. Will Englishmen be equally careless of what is being done in the United States and in our own North American colonies? Americans can hardly be set down as a second-rate people, or an unpractical race, or an unsuccessful one. It may be that London will not disdain to learn something from them. There was published in London a few weeks back the report of the Mosely Educational Commission to the United States, the second of the two commissions which Mr. Alfred Mosely despatched at his own expense to endeavour to trace the cause of the success of Americans in their competition with ourselves. The commission included 26 men prominent in the British educational world; the reports they sent in run to 400 closely printed pages and every page is interesting reading. The contents may well startle this country, if anything can, out of its apathy with regard to the matter.

Everything, let me say at once, is not represented as perfect in American education. The commissioners found much to criticise in American educational methods, in their lack of thoroughness in certain directions, in a general tendency to underpay the *personnel* and in a certain disposition on the part of private benefactors to regard buildings and sites as of more importance than men. But these, it is frankly admitted, are faults of immaturity and over rapid growth; the greater part of the American educational institutions are barely a generation old. Nor did the commissioners find that thoughtful Americans were in the habit of looking on education as the source of their prosperity. That they were disposed rather to attribute to the inherent qualities of their composite and selected race. But, what was more significant, they regarded the national interest in education as the natural expression of the very qualities that made them successful and were confident that if their public education had not been the cause of their prosperity it was an essential condition of their prosperity being maintained.

American interest in education is not of recent origin. The practice of appropriation of public land to educational purposes by Act of the Federal Government dates from the early years of American independence and the most extensive measure of this kind was passed in the crisis of the Civil War. Up to the year 1900, as may be learned from the educational reports prepared for the Paris Exhibition, the United States Government had in this way assigned upwards of 86 000 000 acres, an area larger than the whole of the United Kingdom, out of the public domain for the support of education. The total value of Federal education grants in land and money to the same year, the land being valued only at its original selling figure, is stated by the same authorities to be nearly £60,000,000 This, it will be understood, is the grant of the Federal Government alone and has nothing to do with the contributions and levies of the separate States and their cities. Private benefaction has been on a still more remarkable scale. Private gifts and bequests for university education alone, says one of the Mosely commissioners, have amounted to £40,000,000 in the course of 30 years. £14 000,000 is given by one of the 1900 reports as the sum of the private benefactions of the single year preceding to universities, colleges, schools, and libraries. Mr. J. D. Rockefeller and others are said to have spent £4,000,000 on the University of Chicago and other recent foundations are reported to be still more royally endowed. Harvard, at the present time, draws an annual income of nearly or quite £200,000 from private benefactions. Though medicine is as yet the least favoured and one of the most backward branches of American education the special gifts to it are still far from contemptible. The medical department of the Columbia University of New York, for example, is endowed, including land and buildings, to the extent of £496,000, the site and buildings of the Jefferson Medical College of Philadelphia are valued at £120,000, and a recent benefaction to the medical department of Cornell University in the State of New York is rumoured to amount to £300,000. An imperfect return shows an aggregate of £3,000,000 of property enjoyed by medical education throughout the United States and during the five years 1894–98 private gifts to medical schools are reported as exceeding half a million sterling, being about a sixth of the benefactions made to hospitals during the same period. Of the universal American interest in public education, of the profound belief in the value of public education that possesses all classes in the United States, every chapter of the Mosely Reports is eloquent. Public bodies, we are repeatedly told, grudge no money spent on education, the claim of educational institutions to the best sites, the best buildings, the best appliances that can be obtained is regarded as incontestable; moneyed men are everywhere prompt to recognise the needs of education, industrial concerns are eager to secure the most highly educated men for their employment. The development of public education in the United States is still going actively forward and by all appearance will do so for many years to come.

It is sad to compare with these glowing pictures of educational progress the history of the 20 years of wasted opportunity and effort we have lately known in London, the 20 years of wearisome agitation, of interminable inquiries, of reiterated deputations, of bland official replies, of municipal and public apathy, that we went through before we could get so much as the bare framework of a teaching university in this the richest city of the world. May we hope that in the twentieth century London will turn its eyes to see what these vigorous young communities in America are doing, and that we shall not have to wait 20 years more before our hard earned framework is clothed with living material. In this country at least no form of higher education can claim a stronger title to public support than medical education. Its purpose is the interest of all. Disease and accident are no respecters of time and place; the life of the wealthiest may at any moment rest upon the skill and knowledge of the humblest village practitioner; failure at any point of the sanitary guard which in times of danger preserves a nation from epidemic disease may let in an enemy that will cost the country more than it could ever spend upon its medical schools. The medical profession is not one that can be charged with making a selfish or illiberal use of its knowledge. In all things it has loyally consulted the public advantage first of all. It is a profession of whose voluntary generosity the public never scruples to make unsparing—I had almost written unblushing—use, a profession which meets the heavy demands made upon it with unfailing patience and public spirit. I shall hardly overstate the fact if I assert that a fifth of the entire population of London has at one time or another, in the hour of distress, learned to rely on the public or private charity of the medical practitioner. Medicine, which gives so much and so readily, may surely ask a little in return and expect in all honour that its claims will be ungrudgingly met.

If the claim that medicine is about to make on the inhabitants of London has gone unrecognised till now it is not altogether the public fault. Medicine has perhaps desired too much to be independent and self-sufficing; we have not taken the public sufficiently into our confidence as to the needs of our art, we have troubled too little to see that it was adequately informed. The average non-medical person, it is safe to say, knows at the present day far less of what goes to the making of the medical practitioner than he does of almost any other form of professional education. The developments of medical education during the last quarter of a century have not been trumpeted abroad, "written up" in the press, or made the subject of magazine articles Of the London hospitals the London public knows much; of the schools of medicine that have grown up alongside of them almost nothing It would probably surprise the great majority of Londoners to learn that the mere buildings of these schools would in the aggregate suffice for the needs of many a renowned university, that upwards of four hundred teachers are actively engaged in connexion with them, and that the curriculum pursued in them is at once the most arduous and the most highly systematised form of education that exists in the country. The foreigner would be no less astonished to hear that the entire system has been the result of private effort and that until lately it has been entirely self-supporting. The buildings appropriated to its use in University College and King's College are almost the only public assistance it has to acknowledge; private liberality has hardly gone beyond the foundation of prizes and exhibitions. With the exception of certain professorships at University College there is not at the present moment a single endowed chair in any medical school in the metropolis. Like many other institutions in England, the London School of Medicine was not founded; it grew spontaneously in response to a need. It grew up in close connexion with the 12 great general hospitals, but till lately it had cost them nothing. On the contrary, they were pecuniarily the gainers by it. I ventured some six years ago to estimate that the existence of the medical schools virtually added no less than £50,000 a year to the charitable resources of London and I was not accused of exaggeration.

The endowment of a single professional faculty to the extent of some £24,000 a year, exclusive of premises and library, would seem in London the dream of a rather distant future, but that is the extent to which, in the neighbouring capital of France, the Faculty of Medicine appears to be subsidised from public sources. The statistics of higher education issued by the Ministry of Public Instruction for the ten years 1889–1899 show that in the last year reported on (1897–98) the sums assigned to the purpose of the Faculty amounted to 1,466,212 francs, of which only 859.302 francs were recouped from students' fees, leaving 606,910 francs, say £24 276, provided from public sources, chiefly the coffers of the State. The expenses of the Paris Faculty do not, it may be added, include those of instruction in what we term the "preliminary sciences."

A complete endowment of the Faculty of Medicine is not at present in question in London. We see no reason to apprehend that the schools of the London hospitals will be less able in the future than in the past to provide from their own resources for the professional education of as many students as their ample hospitals can accommodate; but there is a strong and growing sense of the need of relieving them from the increasing pressure of a burden which at present they are under the obligation of supporting, but which is properly none of theirs to bear. The medical curriculum has long since everywhere divided itself into two nearly separate portions, the one mainly professional, while the other tends more and more to become purely academic. It is within my own recollection and that of many here that the student of other days, while still pursuing his ordinary anatomical and physiological studies, in some cases while working only at the introductory physical and biological sciences, was expected or encouraged to spend a part of his time in the wards and out-patient rooms of his hospital and to familiarise himself thus early with the aspects of disease. That is now virtually at an end. The increasing requirements of the earlier parts of the curriculum have rendered it impracticable. The contemporary pupil, though nominally attached to a hospital, pursues as a general rule the first two years, or three as the case may be, of his curriculum under almost purely academic conditions and rarely enters a medical or surgical clinique for any serious purpose until he has surmounted the barrier of his anatomical and physiological examinations.

I need not stop to discuss whether the change of practice is of unmixed advantage or no. Something, it will doubtless be said, is lost in the present day which the older and less differentiated plan of education was able to impart, but this, I fear, is a profitless question to raise. The present system is universal, or nearly so; it has forced, or is forcing, itself by the logic of circumstances on every seat of medical education alike and it must be taken as one of the facts of the case that we have to deal with. In almost every place of medical education except London a further differentiation has already taken place. The responsibility of providing for the earlier portion of the curriculum has ceased to rest upon the medical school properly so called. In Lancashire and Yorkshire, in Birmingham and Newcastle, and in Wales endowed universities and university colleges have taken this part of the work upon themselves, leaving the schools of medicine, in the strict sense of the term, to their proper task of teaching the theory and practice of medicine and surgery and such of the more advanced branches of science as cannot conveniently be separated from clinical work. In London, without a central teaching authority to assist, to lead, or to coördinate the scattered educational agencies at work in her vast area, this further step has till now been impossible. The medical schools, unendowed and without external aid as they are, have had to bear the burden of the preliminary education themselves. Each separate school, in order to maintain its position, has found itself obliged to offer a medical curriculum complete in all its parts, academic as well as professional, and to provide the buildings, laboratories, and external teachers necessary to make it so. Until London possessed a university in fact as well as in name no practical way out of the difficulty could be seen and the difficulty has been a steadily increasing one. While politicians disputed whether 5,000,000 of population should have two titular universities or only one, whether professors of European fame should be dealt with as honourable men or objects of public suspicion, and how far the laying of academic hands on the London matriculation examination would endanger that palladium of British learning, the men who were actually doing the work had to strain every nerve to meet the constantly growing requirements of the long medical curriculum and to keep the London schools of medicine on a level worthy of their historic fame. The work was done. It has, I venture to say, been well done; but the strain on the schools has been no light one and its tendency is still to increase. Over the schools hangs the shadow of the ominous question, How long can the present strain be maintained? A limit will be reached, it must be plainly said, unless London awakes to some sense of its responsibility in the matter. And while London is asleep the provinces are moving. I trust I shall not be understood as saying one word in dispraise of the excellent teaching given in many of the provincial medical schools or in derogation of the highly distinguished physicians and surgeons who are working so ably in them, but the fact nevertheless remains not only that London possesses an unexampled field of clinical instruction but that as long as the greatest prizes of the profession are to be found in the capital the tendency must be for the best clinical talent in the profession to be attracted to the metropolitan hospitals and schools. It would, I will not hesitate to [illegible] Londoners but to England anc [illegible] should ever lose the position i [illegible] seat of medical education in the country. It is to the grave discredit of so wealthy a capital that such an event should be even imaginable.

Thanks to the reconstitution of the University of London we have at last a definite plan to lay before the public. It is a plan which has been drawn up by the Faculty of Medicine of the University, a body fully representative of medical education in the metropolis, and which has been officially adopted by the Senate of the University as an integral part of its scheme of future development. It is proposed to found as part of the University of London and under its direct control a public Institute of Medical Sciences to undertake teaching in physics, chemistry, biology, anatomy, and physiology for the purposes of medical students. The classes of the institute will not be limited to those only who are undergraduates of the University and propose to take its degrees. Provision will equally be made by the University for the instruction of students who are aiming at the College diplomas or the Licence of the Society of Apothecaries. Nevertheless, all who enter the institute will be studying in the University in fact as well as in name. They will be able to commence their career by entering directly at the University and until they have completed their classes in the institute they will not need, unless they wish, to join a hospital at all. They can wait till they have finished the academic part of the curriculum and select their hospital when the time has come for them to begin their clinical work. No compulsion will, of course, be exercised by the University over existing medical schools. Any that may find it to their advantage still to carry on the earlier as well as the later part of the curriculum will be at liberty to do so; those whose policy is otherwise will be able to receive their clinical students directly from the University of London Institute, as now they receive them from the Universities of Oxford and Cambridge and the University College of Cardiff. The University is willing and anxious to establish such an institute, but to do so funds are, of course, needed and funds for the purpose the University as yet has unhappily none. How much, it will be said, will be required? That has been the subject of careful estimate. Assuming the institute to be started, as contemplated, for 500 students at the outset, and assuming, as is not impossible, that a free site can be obtained, it is reckoned that £160,000 would be sufficient for the necessary buildings and equipment and that the annual expenses on staff and service would not exceed £20,000, of which about two-thirds would be recouped by fees, leaving to be provided from endowment between £6000 and £7000 a year, which brings the total capital endowment estimated as required to £375,000.

To what quarter is the University to look for this necessary sum? On the continent of Europe it would at once be recognised as a legitimate charge on the State. In our country that can hardly be. The tradition that professional education is no affair of the State is still deeply rooted in England. Even the modest subsidy annually granted by the Treasury to the English colleges is given under proviso that no portion of it shall be used for the purposes of the medical school. On State aid we can count but little. In America, if we may judge from the accounts lately brought back by the Mosely Commissioners, the matter would also be speedily settled. Our Chancellor would need but to sally out, pay some half dozen judiciously planned morning calls, exercise the persuasiveness which he is universally allowed to possess, and the thing would be done. Have we no wealthy men in London capable of being fired by emulation of transatlantic gifts to education, who will make this modest benefaction their peculiar care? As we lately learned with so much gratification, a most auspicious beginning at least has been made. May we trust that it will be followed by speedy fruition and that the list of subscribers already privately started will be covered without needless delay. Among them, one may safely predict, will be found not a few members of our own profession, but it must be clearly remembered and understood that it is no personal interest or advantage of the profession that is being sought. The object is, in the fullest sense, one of public concern, and it is to the public, not to the medical profession, that the appeal of the University is particularly addressed.

It would be a poor compliment to a university destined, as we hope, to a great academic position, to let it be supposed that this introductory work is all that the Faculty of Medicine will eventually expect from it. At present it is our most urgent need; but there are more ambitious fields of work awaiting the University later. The idea that the principal duty of a university is the education of undergraduates and that a bachelor's degree is the climax of a university career are among the fading traditions that the nineteenth century bequeathed to us. In the United States the more advanced school of educationists already begin to regard the teaching of undergraduates as but a secondary function of a university, if, indeed, they would admit it to be a university function at all. The preparation of candidates for initial degrees they are disposed rather to relegate to a class of institutions of subordinate rank which in America are called "colleges"; the real work of a university, it is argued by many, is that to which the attainment of an initial degree is only an introduction. "Graduate study," as Americans call it, is already with them a prominent feature of higher education and even seven years ago, according to the reports I have already quoted, 23 American institutions were able to make up between them a total of 4919 resident graduate students, an average of nearly 214 each. The medical world in England has long recognised the importance, and, indeed, the necessity, of graduate study and the number of members of our profession pursuing it in London in one shape or another would probably exceed anything that is to be found in America, but the provision which we have been able to make for it would, I fear, have to sustain a far less flattering comparison. It is certainly not yet so complete as to place any serious difficulty in the way of its absorption into the organisation of the University or to render the coöperation of a powerful university with it other than welcome. With the aid of the University we may perhaps one day see removed the weakness of the London system that has always been most apparent to foreigners—I mean the entire dependence of the academic position of a medical teacher upon the term of his hospital office, with the unavoidable result that some of our greatest clinicians have *ceased to teach at the very time when their experience is* ripest and their judgment is at its greatest maturity.

May I venture, in conclusion, to deprecate a certain note of impatience that occasionally makes itself perceived in the medical world because the development of our University is not proceeding at as rapid a pace as we could wish. We must not expect impossibilities. To make up the arrears of two generations in a great capital was as huge a task as any university could have had committed to it and some of the difficulties in the way have been very hard to surmount. That the constitution of our University is not an ideal one, that it may be open to the charge of cumbrousness, I, at least, am not concerned to deny; but machinery is of less importance than men, and we need not complain overmuch of a constitution that has committed the interests of our science to such strong and able hands as those of the representatives it has upon the University Senate and placed at the head of our Faculty a man so singularly capable as its present Dean of grappling with the difficulties of the present situation. The best compliment we can pay to the statesmanship and the self-sacrificing labours of Mr. Butlin and his fellow workers in our behalf is, I submit, to give them a patient as well as an earnest support.

The Goulstonian Lectures

ON

SOME DISORDERS OF THE BLOOD AND BLOOD-FORMING ORGANS IN EARLY LIFE.

Delivered before the Royal College of Physicians of London on March 8th, 10th, and 15th, 1904.

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LECTURE III.[1]

Delivered on March 15th.

THE THYMUS.

MR PRESIDENT AND GENTLEMEN,—I have already remarked upon the prominent rôle played by the adenoid tissue amongst the blood-forming organs of early life and have discussed in general terms the probable reasons for its marked development. It was pointed out also that the mere fact of the extensive development of this tissue in the child and its great functional activity probably rendered it specially liable to become the seat of disease. It is to the study of the morbid processes which affect this tissue, a study which is full of difficulty and in which it must be admitted great confusion exists, that I have now to direct your attention.

Prominent amongst the local collections of adenoid tissue met with in the body and of special interest from the air of mystery which has always enshrouded its functions is the thymus gland. A study of the rise and fall of the functional importance of this gland may therefore be expected to throw some light on the functions of the adenoid tissue in general, for there can be little doubt, I think, that the thymus is not possessed of any functions peculiar to itself and distinct from those of the histologically similar tissues met with throughout the body, whilst, on the other hand, its compact structure and its unique situation render it peculiarly easy of study. In the human fœtus the thymus has attained the infantile type by the end of the third month of intra-uterine life, its development being brought about by a transformation of the epithelial cells derived from the hypoblast, and from this period onwards up to the time of birth it increases rapidly in functional activity, so that by the time when intra-uterine development is complete its weight relative to that of the body as a whole has reached its maximum point. From the moment of birth onwards it undergoes a steady decline which, however, is at first very gradual but after the second year goes on at an accelerated rate, although the gland is still possessed of some degree of functional activity up to the period when the growth of the body is complete. The following table from Friedleben's classical monograph on the thymus, indicates in a striking way the growth and decline of the gland:—

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[1] Lectures I. and II. were published in THE LANCET of May 7th (p. 1253) and 14th (p. 1323), 1904, respectively.

Period of development.	Weight of thymus (in grans) to every pound of body weight.[2]
Third to fifth month of fœtal life	8·5
Sixth to seventh „ „	21·6
Eighth „ „	27·3
At birth	33·8
First to ninth month	23·5
Ninth month to second year...	22·7
Second to fourteenth years...	10·6

This decline in the growth of the thymus coincides exactly, as we have seen, with a steady diminution in the number of lymphocytes in the blood and may be taken, I think, as the index of a steady diminution in the functional activity of the adenoid tissue generally. We are here again brought face to face with the intimate relation which exists between the adenoid tissue and the growth and development of the body as a whole or in chemical terms with the rate of general metabolism. It is during the period when metabolism is most active that the thymus maintains its greatest weight, and I may suggest in passing that there may perhaps be found in this fact an explanation of the resumption of activity on the part of the thymus in such a disease as exophthalmic goitre, in which the rate of metabolism is usually increased, as well as of its tendency to persist in cases of gigantism and acromegaly.

I have said that the variations in the size and development of the thymus may probably be safely taken as indicating corresponding variations in the adenoid tissue as a whole. It would not be surprising if in a tissue so important as that which we are considering there were large room for the exercise of vicarious function, so that an over development of adenoid tissue in other parts of the body can take the place of the thymus and *vice versâ*. In favour of this view are the facts that the thymus may be entirely absent and yet growth be unimpaired (Friedleben) in which case presumably its functions are fulfilled by the adenoid tissue elsewhere. In favour of it also are the great individual variations in the size of the gland—variations which are not fully to be explained by mere differences in the body weight, which have struck all those who have made observations on the weight of the thymus at different ages. It is not improbable too that, as Mettenheimer has pointed out, the degree of development of the thymus at any given age varies in different countries and races which would be quite in harmony with the known variability in the rate of growth and development of the body under different conditions of inheritance and environment. In favour also of the vicarious replacement of the thymus are the results of observations on its experimental removal which show that no serious consequences to growth or development ensue, whilst the number of lymphocytes in the blood after the operation is increased rather than diminished, which is exactly what occurs after excision of the spleen and has been alleged by Ehrlich to be due to a vicarious over-activity of the lymphatic glands.

The great individual differences in the development of the thymus to which reference has already been made render it very difficult to be sure of pathological variations in its size. It was long ago shown by Friedleben that anything which interferes with adequate nutrition reacts with special force upon the thymus, so that its weight is notably lessened in starvation or after wasting diseases. The marked atrophy of the thymus in cases of infantile marasmus was first pointed out by Seydel. Hansen, Farret, and Mettenheimer went further and were inclined to regard the wasting of the gland as primary and that of the body as a whole as secondary, a view which has recently been insisted upon by Ruhrah and others.[3] Such a relationship, however, is very difficult of proof and against it is the fact that experimental removal of the gland is not followed by symptoms of wasting. In the meantime and until more convincing evidence has been collected it seems wiser to regard the atrophy of the thymus as associated with the diminution of growth and metabolism which accompany marasmus rather than as being the primary cause of the latter condition.

In discussing *hypertrophy of the thymus* we are again met with the difficulty of fixing upon a normal standard of development. Ruhräh gives the normal average weight of the gland during infancy as 18 grammes. Thursfield,[4] on the other hand, states that the normal weight is usually greatly exaggerated and that the average is between six and seven grammes. Observations on this point which have been made at the London Hospital for some time, but which are not yet ready for publication, tend to show that the weight of the gland varies very greatly in different children of the same age and that no constant ratio to the body weight can be shown to exist. Most observers are agreed, however, that an excessive development of the thymus is sometimes met with in which it may be increased to ten times the normal or more. The majority of such cases have been found, as is well known, in infants who have died suddenly with symptoms of asphyxia and to such cases the term "status thymicus" has been applied. Other writers who regard the enlargement of the thymus as merely a part of a general increase in the adenoid tissue throughout the body prefer to speak of the condition as the "status lymphaticus" or "lymphatism." The association of sudden death with enlargement of the thymus has long been recognised and many cases of it have been recorded but we are still quite in the dark as to the relationship of the enlargement of the gland to the occurrence of death. It would be going beyond the scope of these lectures to discuss this subject in detail, but as such cases, though not very uncommon, have received but scant attention in this country some of the leading views which have been put forward may be briefly indicated. According to one set of hypotheses the enlarged thymus in these cases acts purely mechanically either by direct pressure on the air passages or by interference with the vagus nerves or by exciting reflexly a spasm of the glottis. All these conjectures were subjected to severe criticism by Friedleben who concluded that none of them was tenable. There seems to be no doubt, however, that in some at least of the published cases there was distinct compression of the air passages and it has been suggested that a sudden throwing back of the head may, by vascular congestion, so increase the degree of pressure exerted by the enlarged gland as to induce asphyxia.[5] Such an occurrence would be comparable to the sudden death which may occur from the administration of an anæsthetic to a patient who is the subject of goitre. Nor can it be denied that spasm of the glottis may play a part in some at least of the cases, just as it occasionally produces sudden death in laryngismus stridulus though how the enlarged gland can excite such spasm is more difficult to explain.

According to the other leading view which has been put forward the enlarged thymus in these cases is not directly the cause of death but is merely an index of a general "lymphatic" dyscrasia which entails a general feebleness of resistance and renders the subject of it liable to sudden death from any cause. Several instances have occurred, for instance, whilst bathing. The very vagueness of such a theory puts it almost beyond the scope of criticism, but I may say that in at least one typical case I could find no increase of the adenoid tissue elsewhere nor any sign of impairment of health.[6] It certainly would be interesting to have an account of the state of the blood in these cases, particularly as regards the number of lymphocytes, but as enlargement of the thymus is almost impossible of diagnosis during life such observations are not yet forthcoming.[7] Of the other affections of the thymus I do not propose to speak, for they are for the most part identical with those to which all adenoid tissue is liable, whilst its comparative immunity to others, such, for example, as tuberculosis, is no doubt due to its not being in direct lymphatic connexion with any mucous surface.

AFFECTIONS OF THE LYMPHATIC GLANDS.

We now approach the consideration of a group of disorders in regard to which more doubt and confusion exist than in respect of perhaps any of the other affections of which I have hitherto spoken. The confusion to which I have referred is traceable to two causes: (1) to the adoption of a clinical classification based only upon the characteristics which can be observed at the bedside; and (2) to an inadequate study of the morbid histology of the affected organs after death. The adoption of a clinical classification would not be open to so much objection were it not that some of the most important criteria upon which such a classification if it is to be of any real value can alone be based have until recently been unavailable and are still too often omitted in the published reports of such cases. I refer especially to the information afforded by a careful examination of the blood. I need hardly point out that it is only within quite recent years that the importance of such examinations has been realised but for a long time it has been customary to label large groups of the cases about to be described with some name descriptive of their grosser clinical characteristics. Hence, an extensive nomenclature sprang up and was received into the text-books and made the basis of systematic descriptions and it is only now that we are beginning to realise how inadequate it is to our needs that names which were believed to indicate some one definite disease may really cover several different pathological processes and that our whole nomenclature requires to be reconsidered and recast. Now I think one may truly say that few things retard the advance of the scientific knowledge of disease more than the existence of a terminology which has ceased to have any real correspondence with clinical and pathological facts and we need not wonder that progress in the investigation of this branch of our subject has been made with but slow and faltering steps. If we think, for instance, of such terms as "lymphadenoma," "pseudo-leukæmia," "malignant lymphoma," or "lympho sarcoma," how vague and indefinite is the impression they convey! When an author describes a case under one of these designations how can we feel any certainty that the conception present to his mind is the same as that which the term employed arouses in our own? But it is hard to slough off outworn pathological creeds and in attempting to deal with these diseases I shall not have the presumption to suggest any brand-new terminology. I shall content myself with the humbler task of trying to give greater precision to some of the terms already in general use and with describing the clinical features and morbid histology of the pathological processes with which I believe them to correspond. Nor, it must be confessed, is the time yet ripe for a final classification, for any such to be of permanent value must be based, I take it, not upon the clinical features alone nor yet upon pathological histology but upon a knowledge of the particular morbific agency at work, of which both of these are but the expression. We await the progress of research to furnish us with this knowledge, and fortunately there are many signs that we are not likely to wait in vain. Meanwhile, in pursuance of the intention indicated above I turn to consider in the light of clinical and pathological observation that group of diseases which specially affect the lymphatic glandular system in early life. I propose, for the sake of greater clearness in this matter, to attempt no rigidly systematic order of treatment but rather to describe as briefly as may be some extreme clinical types of each disease and subsequently to consider the question of the relation of these to one another and the possible existence of intermediate forms.

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[2] The gran = six centigrammes, or 0·9 grain.

[3] The American Journal of the Medical Sciences, November, 1902.

[4] St. Bartholomew's Hospital Reports, vol. xxxviii., p. 129, 1902.

[5] Leubuscher: Münchener Medicinische Wochenschrift, No. 23, 1903.

[6] Diffuse overgrowth of adenoid tissue throughout the body has, however, been described by several observers in this condition.

[7] Ewing has found a lymphocytosis in one case.

1. Generalised Tuberculous Adenitis.

The first case to which I wish to direct your attention was that of a girl, aged 12 years, who was admitted into hospital suffering from anæmia with general enlargement of glands. The illness had begun eight months before with the appearance of a lump above the right collar bone. On admission she looked very anæmic; the glands were greatly enlarged in the neck, axillæ, and groins, being in some cases discrete, in others matted together. Neither the liver nor the spleen was enlarged, but there were some moist sounds over the right lung. There was distinct remittent fever which exhibited periodic exacerbations during which the glands became more enlarged and slightly tender. Examination of the blood showed 5,000,000 red cells per cubic millimetre with a decided reduction of hæmoglobin. The white cells varied in number at different examinations from 15,000 up to 70,000 per cubic millimetre and consisted mainly of the polynuclear variety. The patient went steadily downhill, developed signs of pressure on the bronchi, and died three months after admission.

Post-mortem examination showed that the glands were everywhere much enlarged and in part caseous, those in the mesentery being partly calcified. The tracheal and bronchial glands formed a large mass which had compressed the air tubes. There were some soft white nodules of the size of a bean in the right lung and in the muscular substance of the heart. The spleen was considerably enlarged and contained some white masses resembling infarcts. Sections of the glands showed a typical tuberculous structure and the presence of masses of tubercle bacilli.

A somewhat similar case was that of a boy, five years of age, who had suffered for six months from dyspnœa which seemed to ensue upon an operation for adenoids, prior to which he had enjoyed perfect health. He was markedly anæmic and had slight general œdema with effusion into the pleuræ and some ascites. There was enlargement of the glands in both sides of the neck and in the left axilla but the spleen could not be felt. There were signs of pressure on the right bronchus and some scattered patches of consolidation throughout the right lung. There was also a slight degree of irregular pyrexia. The blood exhibited the ordinary changes of a pronounced secondary anæmia along with a considerable polynuclear leucocytosis. Death took place from exhaustion, the case being regarded as one of lymphosarcoma. At the post-mortem examination, however, it was found that there was extensive caseation of the bronchial and mesenteric glands with patches of tubercle in the lungs and extensive ulceration of the intestine. The spleen was healthy. Tubercle bacilli were found in the glands in large numbers.

Such cases as these seem best described as examples of "multiple acute tuberculous adenitis." They are by no means common, but probably correspond to what used to be spoken of by the older writers as acute scrofula. Examples of such multiple glandular tuberculosis were described long ago by Hilton Fagge[8] and by Pye-Smith,[9] and a good example in a woman, aged 23 years, has been recorded by Francis Delafield.[10] More recent cases which may probably be referred to this group have been described by Hutschmann and Stross[11] and by Ferrarri and Comonotti.[12] The chief features of cases of this type are, I believe, these. They tend to occur especially in young subjects. They run a comparatively short course marked by irregular pyrexia often with periodic exacerbations. They exhibit more or less generalised enlargement of the lymphatic glands but not to any extent of the spleen and a pronounced degree of general anæmia accompanied by more or less polynuclear leucocytosis, the only exception to this rule that I am acquainted with being the case recorded by Ferrarri and Comonotti in regard to which it is stated that leucocytosis was absent. They may be regarded, I think, as examples of multiple infective adenitis, the infective agent being the tubercle bacillus.

Hodgkin's Disease.

Somewhat resembling the above in its clinical features, but totally distinct from them, I believe, is the following case:—

The patient, a girl, aged two years and two months, had suffered for a year from enlargement of glands in the neck. When she first came under observation she was markedly anæmic and hard discrete glands could be felt in the neck and groins but not in the axillæ. The liver was slightly enlarged. The spleen was two fingers' breadth below the costal margin and felt hard and nodular. There were some moist sounds over the lower lobes of both lungs and continuous irregular pyrexia. Examination of the blood showed 1,180,000 red cells and 5000 white cells per cubic millimetre. The red cells were very pale and unequal in size and a few normoblasts were present. A differential count of the white cells showed the presence of 51·5 per cent. of polynuclears 48 per cent. of uninuclear forms, and 0·5 per cent. of myelocytes. Death ensued from exhaustion without material alteration in the characters of the physical signs or blood, the case being regarded as one of tuberculosis.

The post-mortem examination showed great enlargement of the mesenteric and retroperitoneal glands, which on section were hard, pale, and glistening, with, in some, a few spots of caseation. The mediastinal glands were in a similar condition. The liver exhibited on its surface numerous white fibrous plaques which on section were seen to extend into the substance of the organ in the form of dense fibrous septa. The spleen showed the typical "hardbake" characters. The other organs were healthy.

Microscopical examination of the affected organs exhibited the entire absence of any tuberculous structure or of tubercle bacilli in any of the sections examined, but on the contrary the presence in a typical form of the changes presently to be described as characteristic of what for convenience we may still speak of as Hodgkin's disease.

In seeking to elucidate further the nature of such a case as this and to outline the features of the group to which it belongs we find ourselves on ground which has been, and still is, the arena of much controversy—controversy the issues of which have been much obscured by the nature of the terminology employed and by the neglect of that precise study of the morbid histology of the disease which I have already had occasion to deplore. It is doubtless in the knowledge of everyone here that the term "Hodgkin's disease" was first introduced into medical literature by Sir Samuel Wilks in a paper published in Guy's Hospital Reports in the year 1865 (vol. xi., p. 56). He applied it to cases similar to those already described by Hodgkin some years previously in his well-known paper entitled "On Some Morbid Appearances of the Absorbent Glands and Spleen."[13] The term, although a graceful and well-deserved tribute to the pathological acumen of Hodgkin, was, from a purely scientific point of view, an unfortunate one from the outset, for of the cases originally described by Hodgkin two at least were certainly not true examples of the disease now associated with his name. Cases more or less resembling in their clinical and gross pathological aspects those first described by Hodgkin were afterwards published on the continent in the same year as that in which Wilks published his paper and a French observer, Bonfils, showed that such cases were not attended by any increase in the white cells of the blood.[14] This absence of any increase of white cells in the blood formed such a marked distinction between these cases and those of so-called "lymphatic" leukæmia that Cohnheim in the year 1865 sought to emphasise the distinction by introducing into pathology the unfortunate term "pseudo-leukæmia,"[15] whilst three years later we find Trousseau in his ninety-first clinical lecture applying the term "adénie" to cases characterised by progressive enlargement of glands without blood change to mark them off from tuberculous and other glandular enlargement, cases of which, as he states, Hodgkin had already given a good description. Billroth[16] still further complicated matters by introducing the word "lymphoma," meaning thereby what Cohnheim meant by pseudo-leukæmia, but opposing it to the term "lymphosarcoma" which was employed by Virchow[17] and which Billroth wished to discard altogether or to restrict only to cases of true sarcoma of glands. Meanwhile the term "Hodgkin's disease" had come into general use in English literature, whilst "pseudo-leukæmia" found perhaps the greatest degree of acceptance on the continent. As clinical investigation became more accurate, however, and as the number of recorded cases increased, it began to be believed that in all probability more than one variety of morbid process was being so described and it is interesting to find Virchow declaring so long ago as 1892 that he had always regarded the term "pseudo-leukæmia" as a "Mischmasch," whilst in recent German writings there is a strong tendency to discard its use altogether and to substitute for it "malignant lymphoma" (Pappenheim) or "lymphomatosis" (Türk).[18]

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[8] Transactions of the Pathological Society, vol. xxv., pp. 22 and 238.

[9] Ibid., vol. xxvi., p. 202.

[10] New York Medical Review, 1887, No. 16, p. 31.

[11] Deutsche Medicinische Wochenschrift, 1893, No. 21.

[12] Wiener Klinische Wochenschrift, 1900, No. 52.

[13] Transactions of the Royal Medical and Chirurgical Society, vol. xvii., p. 68, 1832.

It is refeshing to turn from these shifting quicksands of a changing nomenclature to the firmer ground of pathology, and, assuming that there is a group of cases which are characterised clinically by progressive enlargement of the lymph glands and sometimes also of the spleen without any increase of white cells in the blood—call them provisionally Hodgkin's disease or what you will—to ask whether such cases are marked by any characteristic morbid histology. Curiously enough, this aspect of the question has been largely neglected. While many have put on record cases, called them by one or other of the above names and described in some instances their gross morbid appearances, few have undertaken to give any accurate description of the histological changes met with in the affected structures. This omission has, however, been fully repaired in recent years (though the descriptions do not yet seem to have found their way into the text books) and that largely, one is glad to be able to say, by the labours of English and American workers. Even so far back as 1878 an extremely careful account of the histological characters of Hodgkin's disease was given by Professor Greenfield[19] in a paper read before the Pathological Society of London and published in its Transactions. He described the essential change as consisting in "a sort of chronic inflammation involving especially the fibrous stroma of the gland" and recognised the so-called soft and hard forms of the disease, the glands in the soft or early form being somewhat generally enlarged and the fibrous stroma appearing coarser than normal, whilst a large number of multinucleated cells containing from four to 12 nuclei could be observed adherent to the trabeculæ and often gathered into clusters where the fibrous change was progressing. In the more advanced—or what would be called by some the harder form—he found the glands practically converted into cicatricial tissue. He also described very carefully the characteristic histological changes in the spleen and the mode of their development. This description has been amplified but not in any important respect amended by the observations of subsequent workers. In a recent discussion at the Pathological Society on Lymphadenoma in its Relation to Tuberculosis[20] a very full description of the characteristic histology of Hodgkin's disease was given by Dr. F. W. Andrewes. He states that he has found the following changes: "1. The general plan of the structure of the gland is obscured and simplified; the distinction between cortex and medulla is abolished or nearly so, so that the whole gland has a more homogeneous appearance. 2. The number of lymphocytes is apparently very much decreased, they are proportionately scanty and no longer conceal the supporting framework of the gland. 3. In correspondence with this the framework has undergone hyperplasia, the fibrillar reticulum is conspicuous—its increase may amount to an actual fibrosis. The endothelial cells in connexion with it are more numerous and much more evident, here and there some of them attain a very large size and may contain two, four, or more large and deeply stained nuclei. These are the cells specially characteristic of lymphadenoma described by Virchow. ...... They may properly be described as lymphadenoma cells and though they are large multinucleate cells they have little resemblance to the giant cells met with in tubercle. They are not so large as the latter, they are more rounded and their nuclei, fewer in number, are larger. They stain more deeply and occupy a more central position; their protoplasm has less tendency to degenerative changes. 4. The eosinophile cells present in normal glands are always demonstrable in lymphadenoma, sometimes but not always, in vastly increased number."

Miss Dorothy M. Reed in a paper published in the Johns Hopkins Hospital Reports[21] has also dealt very fully with the minute anatomy of Hodgkin's disease. The microscopical changes, though apparently quite variable, always represent some stage in the same general process. In the earliest stage one finds only proliferation of the flat, so called endothelial cells which cover the reticulum of the lymph sinuses and of the large cells of the centres of the lymph nodes which are presumably identical with these. Mitotic figures in cells of this description are frequently seen. Dilatation of the blood-vessels and the lymph sinuses is usually a marked feature of the early stage. As the process advances we find the lymph sinuses and the reticular spaces filled with masses of lymphocytes and proliferating endothelial cells. The presence of these newly formed cellular elements destroys the normal appearance of the gland by obliterating the distinction between the follicles and the sinuses. The endothelial cells, which show many karyokinetic figures, form in proliferating large epithelioid cells with vesicular nuclei. Numerous giant cells with one or more nuclei and prominent nucleoli appear in great number. These give evidence in their structure and situation of being derivatives from the epithelioid cells and in places they are the most prominent feature of the specimen. As the process advances the connective tissue shows marked proliferation. The framework of the gland becomes increased and bands of connective tissue, starting often from about the vessels, gradually break up the gland substance into coarse lobules. This process takes place at the expense of the other cells and the tissue undergoes a fibrous transformation which may increase until the coarse bands of fibrous tissue are more prominent than the small cellular islands which they include. Large areas which can only be explained as anæmic necroses are frequently observed, the centres of which show completely degenerated cells with fragmented nuclei, whilst the surrounding connective tissue often exhibits hyaline transformation. It is evident, as Miss Reed points out, that a gland examined at varying periods in the process would appear very different to casual observation. In the early stages we have a very cellular tissue in which the predominating element is the lymphocyte. This represents presumably the soft type of the disease and we can understand why Hodgkin's disease is usually spoken of as a simple hyperplasia of the lymph gland. The fibrosis of the later stage represents the "hard type" and the connexion between the two is not at first obvious. The process in its early stage has been frequently confused with sarcoma and in the later stage with tuberculosis. She agrees with Dr. Andrewes in considering that eosinophile cells are usually present in great number in Hodgkin's disease but not invariably.

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[14] Societé Médicale d'Observations de Paris, 1856 (reference from Einhorn's paper in New York Medical Record, July 12th, 1902).

[15] Ein Fall von Pseudo-Leukämie, Virchow's Archiv, 1865, Band [illegible]

[illegible] und verschiedene verwandte Krankheitsformen), Archiv für Klinische Chirurgie, 1903, Band lxxi., p. 271.

[19] Specimens illustrative of the Pathology of Lymphadenoma and Leucocythæmia, Transactions of the Pathological Society of London, 1877–78, vol. xxix., p. 272.

[20] Transactions of the Pathological Society of London 1902, vol. liii., p. 297.

[21] On the Pathological Changes in Hodgkin's Disease, with especial reference to its Relation to Tuberculosis, 1902, vol. x., p. 133.

Enough has been said, I hope, to show that cases such as that which I have described above are associated with definite histological changes in the affected structures and we have now to discuss the nature of the pathological process by which these changes are brought about. Two hypotheses have been advanced in this connexion, one that the process is a malignant one, allied to sarcoma formation, and the other that it is "infective" in origin. Of these the latter, or "infective," view has now won its way to almost universal adoption and it would be superfluous to enter here and now into the arguments which have been advanced in its favour. Of the nature of the infective agent, however, we are still in ignorance. A few years ago there arose a strong inclination to regard the tubercle bacillus as the infective agent, Askanazy being one of the first to point out that tuberculous lymphoma might run the clinical course of a febrile pseudo-leukæmia. This view was strongly espoused by Sternberg and elaborately advocated in a paper in which he described the clinical characters and microscopical changes in 15 cases.[22] His position was for a time widely adopted[23] but recently a reaction against it has been manifest for which the more accurate histological studies of Andrewes,[24] Reed,[25] and Simons[26] are largely responsible. It is now recognised that the mere presence of tubercle bacilli in the affected glands in Hodgkin's disease as demonstrated either microscopically or by inoculation experiments is no proof that they are the *cause* of the changes found in the glands, whilst those who have most accurately studied these changes are convinced that they are quite distinct from those characteristic of tuberculous processes. It would seem that the subjects of Hodgkin's disease are specially apt to become infected secondarily either by the tubercle bacillus or by other infective organisms which may gain access to the lymphatic circulation, a circumstance which is not surprising when one remembers how greatly the number of lymphocytes in the affected glands is reduced by the overgrowth of the stroma, whilst it is to the lymphocytes in all probability that the arrest of casual infections is in normal conditions to be attributed. It is to such secondary infections most likely that the variability in the clinical course of cases of Hodgkin's disease and the intermittent pyrexial attacks which they often exhibit are due, whilst at the same time they are usually the immediately determining cause of the fatal issue of the disease.

Hitherto, it must be admitted, all attempts to trace the presence of any one infective agent have been baffled. Various organisms, pyogenic and other, have been isolated from the glands by different observers, but the claims of none to be regarded as the cause of the disease are supported by any overwhelming mass of evidence. It is possible, of course, that Hodgkin's disease is not really a definite pathological entity but represents merely the reaction of adenoid tissue to any mild chronic irritant present in the circulation of which the tubercle bacillus, possibly in an attenuated form, is merely one. But this, I need hardly say, is not a position in which pathological investigation can be content to rest, and towards identifying the true nature of the infective agent, if such there be, the efforts of future investigators must be directed. Meanwhile the term "Hodgkin's disease" must remain a purely clinical one, comprehending a group of cases which present certain symptoms and signs in common irrespective of the exact pathogenic agent at work in any given case. In future, however, if clinical and pathological observations are to advance hand in hand in unravelling this group of cases and in subdividing it into smaller groups in accordance with their causation more attention than hitherto must be bestowed on some points of clinical investigation. In particular we need more accurate descriptions of the condition of the blood in future cases and more frequent recourse should be had to the tuberculin test.

I have not so far discussed the question whether or not Hodgkin's disease is associated with any characteristic "blood picture." It has been customary to say that it is characterised by some degree of general anæmia—at all events in the later stages—but without any increase in the white cells. This, however, is not sufficient; we want more accurate information as to the relative proportions in which the different varieties of leucocytes are met with in cases of this group. In recent years a certain amount of attention has been devoted to this point and a considerable number of observations have accumulated but not yet sufficient to permit of any general statement being made. One set of writers, of whom Pinkus may be taken as the chief representative, maintain that Hodgkin's disease is characterised by a relative increase of the lymphocytes but others of equally high authority deny that this is the case, at all events invariably. Of seven cases described by Miss Reed[27] there was a relative and absolute increase of the small mononuclear leucocytes in two only, whilst in two other cases these cells were notably few in number; otherwise the blood counts were normal. And of ten undoubted cases (occurring at different ages) of which I have notes there was a polynuclear leucocytosis in two; in one both polynuclear and mononuclear forms were somewhat increased; in five the polynuclears were diminished—that is to say, the lymphocytosis was relative only; and in two alone was there a slight absolute lymphocytosis.

What we want to know is whether the occurrence of a polynuclear leucocytosis is only observed in those cases in which there has been a secondary infection, say with the tubercle bacillus. I am bound to confess that there was no sign of this, to ordinary naked-eye examination at least, in the two cases of my series in which the polynuclear cells were in excess but we want more information on the point. May such cases, perhaps, represent a special variety of the disease and be associated with a special infective agent? or does the relative numbers of the different cells present vary with the stage of the disease? Further, what is the relation of the blood picture to the size of the spleen? I have a general impression that there is a tendency for chronic enlargement of the spleen from any cause to be associated with a relative excess of lymphocytes in the blood, and if so is it only in those cases of Hodgkin's disease in which the spleen is markedly enlarged that such an occurrence is to be observed? To all of these questions no reply can be given until we are in possession of a sufficient number of cases which have been not only accurately observed during life but thoroughly examined after death. As regards the post-mortem examination of such cases I would urge the necessity of a microscopical examination of the bone marrow in every instance. In the whole literature of the subject there is, I regret to say, not a single paper with which I am acquainted which gives a description of the state of the histological changes in the bone marrow, if any, in this disease.

The other way in which future clinical observation might be made of greater service to pathology would be, as I have said, by making more frequent use of the tuberculin test. I am aware that here also we are exposed to the danger of fallacious conclusions. A positive reaction to tuberculin does not necessarily show, any more than the finding of tubercle bacilli in the affected glands, that the process has been to start with a tuberculous one, nor does the absence of such a reaction conclusively negative the possibility of tuberculosis being present. I cannot help thinking, however, that if such tests were made earlier and oftener the results would prove to be of great value. The worth of such observations would be greatly increased if at the same time a gland was excised early in the course of the disease for careful microscopical examination and, if necessary, for inoculation experiments. The ease with which local anæsthesia can now be induced has rendered the trivial operation which this would necessitate practically devoid of inconvenience to the patient and I now make it a rule to employ it in every case where no objection is raised. Were such observations made in a sufficient number of cases and early in the course of the disease we should soon be in a position to say definitely whether or not Hodgkin's disease is ever really tuberculous from the outset. I feel convinced that it is on such lines as these that our observations must be conducted in future if the clinician is to take his proper share in helping to elucidate the difficult problems of glandular disease.

As regards any light which may be thrown upon the nature of Hodgkin's disease by its incidence in childhood there is only this to be observed, that its period of maximum frequency certainly does not coincide with that of tuberculosis. Hodgkin's disease is, it is true, essentially an affection of early life. Of 43 cases recorded by Mitchell Clarke[28] ten were below the age of 10 years and 33 were below 40 years, and of 17 cases which were admitted to the London Hospital within the last two years two were below the age of 10 years and seven were below the age of 20 years. The disease, however, is certainly not one of infancy and whereas tuberculosis attains its maximum incidence in childhood about the second year, Hodgkin's disease is decidedly rare below the age of five years. I do not wish to attach undue importance to this point. We know too little of the factors which determine the age-incidence of disease to justify us in drawing any wide conclusions from such statistical observations alone, but at the same time any fact in the natural history of such an obscure affection as this is worthy of note. I have dealt rather fully with this matter and have gone, perhaps, somewhat beyond the legitimate scope of these lectures in thus discussing questions of general pathology, but it is only by taking a wide view of the problem that the best methods of solving it can be adequately presented.

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[22] Zeitschrift für Heilkunde, 1898, Band xix., p 21.

[23] See papers by Schur (Wiener Klinische Wochenschrift, 1903, No. 5); Hutschmann and Stross (Deutsche Medicinische Wochenschrift, 1893, No. 21).

[24] Loc cit.

[25] Loc. cit.

[26] The Journal of Medical Research, New Series, vol. iv., June, 1903.

[27] Op. cit.

LYMPHOSARCOMA.

The following case may be taken as a type of malignant disease affecting adenoid tissue.

The patient, a boy, aged nine years, had been in bad health since an
attack of enteric fever six y[illegible]
be suffering from anæmia [illegible]
tion that the glands in the [illegible]
were to be discovered. [illegible]
number and stained badly, [illegible]
and some pear-shaped fo[illegible]
covered. The white cell[illegible]
and the different varieti[illegible]
relative proportions. At fi[illegible]
one of pernicious anæmia. [illegible]
appeared in the skull and i[illegible]

[illegible]

[illegible] peritoneal glands were
involved in a mass of growth which enveloped the spinal column.
The splee[illegible]
healthy. [illegible]
plexus wa[illegible]
down at p[illegible]
the skull [illegible]
variable s[illegible]
the end o[illegible]
deep purpl[illegible]
sinus was [illegible]
externally [illegible]
orbit. Th[illegible]

[illegible]

Such a case as this presents many points of interest. In the first place, I think, it must be regarded as an example of the soft form of lymphosarcoma, meaning by that a growth which begins in adenoid tissue, invades locally, spreads by the lymphatics but not usually (? ever) by the blood, very rarely forms true metastases and does not exhibit any tendency to degenerative changes (Kundrat[29]). The starting point in this case appears to have been in the retroperitoneal glands and the question arises, Were the growths in the bone examples of true metastases or were they due to a similar sarcomatous process starting in the adenoid cells contained in the bone marrow? The case resembles in many respects those of multiple secondary carcinoma of bone described by Frese[30] and others, particularly in the marked anæmia by which it was accompanied and which was of so profound a degree as to suggest at first a diagnosis of *pernicious anæmia* This no doubt was due to an extensive replacement of blood-forming tissue by new growth. The presence of a marked lymphocytosis is also of great interest. A similar occurrence was noted by Strauss[31]
[illegible] e closely resembled that
[illegible] ed multiple sarcomata of
[illegible] showed a leucocytosis of
57,600 per cubic millimetre, mainly mononuclear in type. The occurrence of some degree of lymphocytosis in cases of sarcoma seems to be not uncommon and would probably be found to occur more frequently if it were carefully looked for. Von Limbeck,[32] for instance, gives a table of cases of sarcoma in which such an occurrence has been observed, notably one of lymphosarcoma in which the white cells rose to 55,000 per cubic millimetre. The increase, he says, "is not wholly one due to the polynuclears but partly also to the mononuclears." It is in cases in which the bones are extensively involved, however, and in which the cells of the growth have direct access to the blood that one would most expect to meet with a lymphocytosis and such cases, if any, merit the designation "sarcomatosis of the blood." Mere periosteal growths, however extensive, do not appear to produce this effect. I have seen, for instance, three remarkable cases of sarcoma in the neighbourhood of the [illegible] attended by extensive periost[illegible] ch clinically closely resembled [illegible] t in none of these was there any increase in the lymphocytes of the blood and after death the bones were found not to have been invaded. The diagnostic value of lymphocytosis will be referred to immediately.

RELATIONS OF THESE PROCESSES.

I have described multiple tuberculous adenitis, Hodgkin's disease, and lymphosarcoma as types of three pathological processes affecting adenoid tissue in a primary and widespread fashion and the further question now arises are these entirely distinct or do intermediate or mixed pathological types occur? As regards the question of tuberculous adenitis and Hodgkin's disease I have already expressed the opinion that these are entirely distinct and separate and that each of them is characterised by its own peculiar morbid histology. It has also been indicated, however, that glands which have been primarily affected by Hodgkin's disease may become secondarily the seat of tuberculosis and that it is to such secondary or terminal infections that much of the confusion which has hitherto prevailed regarding the identity of Hodgkin's disease is to be attributed. It was also pointed out when discussing the nature of the latter disease that it was possible that it might sometimes be produced by a peculiar and possibly attenuated tuberculous infection, though of this no convincing proof has yet been brought forward. On the other hand, between Hodgkin's disease and lymphosarcoma there is, I believe, no relationship. The morbid histology of the former is quite distinct from that of even the more fibrous forms of lymphosarcoma such as are met with in the mediastinum. Lymphosarcoma is often, though not always, attended by an absolute lymphocytosis which may reach quite a high degree, whereas the lymphocytosis of Hodgkin's disease, though also inconstant, is at best merely relative and due not so much to an absolute increase of lymphocytes as to an absolute reduction in the number of the polynuclear forms. To class Hodgkin's disease and lymphosarcoma together under the title of "lymphomatosis," as some German writers propose to do,[33] seems to me, therefore, reactionary and calculated to retard our real knowledge of each disease and is to be attributed mainly to a failure to recognise the characteristic morbid histology of Hodgkin's disease which has been established by the labours of English and American workers.

When we turn to consider a possible relationship between the diseases just described and the leukæmias dealt with in the last lecture we are on more uncertain ground. In discussing the use of the term "pseudo leukæmia" as a substitute for "Hodgkin's disease" I had occasion to point out what confusion it had caused. This confusion is largely due to the fact that such a term as pseudoleukæmia suggests a relationship of Hodgkin's disease to leukæmia which has no foundation in fact. In this connexion much misapprehension has been brought about, in my judgment, by the exaggerated importance ascribed by some writers, notably by Pinkus, to the supposed lymphocytosis of Hodgkin's disease. Now lymphocytosis, whether absolute or relative, is, as we have seen, by no means a constant phenomenon in Hodgkin's disease. That cases of true lymphatic leukæmia do occur in which, at one stage of the process at least, there is no *absolute* increase of the total leucocytes must be admitted but in such cases there is notwithstanding a marked absolute increase of lymphocytes, whilst the normal total count is due to a great reduction of the polynuclear forms. The supposed analogy between the blood pictures of the two diseases is therefore fallacious. In addition to this the morbid histology of the two processes is totally distinct, lymphatic leukæmia being a disease which affects only the parenchyma of the glands and adenoid tissue generally, whereas in Hodgkin's disease it is the supporting tissue which is mainly involved. Further, I have met with no case in my own experience either in the child (in whom, as we have seen, lymphatic leukæmia is relatively rather frequent) or in the adult, in which leukæmia appeared to pass into Hodgkin's disease or *vice versâ*, nor have I found any record of such a case in my reading. I think we may safely conclude, therefore, that between Hodgkin's disease and leukæmia there is no relation and that the two diseases belong to totally different orders of pathological processes. I may appear, perhaps, to have laboured this conclusion overmuch, for I doubt not that in this country at least few would be found to demur to it, but one feels bound to protest against the attempts which are being made on the continent to bring so-called pseudo-leukæmia and lymphatic leukæmia together and to look upon them as differing in degree only and not also in kind.

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[28] Discussion on Lymphadenoma, British Medical Association Meeting, September, 1901.

[29] Ueber Lymphosarkomatosis, Wiener Klinische Wochenschrift, 1893, Nos. 12 and 13.

[30] Deutsches Archiv für Klinische Medicin, 1900, Band lxviii., p. 387.

[31] Sarcomatose und Lymphatische Leukämie, Charité Annalen, 1898, Band xxiii., p. 333.

[32] Pathologie des Blutes (New Sydenham Society's Transactions, p. 236).

[33] See Türk, Pseudoleukämie und Lymphosarkomatose, Wiener Klinische Wochenschrift, 1899, No. 4.

Between lymphatic leukæmia and lymphosarcoma, on the other hand, the possibility of a certain relationship is not so easily to be dismissed. Lymphosarcoma certainly possesses several points of resemblance to the more chronic forms of lymphatic leukæmia. In both we have to do with an overgrowth of the parenchymatous elements of the adenoid tissue, the difference being that in one case (leukæmia) the overgrowth is restricted to the organ primarily involved, whereas in the other (lymphosarcoma) it breaks through into surrounding tissues. The blood picture of the two diseases may also present very similar features. In both there is a profound general anæmia with an absolute increase of lymphocytes which is constant and of high degree in leukæmia, less constant but often very marked in lymphosarcoma. It is probable, however, that the lymphocytosis never reaches the same degree in lymphosarcoma as it does in typical lymphatic leukæmia unless, or indeed even when, the sarcomatous process has started in, and extensively involves, the bone marrow, though on this point we want further information, whilst the locally invasive character of lymphosarcoma marks it off quite definitely from any true lymphatic leukæmia.

One finds a connecting link between the two processes, however, in the disease termed "chloroma." This we may define with Günbel[34] as consisting of multiple green lymphomata localised chiefly in the periosteum and neighbourhood of the bones, especially of the head, and the loose connective tissue along the spinal column, accompanied by hyperplasia of the whole lymphatic apparatus, by lymphoid transformation of the bone marrow, and by a blood picture similar to that of lymphatic leukæmia. In its seat of election this disease presents a close resemblance to such a case of lymphosarcoma as that described above, though with less tendency to local invasion, for the lymphomatous growths of chloroma tend merely to "soak," as it were, along the lines of least resistance, such as the subcutaneous and subperiosteal tissues, rather than actively to invade neighbouring organs, whilst in its affection of the marrow and in the blood picture of which that is merely the reflection it presents a closer resemblance to lymphatic leukæmia. The latter resemblance is rendered still more close by the fact that cases of apparently pure lymphatic leukæmia are occasionally met with in which the enlarged glands exhibit the greenish colour usually regarded as characteristic of chloroma. Of this a well-marked example recently occurred in the London Hospital and others have been recorded by Byrom Bramwell[35] and Lindsay Steven.[36] We have thus, it would seem, in lymphosarcoma, in chloroma, and in lymphatic leukæmia three closely allied processes exhibiting a descending scale of malignancy but presenting many features in common and in the case of chloroma and lymphatic leukæmia at all events possibly tending to pass into each other. Of these lymphatic leukæmia is often met with in infancy, chloroma is more characteristic of childhood and adolescence, whilst lymphosarcoma tends to occur rather in the later periods of life.

I have now passed in review the most outstanding of the disorders which affect the blood and blood forming organs in early life and it may be well for us to cast a glance back over the ground which we have traversed and to survey it for a moment as a whole. It will have been observed that the blood disorders of early life differ from those of more mature years mainly in exhibiting less definition of type. Such comparatively clear-cut disorders as pernicious anæmia, chlorosis, and myelogenous leukæmia—disorders, in a word, of the bone marrow—occur rarely, if at all, in infancy and early childhood, whilst several secondary anæmias and infective leukæmic and sarcomatous processes affecting adenoid tissue are relatively common. Peculiar to infancy is one type of anæmia only—namely, that which I have spoken of as anæmia splenica infantum, a variety which is in close relationship in its slighter degrees to the secondary anæmias, whilst in its severer manifestations it approximates to the type of the leukæmias. This affection, indeed, epitomises in itself all the peculiarities of the anæmias of infancy, exhibiting on the one hand the marked destruction of red cells with the ready appearance of nucleated forms which characterises the severer secondary anæmias of this age, whilst on the other it shows by the tendency for the non-granular cells in the blood to be increased that reaction of the adenoid tissue to unfavourable influences which is a striking peculiarity of childhood. The ease with which secondary anæmia develops in early life we have seen to be due in part to great vulnerability of the blood cells and in part to the poverty in hæmoglobin which seems to be natural to this period of life, whilst the special character of that anæmia—namely, the readiness with which normoblasts appear in the blood stream—may perhaps be ascribed to the restricted area of the red cell forming tissue possessed by the infant. It must be remembered, also, that to many influences specially destructive of blood or inimical to its formation the period of infancy is peculiarly exposed. Amongst such influences are defective diet—in particular a diet deficient in proteids and in iron—chronic gastro-intestinal disorders, the syphilitic cachexia, and various infective processes with their resulting poisons. The tendency for the adenoid tissue to react in all the severe anæmias in infancy, with the consequent appearance of an excess of leucocytes in the blood stream, I have tried to correlate with the extensive development of that tissue in the first two or three years of life and with the active functions which it appears to discharge. The nature of these functions were briefly discussed, it will be remembered, and the suggestion was made that the activity of the adenoid tissue may be related to the processes of nutrition and growth. This very activity and extent of the adenoid tissue, moreover, seem to render it specially obnoxious to infective, leukæmic and malignant processes, whence the frequency of Hodgkin's disease, lymphatic leukæmia, chloroma, and lymphosarcoma in the earlier years.

At various points throughout these lectures I have had occasion to comment upon the absence of sharp differentiation between the different types of anæmia in early life. It was shown that the splenic anæmia of infancy tends to fade off at the lower end of the scale into the severer forms of secondary anæmia and at the upper into the leukæmias. It was pointed out, too, that forms of anæmia occur in early life which partake of the characters both of the lymphatic and of the myelogenous type, whilst between lymphatic leukæmia, chloroma, and lymphosarcoma fixed boundaries can hardly be drawn. This indefiniteness of type, it has been suggested, may be merely the reflection of an equal want of definition in the function of the various blood-forming organs in early life and of an incomplete division of labour amongst them. At all events, it may well be that, even although the differentiation of function on the part of the blood-forming organs in infancy is fairly complete in health, yet under adverse conditions a reversion may take place more easily than in the adult to the primitive conditions which obtain in the fœtus. In these circumstances the territorial distinctions tend to be lost, the mother-cells of the bone marrow (myelogonia) no longer producing merely myelocytes and those of the adenoid tissue (lymphogonia) lymphocytes, but both myelogonia and lymphogonia combining to produce that species of cell the demand for which in the blood stream is greatest at the moment. It is in this direction, I believe, that further study of the blood disorders of early life is likely to lead to results which will materially modify our conceptions as to the processes of blood formation in general.

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[34] Ueber das Chlorom und seine Beziehungen zur Leukämie, Virchow's Archiv, 1903, Band 171, p. 534.

[35] Notes of a Case of Chloroma and of Three Cases of Lymphatic Leukæmia, Scottish Medical and Surgical Journal, March, 1902.

[36] Glasgow Medical Journal, July, 1903.

In conclusion, I would say that no one here can feel more acutely than myself the many shortcomings of these lectures and how unworthy they are of this audience and this place. I have tried to deal with a subject of great difficulty and often of great obscurity and in looking back I fear that I have been able to illuminate it but little I shall not have wholly failed, however, if I have succeeded in bringing into clearer prominence the peculiar nature of the problems presented by a study of the blood disorders of early life and in suggesting lines of fruitful work for future investigators. In any case I can only hope that the kindness which called me to this position, for which I wish to return my sincere thanks, will be equal also to the task of overlooking the poverty of my efforts to fulfil its obligations.

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the rupture had reappeared when he was brought to the hospital. At the operation the sac contained a very little fluid. About six inches of small intestine had been suddenly expelled from the abdomen, the amount expelled causing immediate and tight strangulation of the loop. The intestine was full of blood, showing that the occlusion of the vessels had not been complete at once. The blood within the bowel had absorbed all the intestinal gases. Owing to the distension of the coil of gut it had twisted on itself, completely occluding everything. The gut itself was thin, sticky, and inelastic; not œdematous, doughy, or offensive. The vessels in its mesentery were thrombosed. About a foot of gut was removed, the resection being most free above the obstruction. An end-to-end anastomosis was made with two layers of continuous silk stitches. The testis was underneath the gut and had a half twist on its spermatic cord. The gland was excised. A radical cure was performed with fine salmon gut. On the second day an enema yielded a good result of flatus and on the fourth day another enema gave a large fæcal result. Feeding by mouth was begun on the fourth day. Healing per primam ensued.[3]

When once this necrotic, necrobiotic, or necrogenous process gets a good start it may extend, especially up the bowel in the part above the constriction. I have already mentioned and illustrated this tendency to extend in the St. Thomas's Hospital Reports, 1900. It is not easy to find records of cases in which gangrene has occurred after resection, as in hospital reports they escape notice and surgeons do not publish them themselves. Nevertheless, Mr. Hewston has recorded one in a woman, 65 years of age, for whom he resected the small gut in a right femoral hernia which had been strangulated four days. The resection had been to all appearance free. But post mortem the bowel was gangrenous for an inch above the line of suturing. There is no record of a case in which the gangrene spread downwards to any extent sufficient to cause any trouble in treatment. It is important that the surgeon should bear in mind this pathological point. Professor Kocher of Berne some years ago pointed out that it is not the amount of gut resected which kills the patient. It might almost be added that it is usually the insufficient resection of the gut which causes the fatal result, an anastomosis having been performed on tissues which were teeming with organisms. Mr. A. E. Barker[4] strongly advocates a wide resection. Mr. Makins in the Transactions of the Clinical Society for 1903 has advocated rather extensive involution of doubtful bowel wall in these cases. And later it has been emphasised by Dr. Crampe[5] of the Königsberg Klinik. This is a most suitable and successful measure in appropriate cases, as both have shown. But its applicability diminishes as the action of micro-organisms over the results of interference with the blood-supply increases. Therefore it will be inapplicable in cases in which gangrene has occurred within a few hours of, or shortly after, the onset of strangulation, whilst it will be most suitable in patchy gangrene about the site of the constriction of the gut and not in œdematous parts of the loop. It is a measure far more applicable to doubtful pieces of gut, as Dr. Crampe has urged, rather than those in which gangrene has already declared itself.

MECKEL'S DIVERTICULUM.

In the foregoing sections of this lecture it has been pointed out that the appendix forms the terminal portion of our great natural intestinal "backwater," the cæcum. Any diverticulum of the intestine forms a cul-de-sac and a somewhat similar backwater. The most constant diverticulum of the human intestine is that described by Meckel which represents the proximal part of the duct connecting the intestine and the yolk sac of the fœtus. This little process arises from the ileum about 30 inches from the ileo-cæcal valve and is present in 2 per cent. of subjects. It differs from the appendix in several most important features which naturally cause the differences in the pathologies of the two tubes. For instance, Meckel's diverticulum is not situated at a place utilised by the products of digestion as a "rest," as the appendix is at the cæcum; its lumen is almost invariably as large as that of the intestine from which it springs, and it is, as a result, well flushed out by the flow of the intestinal fluids caused by the peristalsis of the ileum as well as by its own contractions. There is therefore no stasis of the fæcal contents within the diverticulum nor the opportunity for organisms to luxuriate within it to the same extent as is the case with the appendix. Therefore it is not to be expected that the former will suffer from as many, or perhaps as acute, inflammations as does the latter. These analogies and homologies interested me so thoroughly that an attempt was made to ascertain all the cases in which this blind process of bowel was diseased. The results have repaid the labour and as they have never been collected previously they are briefly reproduced. In all, I have extracted from hospital reports and literature over 300 cases which are arranged in a table (Table IV.).

TABLE IV.—*Diseases of Meckel's Diverticulum.*

Cystic formation, retention cysts	7 cases.
Tuberculous disease...	3 ,,
Typhoid ulceration	4 ,,
Chronic inflammation (diverticulitis)	3 ,,
Acute inflammation (diverticulitis)	3 ,,
Ditto, with necrosis or gangrene	11 ,,
Ditto, with perforation	16 ,,
Ditto, with local abscess	3 ,,
Torsion of the diverticulum...	5 ,,
Fistula at the umbilicus	20 ,,
Prolapse at the umbilicus	15 ,,
Intussusception	23 ,,
Foreign bodies in the diverticulum	11 ,,
Diverticulum ruptured by a kick	2 ,,
Intestinal obstruction caused by the diverticulum (other than intussusception) ...	166 ,,
Ditto and volvulus (?)	3 ,,
Ditto and perforation	6 ,,
Volvulus (?)...	1 case.
Papillomata	12 cases.
Carcinoma	1 case.
Total	315 cases.

The above list, although it gives all the records that could be found, has the disadvantage of minimising the frequency of the more common affections and magnifying that of those of rarer occurrence. By means of reducing the above catalogue to shorter proportions and giving percentages instead of absolute figures a better idea of the relative importance of the various factors may be gained (see Table V.).

TABLE V.—*Diseases of Meckel's Diverticulum.*

Intestinal obstruction other than by intussusception	56 per cent.
Inflammation, or diverticulitis (American) ...	13 ,,
Fistula, prolapse at the umbilicus	11 ,,
Intussusceptions	7 ,,
The rest	13 ,,

In the case of this diverticulum the cases described as due to inflammation or diverticulitis (American) bear to those in which the process caused intestinal obstruction other than by invagination the proportion of 1 to 4. In the case of the appendix inflammation is exceedingly common, whilst it is rare for that organ to form a band and to cause obstruction. This great difference is due to the previously mentioned factors which have led to the comparative infrequency of inflammation in the diverticulum and its situation amongst the coils of small intestine which it can easily ensnare and obstruct. But the difference in the relative frequency or infrequency of inflammatory processes in the appendix and the diverticulum is more apparent than real, as the following problem will show, and at the same time teach us to recognise a new and, when the diverticulum is present, a very common disease. For practical purposes the intestinal obstruction caused by Meckel's diverticulum may be regarded as due to the ensnaring of a loop of bowel beneath the process which is adherent by its tip. The regions in which the adhesions have been described are given in Table VI.

TABLE VI.—*Adhesions of Meckel's Diverticulum.*

To the umbilicus	23 cases.
,, ,, anterior abdominal wall	7 ,,
,, ,, posterior ,, ,, ...	,,
,, ,, mesentery	40 ,,
,, ,, omentum	5 ,,
,, ,, small bowel	7 ,,
,, ,, bladder	1 case.
,, ,, femoral canal	1 ,,
,, ,, pelvis	2 cases.
Total	90

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[3] This case was read to the South Hants branch of the British Medical Association at Winchester, 1902, under the presidency of Mr. David Browne.

[4] The Lancet, June 6th, 1903, p. 1576.

[5] Beiträge zur Klinischen Chirurgie, Band xxxviii., Heft 3, 1903.

The diverticulum is recorded as being without adhesions in 39 cases but doubtless this condition is not mentioned as often as the presence of the adhesions is because the latter are so frequently the source of trouble, so attracting attention. The question may be well asked, What are the causes of these adhesions? In the first place they may be divided into two kinds, those due to errors of development and those due to inflammation. In the former the process may open at the umbilicus, be connected with it by a cord containing merely the remains of the vitelline vessels, or again, as my friend Dr. S. G. Scott of Leeds has told me, the connexion with the anterior abdominal wall may contain the remains of the same structures. The latter class of case may be due to an error of development, inflammation, or both. But for my purpose they will be considered as being of developmental origin in order that the error, if any, be made on the safe side for my purpose—i.e., of finding too many developmental fixations. The second class of cases arise from inflammatory causes, such as the adhesions to the mesentery, omentum, small bowel, &c. The inflammation or diverticulitis is due to the causes inherent to an intestinal "backwater," as exemplified in an acute degree in the diseases of the appendix, and in a subacute degree those of Meckel's diverticulum. Placing these two classes side by side it is seen that developmental adhesions formed in 30 cases, or 33 per cent.; and pathological adhesions formed in 61 cases, or 67 per cent. The figures emphasise the frequency of what may be called a chronic or subacute diverticulitis—a disease hitherto unrecognised yet far-reaching in its consequences.

Many are the points of interest connected with the pathology of this diverticulum, but there is not time nor, indeed, is this the proper place to enter upon such a dissertation. To return then to the subject of these lectures, acute infective necrosis, 30 cases of perforation and sloughing of the diverticulum have been recorded. As is the case with the appendix the perforations usually occur at the tip—i.e., at the part least completely evacuated. Though in the case of the diverticulum it frequently has a direct blood-supply. These cases are always diagnosed clinically as appendicitis. No primary vascular lesions have been described. The perforations found in Meckel's diverticulum, which have been recorded, exhibit one very marked difference from those found in the appendix—namely, their multiplicity. Mr. Makins described a case[6] with numerous small perforating ulcers of the diverticulum. In the appendix it is very rare that more than one has been seen; in the stomach and duodenum two have been described, very rarely more. It is not easy to explain this peculiarity on the part of Meckel's process.

In the appendix the infection is gross on account of the host of organisms present and the inability of the tube to contract efficiently and to relieve itself of them. In the case of the diverticulum there are probably not the number of organisms present, and, again, this tube can evacuate itself. It would seem that in the appendix the organisms are in the lumen of the tube and in the diverticulum they are imprisoned in the glands, otherwise they would be washed away. Hence in the former the gangrene or necrosis is gross and in the latter it occurs in small, numerous punctate patches. A similar explanation may account for the pinhole perforations occasionally seen in the stomach, duodenum, &c.

Five cases of torsion of Meckel's diverticulum have been recorded, the most extensive gangrene having occurred within 24 hours of the onset of symptoms, whilst the cases have been clinically of the most fulminating type. In the most severe instances there may have been both interference with the blood-supply and the action of virulent micro-organisms. Mr. T. Carwardine[7] has recorded a unique and interesting case which is reproduced shortly.

Case of torsion of Meckel's diverticulum leading to the formation of a retention cyst in a fœtus.—Mr. Carwardine operated upon a male child, two days old, for intestinal obstruction. He found a large meconium containing cyst of Meckel's diverticulum separated from the ileum by three complete twists which had also obstructed the latter. The torsion must have begun in fœtal life and it was unaccompanied by any signs of inflammation or necrosis in the cyst.

This case is unique as it stands but it possesses additional interest from the point of view of acute infective necrosis or gangrene. Before birth the meconium is sterile and consequently Mr. Carwardine's case becomes an exceedingly rare example of an aseptic torsion of the bowel. Hence the absence of gangrene and signs of inflammation. To form a contrast with this very rare aseptic and, in a local sense, pathologically mild condition, examples are given of two of my own cases in which there was acute infective necrosis of both the diverticulum and the loop of ensnared bowel in intestinal obstruction. The possibility of the occurrence of this double gangrene in the most common form of clinical manifestation caused by this process—namely, intestinal obstruction, which was present in 56 per cent. of all cases—emphasises the importance of the lesions illustrated.

Case of intestinal obstruction by an adherent Meckel's diverticulum; acute infective necrosis or gangrene of the diverticulum and of the ensnared intestine; death.—A male, aged 32 years, was admitted on July 28th, 1901, into St. Thomas's Hospital with the history of three days' acute intestinal obstruction. The abdomen was opened and the obstruction was found to be caused by a diverticulum of the ileum about four inches along and adherent by its tip to the mesentery of the small bowel. Underneath this band a coil of small gut was strangulated and also had twisted on itself, so completing the obstruction. The diverticulum itself was sloughing and was removed, the bowel was tapped and sutured, followed by lavage, &c. A day later the lower segment of the wound was reopened and the ensnared coil was found to have become gangrenous. It was pulled out of the abdomen and Paul's tubes were inserted. Death followed in a few hours.

Case of intestinal obstruction by Meckel's diverticulum; infective necrosis of the diverticulum; post-operative mesenterial thrombosis and necrosis of the strangulated loop; peritonitis; death.—A boy, aged ten years, was sent to St. Thomas's Hospital on Feb. 3rd, 1904, with signs of peritonitis and intestinal obstruction of four days' duration. At the operation the cause of the obstruction was found to be that a coil of small bowel had become ensnared beneath an adherent diverticulum and twisting on itself. The adhesion was to the mesentery of the small bowel. The peritonitis was found to have arisen in part from a perforation of the small bowel at the site of constriction. The diverticulum was constricted over the ensnared loop and its tip was converted into a nearly free gangrenous cyst. The process was removed and the perforation was sutured. The boy died 48 hours later from peritonitis. At the post mortem examination it was found that the vessels in the mesentery of the ensnared loop had become thrombosed; they were not so at the operation, as this point was especially looked for in view of the post-operative necrosis in the previous case. The thrombosis had spread to the vessels in the mesentery of the ileum below the diverticulum. As a consequence the necrosis in the loop which had been strangulated had extended downward nearly as far as the cæcum. About four feet of bowel were gangrenous at the post-mortem examination.

This case illustrates the post-operative thrombosis of the mesenterial vessels, which was most probably of bacterial origin, the consequent necrosis of the coil which had been ensnared, and the extension of the necrosis downward in the gut with the thrombosis. The gangrenous cyst, half an inch in diameter, at the tip of the diverticulum would very shortly have become separated, and in so doing would in all probability have freed the adherent constricting band and relieved the mechanical obstruction. The case might then have been regarded as a primary necrotic inflammation of the diverticulum. It is almost tempting to suggest that some of the reported cases may have been of such an origin. The idea does not seem to have suggested itself to authors who have written on this subject.

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[6] Transactions of the Pathological Society of London, vol. xliv., p. 90.

[7] Brit. Med. Jour., 1897, vol. ii. .1637.

SOME EXPERIENCES IN THE SURGICAL TREATMENT OF SUPPURATIVE LESIONS OF THE NASAL ACCESSORY SINUSES.

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DURING recent years it has become a well-established fact that a discharge from one of the nasal accessory cavities not only produces well-marked local changes productive of certain definite and troublesome symptoms referable to the diseased areas, but also that the same discharges exercise an evil influence upon the general health and well-being of the patient. These remoter symptoms have been supposed to be due to absorption of septic products which have been swallowed into the stomach and to such causes have been ascribed by Dr. William Hunter certain forms of septic gastritis and some of the graver forms of anæmia. The effect of such absorption upon the higher nerve centres is also well known to those who have to deal with the type of case to which I am about to refer and it reveals itself in a variety of ways. Such statements as "my brain seems in a fog," "constant feeling of weight in the head," "no energy," "frequent depression," and "inability to concentrate the attention," are favourite expressions by which such patients endeavour to describe their feelings. Although the local and general symptoms are well known to those who have given some detailed attention to the diseases of the upper respiratory tract, yet one has reason for believing that to the general body of the profession both the local and more remote symptoms of chronic suppurative lesions in, and around, the nasal cavities are very frequently either not recognised at all or are honoured with no greater evidence of diagnostic skill than is conveyed by that useful term "chronic nasal catarrh."

It has therefore seemed to me worth while to select a few typical cases which have recently occurred in my practice and to use them in illustrating some of the chief symptoms, the diagnostic features, and the method of treatment of some of the commoner suppurative lesions of the nasal accessory sinuses. In order to avail myself of accurate details as to the symptoms, treatment, and more especially of the result of the latter, I propose to make a selection from a series of cases which came under my private notice during last year (1903). During those 12 months there came before me 52 cases of antral suppuration (four acute and 48 chronic), 15 of combined chronic suppuration of the frontal, ethmoid, and antral sinuses, and four in which the sphenoidal sinuses were simultaneously affected with one or more of the last-mentioned group. While the exigencies of space will necessitate the omission of all except the chief points in diagnosis and the main details of treatment, it may yet be hoped that a careful study of the histories of the patients will enable the reader to recognise the nature of such cases when he meets them and thus ensure the first step in enabling him to treat them with success provided only that he has mastered those technical details which are absolutely essential for the efficient examination and treatment of diseases of the upper respiratory passages.

CASE 1. *Acute inflammation of the maxillary antrum.*—The patient, a man, aged 41 years, was seen on April 14th, 1903. He had suffered from pain in the left cheek and over the left eye for five days. The temperature ranged between 99° and 101° F. On the third day a profuse discharge of foul pus flowed from the left nostril and the pains were considerably lessened. Examination of the left nasal cavity by reflected light showed the nasal mucosa to be very congested (compared with the right side) and yellow pus could be seen in the left middle meatus. The canine fossa was tender on deep pressure. On placing a six-volt electric lamp in the patient's mouth and darkening his surroundings the cheek area below the left eye was darker than on the right side. The second left upper bicuspid was "dead." Under "gas" anæsthesia this tooth was removed, the alveolus was perforated in the position of its buccal root, and a silver wire alveolar drainage-tube was inserted. The patient syringed out the antrum twice daily with warm boric lotion for three days, then once daily for three days, next once on alternate days, and finally when irrigation brought away no pus he removed the tube entirely. No recurrence had taken place when the patient was last seen in April, 1904.

The above is a typical instance of acute suppuration of the antrum arising from septic inflammation around the root of a neighbouring tooth. The abscess had burst into the antrum. The case illustrates the rapidity with which the antral mucous membrane can recover itself if the source of septic infection be early removed. The recovery will be hastened by free drainage and irrigation with a warm, mild antiseptic lotion or even with simple normal saline solution.

CASE 2. *Chronic antral suppuration.*—The patient, a single woman, aged 29 years, was seen on May 5th, 1903. A history of 11 months' "stuffiness" in the left nostril and constant suffering from "nasal catarrh" was given. There was an occasional discharge of yellow matter from the nose which smelt like "bad drains." Neuralgia over the left eye was often noticed in the early morning but it passed off by 11 or 12 o'clock. Examination of the left nasal cavity by reflected light showed a canary-yellow discharge in the left middle meatus, the anterior end of the middle turbinal was swollen and red, and the mucosa in the middle meatal region was very œdematous. The purulent discharge was now removed with wool mops and the patient's head placed in such a position that the left cheek pointed upwards; in two minutes the discharge had reappeared in the middle nasal meatus. Transillumination by electric light (*vide* Case 1) gave the same result as in that case. To make certain that the pus came from the antrum a fine sharp-pointed cannula was introduced into the left nostril and passed backwards and outwards to pierce the inner antral wall below the attachment of the inferior turbinal bone. By affixing a syringe and injecting some warm salt water the returning fluid brought away a large quantity of foul pus. Under "gas" anæsthesia the carious second upper left bicuspid and the first molar teeth were removed and an alveolar drainage tube was inserted as in Case 1. Irrigation with a mild antiseptic lotion was ordered. Writing in April, 1904, the patient says that the headaches had disappeared and that the amount of pus had decreased and its fœtor had quite vanished, but a certain amount of purulent matter was still secreted in spite of frequent changes in the nature of the irrigating lotions.

The above is a common type of case which generally sails under the false flag of "nasal catarrh." The continuance of the discharge is almost certainly due to chronic degenerative changes in the lining mucous membrane of the antrum (*vide* Case 3) and a more radical treatment will be indicated if a complete cure be desired. In 27 of the 48 patients referred to, this method of alveolar drainage and irrigation was, or had been, adopted and patiently persevered in for periods varying in different cases from five months to ten years. After careful inquiries it was ascertained that only five had been cured so that they could dispense with their tube, while the rest had to continue the drainage although all their original symptoms were greatly relieved. Hence we may gather that a small proportion of chronic cases will be cured by alveolar drainage, that a much larger proportion will only be relieved, and that as a general rule it will (with certain exceptions) be wise to let all patients have a trial by this method which is at once simple, involves practically no interruption of business, and will greatly relieve, even if it will not cure, all symptoms.

CASE 3. *Chronic antral empyema treated by radical operation.*—The patient, a female, aged 41 years, was seen in October, 1903. For many months she had had marked obstruction to breathing through the left nostril with constant "wearing" pain over the left frontal region. The discharge of pus from the nose was profuse and "soaked the pillow" at night. She had no energy and was always feeling unwell and depressed. Examination was made in an identical manner as for Case 2 and with similar results except that in this patient the left nasal cavity and posterior choana were filled with polypi bathed in pus. The tongue was furred, the complexion was very "muddy," and altogether the patient appeared to be in low health. The second bicuspid and both molar teeth were "dead." It was obviously useless to employ simple alveolar drainage in such circumstances and hence on Oct. 15th under chloroform anæsthesia I performed the following radical operation upon the left antrum. The "dead" teeth having been removed an incision was made over the canine fossa parallel to, and just below, the junction of the cheek and gum. The soft tissues were retracted and a large opening of the size of a sixpenny piece

was made in the canine fossa. The diseased polypoid antral mucous membrane bulged through the opening and foul pus escaped The sinus was now carefully and thoroughly curetted, the free hæmorrhage being checked by strips of sterilised gauze moistened with a solution of adrenalin chloride 1 in 1000
wall of the
the nose, t
polypi in the middle nasal meatus as well as the anterior half of the middle and inferior turbinals were also removed.
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in by a rigor three weeks later the patient made a perfect recovery and is now (March, 1904) absolutely free from all her old symptoms and without a trace of pus in the nasal cavities

The last case is typical of many long standing antral suppurations and its main features of interest are. (1) the large polypi blocking the left nasal cavity, a result of ethmoidal inflammation secondary to the antral suppuration, (2) the marked improvement in the general health since the purulent focus has been removed, and (3) the complete cure of the local morbid conditions brought about by the radical operation. It was obvious that mere drainage and irrigation of the antrum would not have sufficed to effect any permanent improvement in this patient's condition To the question, What considerations should guide us in advising a radical operation upon the maxillary antrum? we may answer—1 The appearances met with in the middle meatus of the nose If in a long standing case of suppuration polypi be found in the middle meatus then it may generally be assumed that similar chronic degenerative changes are present in the antrum which only radical measures will suffice to cure I am aware that certain exceptions to this statement might be made, but it is a good working rule nevertheless 2 When the circumstances of the patient demand a rapid and complete cure of the sinus suppuration

During the past three years I have had the opportunity of performing this radical operation more than 50 times and I consider it to be one of the most satisfactory which the surgeon is called on to perform The symptoms which it aims at relieving are very troublesome ones, the operation is, in my experience, practically free from any risk except that of the anæsthetic,
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lent, and there is
least degree from
patient In the T
Great Britain for December, 1903, I have published a series of 33 consecutive cases with 30 verified cures and the three exceptions in which an imperfect result was obtained were not operated upon by the method above described and there

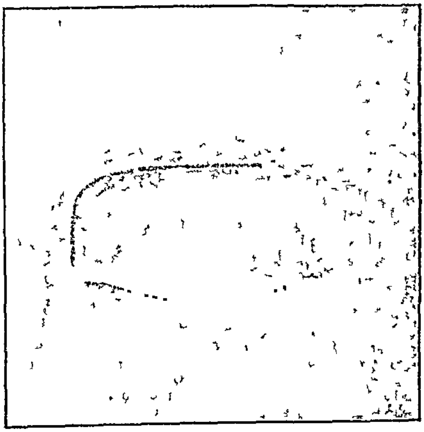
70 and 71 years respectively, who themselves selected the radical measure and recovered without a bad symptom

Beyond a temporary neuralgia I have only experienced two complications: (1) a mild epiphora which passed off within three weeks and was apparently due to some swelling of the soft parts around the lower end of the lacrymal duct, and (2) a perforation in a high roofed hard palate arising *three days after the operation and gradually enlarging to* the size of a green pea This was easily closed

CASE 4 *Suppuration of the left frontal, ethmoidal, and maxillary sinuses*—The patient, a female, aged 33 years, was seen on March 3rd, 1903 She complained that for two years she had had a constant discharge of "offensive matter" from the left nostril and that the nose was obstructed on that side. She suffered from frequent headaches over the left eyebrow and there was a constant feeling of "oppression in the forehead" "Singing in the left ear" and temporary attacks of deafness were more recent symptoms. By the tests already enumerated in Cases 2 and 3 it was ascertained that the left antrum contained pus It was noticed, however, that even when the antrum had been washed free from pus and the middle meatus had been cleaned by wool mops, yet a purulent discharge quickly reappeared in this situation It was therefore necessary to determine whether it came from the ethmoidal or frontal sinuses or (what was more probable) from both Having again cleansed the middle meatus a small wool mop was forced upwards against the lower end of the frontal sinus to prevent any discharge flowing from it, but in spite of this pus gradually reappeared in the middle meatus, a fact which indicated probable suppuration in the anterior group of ethmoidal cells—i e, those situated below the attachment of the middle turbinal bone to the lateral ethmoidal mass Having again cleansed this region the aforementioned wool mop was removed and pus immediately appeared in the meatus and its flow was increased by passing a probe upwards towards the frontal sinus. In this way the diagnosis of combined empyemata was rendered practically certain

Operation was performed on March 27th The patient having been anæsthetised the left posterior naris was plugged with a sterilised sponge in order to prevent the flow of blood into the lower air passages during the operation upon the nasal sinuses By means of suitable nasal scissors and a cold wire snare the anterior halves of the middle and inferior turbinal bones were removed and the frontal sinus was opened through an incision in the inner half of the left eyebrow, the lower internal limit of the wound being situated a quarter of an inch above the internal palpebral ligament (Fig 1) Having turned back the soft parts and periosteum a small area of the anterior sinus wall was removed with chisel and mallet Pus was discharged through the aperture and through it bulged the diseased and swollen mucous membrane The anterior sinus wall was now completely removed by suitable bone forceps (Jansen's), the diseased mucosa were carefully but completely curetted away (Fig 2), the fronto nasal canal was enlarged by means of "burrs"[1] and the anterior ethmoidal cells were also broken down by means of the latter instruments, as well as by sharp ring curettes passed up from the nostril. The bony wound was lightly packed with gauze and a rubber drainage tube was passed into the naso frontal canal to preserve its patency until the sinus cavity had later filled with granulation tissue, when the tube was removed (fourth week) The radical operation was then carried out upon the corresponding antrum exactly as in Case 3 and its contents were similar
treatment of
with gauze or
by granulatio
the rubber tube leading into the nose was also allowed to close

FIG 1



Curved line of incision for radical operation on frontal sinus

Treated in this way a frontal sinus of average size takes from four to five weeks to heal completely, but the patient can usually leave his bed on the third or fourth day after the operation The last patient (Case 4) was exhibited before the Laryngological Society of London at its meeting in March, 1904. She was perfectly cured of all her symptoms and the scar in the eyebrow was almost unnoticeable.

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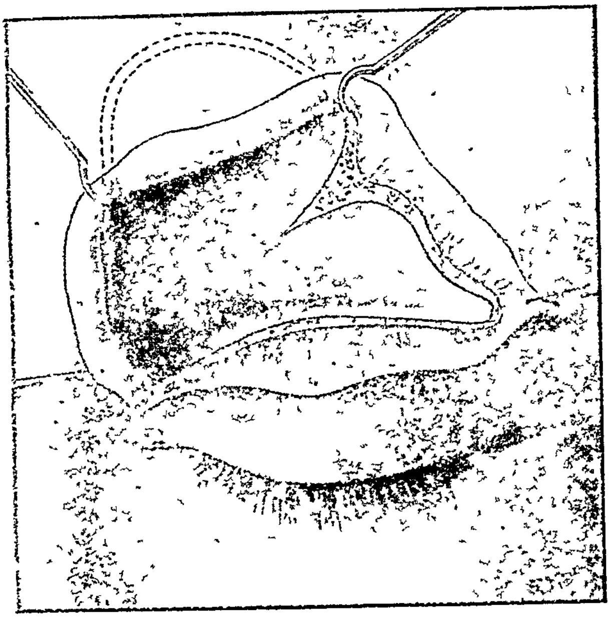
[1] Made for me by Messrs. Mayer and Meltzer

The above case is of interest in that it illustrates (1) a frequent combination of empyemata; (2) the addition of aural symptoms which disappeared when the nasal condition was remedied; and (3) the very small amount of scarring even when the sinus is totally obliterated. It may here be mentioned that the amount of disfigurement caused by the contraction of the scar of an obliterated sinus depends entirely on the depth (from before backwards) rather than on the superficial extent of the sinus.

FIG. 2.



To show cavity of sinus after complete removal of the anterior wall and of diseased mucous membrane. The dotted line indicates upward extension of the sinus, the anterior wall of which can be easily removed through the usual incision. The diagram also illustrates the incomplete (always) division of the sinus cavity by a bony septum.

CASE 5 *Chronic bilateral frontal, ethmoidal, sphenoidal, and maxillary sinus empyemata.*—The patient was a female, aged 41 years, who was seen on Oct. 15th, 1902 There was a history of fœtid purulent discharge from both nostrils for ten years, coming on immediately after an attack of enteric fever. She suffered from severe headaches with a "forcing pain" between the eyes and at the back of the head; these pains were always worse in the morning. She also suffered from occasional attacks of giddiness and a dull heavy feeling in the head which rendered her quite unfit for her work She was constantly tired and low-spirited. The examination conducted on the lines already indicated (Case 4) revealed the implication of all the sinuses in a chronic suppurative inflammation and it was obvious that only radical measures offered any hope of permanent relief. Operation was performed on Jan 9th, 1903 Both frontal sinuses were operated upon in identically the same manner as detailed in Case 4 In addition the whole lateral mass of the ethmoids and the anterior walls of the sphenoidal sinuses were removed as far as possible by means of ring curettes (Mayer's) passed up from the nostril and guided by means of the sense of touch aided by light reflected from a forehead mirror. On Feb 2nd both maxillary antra were operated upon as in Case 3 and the after-treatment was essentially the same as in Cases 3 and 4 The patient made a perfect recovery and was shown at the April (1903) meeting of the Laryngological Society of London to demonstrate (1) the very slight scarring after total obliteration of both frontal sinuses; (2) the complete absence of any pus in the nasal cavities; and (3) the curious pearly appearances presented by the posterior walls of the sphenoidal sinuses as seen through the large openings in their anterior walls.

CASE 6 *Bilateral chronic empyemata of the frontal, ethmoid, and maxillary sinuses also of the left sphenoidal sinus The maxillary sinuses were only acting as reservoirs of pus for the discharges from the other accessory cavities*—The patient was a man, aged 60 years, who was seen in October, 1901. He had suffered for seven months from severe neuralgia over the left forehead and a purulent, very foul discharge from both nostrils. He thought the latter dated from an influenzal attack two or three years previously. Examination, carried out as in Cases 3, 4, and 5, revealed conditions almost identical with that described in Case 5, except that in this patient the nasal septum was deflected so strongly to the left side that the higher regions of the nose could not be carefully examined. On Oct. 24th, 1901, alveolar drainage tubes were inserted in both maxillary antra as the patient declined any severer measures. For two years he had irrigated these sinuses with mild antiseptics twice daily and although he said that the discharge of pus was less yet he still used "50 handkerchiefs a week." On June 2nd, 1903, owing to increasing frontal headache and general ill-health, the patient consented to radical operations upon his frontal sinuses and assisted by Mr. C. J. Bond of Leicester I opened both sinuses and destroyed the ethmoidal cells in the manner already described in Case 4. Owing to the patient being very weak under the anæsthetic we were compelled to hurry over the left frontal sinus and I was unable thoroughly to clear the corresponding ethmoidal region so that a small suppurating fistula remained which we remedied by a further operation three months later.

The patient made an uninterrupted recovery from the first operation and it was decided to deal with both maxillary antra a fortnight after the frontal sinus operations. Curiously enough, however, from the day the higher sinuses were operated upon the discharge from the maxillary antra ceased. In other words, during five or six years they had been acting as reservoirs for the discharges from the higher sinuses without being generators of pus. In this respect the antra may be compared with a urinary bladder from which pus ceases to be discharged when the source of the latter—e.g., a calculous pyelitis—has been removed.

Since the above I have operated on three similar cases and such experiences emphasise the advisability in cases of combined empyemata of always dealing first with the higher sinuses rather than proceeding in the reverse direction, as advised by Moure of Bordeaux. It is not a little curious that I have recently examined the nephew of the patient (Case 6) whose sinuses are all similarly affected.

CASE 7. *Combined empyemata of all the nasal accessory cavities, chronic bilateral suppurative otorrhœa, enlarged tonsils, and adenoids.*—The patient, a female, aged 25 years, was first seen in June, 1901. A history of long-continued, very profuse purulent secretion from both nasal cavities, general ill-health, anæmia, lassitude, and depression was given. This was, indeed, a pitiable case, for I did not know where to commence and indeed the risk of operating at all with such septic conditions could not be ignored. After many delays I removed an aural polypus from the right ear together with a carious malleus and incus; also at the same operation the tonsils and adenoids were removed and alveolar drainage tubes were inserted in both maxillary antra. The patient quickly recovered and as a result of antiseptic and cleansing remedies the aural discharge ceased in about five weeks and has never given trouble since. From time to time numerous polypi were removed from the nose but the secretion of pus continued to be very profuse and the patient desired any operation which might hold out reasonable prospects of relief. That it was not a case to venture upon lightly was made patent to me by the fact that when a cannula was passed into the right frontal sinus the injected fluid returned by way of the left nostril, indicating a perforation in the sinus septum. Then again the same cannula could be passed a long way up into the sinus, indicating that that cavity was an extensive one. Consequently on many occasions I tried the injection of antiseptic lotions of varying composition, including iodoform emulsion, but all to no purpose—the discharge continued as freely as when nothing was done.

On Feb. 21st, 1903, I opened both frontal sinuses by the methods already indicated (Cases 4 5, and 6) The cavities were the largest I had ever seen and extended not only to the temporal regions but upwards for two and a half inches from the root of the nose. They were filled with chronic polypoid degenerated mucous membrane, inclosing several loculated collections of fœtid pus. The sinuses were thoroughly curetted and lightly packed and some idea of their extent may be imagined if it be borne in mind that 23 feet 4 inches of ribbon gauze, two inches in width, were inserted as a first dressing. After a long and tedious convalescence the external wounds healed and considering the enormous size of the cavities the depression is very slight, and that mainly over the left sinus. Unfortunately, time did not allow of my dealing with the sphenoidal or with all the ethmoidal cells and these still secrete some pus. I trust that some day the patient will allow me to try to make a more perfect result for her.

The chief points of interest in this remarkable case are: (1) the extensive involvement of all the sinuses; (2) the infection of the tympana which occurred 18 months after the nasal symptoms were established; (3) the destruction of the septum dividing the frontal sinuses; and (4) the large size of the frontal sinuses and the curious apparent isolation of many of the abscesses contained in the diseased mucous membrane. Undoubtedly these communicated with the nasal cavity through the fronto-nasal canal or through the ethmoidal cells.

CASE 8. *Bilateral chronic empyemata of the frontal, ethmoidal, and antral sinuses.*—The patient, aged 44 years, was seen on April 4th, 1903. He gave a history of bilateral nasal suppuration and formation of polypi of 24 years' duration. All the symptoms were aggravated by an attack of influenza four years previously. Both frontal sinuses and maxillary antra were dealt with by radical operations, an interval of a fortnight elapsing between the operations on the higher and lower cavities.

The patient made an excellent recovery but the latter was not attained without anxiety on my part because the posterior wall of the left frontal sinus underwent a superficial molecular necrosis. It first became of a dirty greenish-grey colour, then small spicules of bone separated with the dressings, but no complete perforation of the bony wall could ever be observed. Healthy granulations gradually sprang up and eventually the sinus was completely obliterated.

CASE 9. *Empyema of the left antral, ethmoidal, and sphenoidal sinuses complicated by chronic suppuration in the left lacrymal sac.*—The patient was a man, aged 60 years, who was seen in consultation on Sept. 25th, 1902. A history of chronic purulent, offensive discharge from the left nostril of ten years' duration was given. There was some more or less constant pain in a spot which corresponded with the junction of the infra-orbital margin with the ascending process of the maxillary bone. No pus exuded from the lacrymal sac on pressure although the latter caused pain. Ten years previously an alveolar drainage-tube had been inserted into the left antrum and irrigation was carried out for eight years. Two years ago the antrum was curetted on two occasions through a large opening made in the alveolus but there could still (Sept. 25th, 1902) be seen in it a quantity of fungating granulation tissue bathed in very foul-smelling pus. Owing to a marked deflection of the septum to the left in addition to a prominent "septal spur" on this side it was difficult to examine the left middle meatus, but as far as this could be done with Killian's long-bladed nasal speculum the frontal sinus seemed free from disease.

On Sept. 19th, 1903, under chloroform, the radical operation upon the left antrum was performed (*vide* Case 3) and the spur was removed from the septum. As a result of the operation it may be stated: 1. The discharge of pus greatly diminished but a small quantity could always be seen high up in the posterior ethmoidal region and it was very foul. 2. Probably some of this was forced during convalescence into the right antrum because ten days after the radical operation the patient exhibited symptoms of pus in the right antrum. These were speedily relieved by alveolar drainage and irrigation. 3. The pain below the lacrymal sac was *not* cured and during some bouts of it the left eye watered freely. 4. Further examination during convalescence showed that a small quantity of foul pus escaped from the sphenoidal sinus. I washed out this cavity many times with various antiseptics, including 4 per cent. formalin, but irrigation had little appreciable effect in reducing the amount of secretion. It was now decided that, as the amount of pus from the ethmoidal and sphenoidal cavities was so small compared with the amount secreted before the radical antral operation, that it would be advisable for the patient to go to his old home (near Vienna) for a few weeks' change and if the pain in the cheek and slight discharge did not cease that when he returned to London the question of opening up the sphenoidal and posterior ethmoidal cells should be considered. During his holiday an acute exacerbation of the inflammation in the lacrymal sac occurred and Dr. Müller (Vienna) was consulted, while Professor Hajek examined his nasal cavities. Under local anæsthesia the lacrymal sac was removed and showed evidence of long-continued irritation and inflammation. After this operation the pain already referred to disappeared and the secretion of pus quickly diminished. In December last Professor Hajek, Dr. Müller, and I met in London to discuss the advisability of further operative treatment on the accessory nasal sinuses, but as the patient's condition was so vastly improved we unanimously consented to wait a little longer. The result has been entirely good in that when last seen by me (in February, 1904) he was perfectly well in all respects and without a trace of any pus in the nose.

It is obvious that my radical operation on the antrum, while completely ridding this sinus of its share in the secretion of pus and greatly diminishing the quantity of the latter, did not get entirely to the root of the matter and I must confess to not having suspected the lacrymal sac of any coöperation in the symptoms. The sphenoidal sinus was obviously infected by the septic secretion from the lacrymal sac which seems to have passed backwards through the posterior ethmoidal cells to the spheno-ethmoidal recess, from which direction it could often be seen issuing. It is of practical interest to notice how quickly the sphenoidal sinus suppuration ceased when once the source of infection was removed and such observations should encourage us not to be too ready with active intervention until we have exhausted simpler modes of treatment and given a fair chance to the natural recuperative powers of the diseased sinuses.

GENERAL CONSIDERATIONS.

A brief study of the foregoing cases will illustrate some of the etiological factors in inflammation of the nasal accessory sinuses. For many years it has been recognised that the primary infection may arise from local or more general causes. With regard to the former, septic inflammation around the roots of dead bicuspid and molar teeth forms a very frequent cause of antral suppuration and from this situation the disease may gradually extend into the ethmoidal and frontal sinuses. In the 52 cases from which the above-recorded ones are selected, dead or carious teeth were present in each one and upon the side of the diseased sinus; no doubt in some cases this was a coincidence because only small degrees of caries were present but in a large number the dental trouble seems undoubtedly to have been the cause of the sinus suppuration. Amongst other local causes of sinus empyema may be mentioned the septic discharges arising from unhealthy conditions of the post-nasal and nasal chambers—e.g., suppurating lacunæ of old adenoid growths and decomposing secretion in certain well-marked forms of hypertrophic rhinitis. At the present moment of writing I have under treatment a case of suppuration in the sphenoidal sinus the result of tertiary syphilitic necrosis of its anterior wall.

With respect to the general etiological factors it is a well-established fact that many cases of suppuration date from an attack of one of the specific fevers and of these influenza has played a very prominent part during recent years. Case 5 is interesting in that it undoubtedly arose after a severe attack of typhoid fever.

In connexion with the chronic suppurative lesions with which we are now concerned two important questions demand an answer—viz., What is the risk to life: (1) if the disease be left to take its course? and (2) if operative procedures of a radical nature be undertaken for its relief?

1. With regard to the first question, the risk to life will depend upon the situation of the sinus relative to neighbouring structures of vital importance. In the case of the antrum, aside from the evil influence upon the general health induced by constantly swallowing septic matter, there can, practically speaking, be no danger to life. With empyemata of the frontal, ethmoidal, and sphenoidal sinuses the case is very different and many cases terminating in fatal meningitis have been recorded. So long as the drainage from the sinuses remains free the patient will only suffer from the results of the absorption of septic matter into the general system and the annoyances caused by the nasal discharge, but at any time a severe cold in the head or the increase in size of polypi or other inflammatory swellings may produce a retention of septic products within the sinus and evil possibilities may at once present themselves.

2. The risk to life when operative treatment is undertaken will in the main depend on two factors: (1) the sinus

involved; and (2) the surgeon's familiarity not only with the region in which he is working but also with the many technical details of intranasal manipulation and operation. The maxillary antrum may be operated upon and subjected to very considerable traumatism without any appreciable risk because it is far removed from any vital structures. Quite the reverse holds in the case of the higher sinuses and many fatal results have occurred as a direct result of operative interference. These "regrettable occurrences" have generally followed radical procedures upon the fronto ethmoidal sinuses and in nearly all the cases which I have been able to investigate (including two of my own) the cause of failure may be summed up in two words—viz., deficient drainage.

After having given a fair trial to the many methods which have been advocated for the treatment of chronic empyema of the fronto-ethmoidal sinuses, I am in entire accord with those who maintain that only complete obliteration or destruction of the bony cavities offers any prospect of a permanent radical cure. In the case of the frontal sinus the anterior bony wall should be entirely removed and any recesses of the sinus thrown into the main cavity by the breaking down of partition walls. Especially will this be necessary in those instances where certain suppurating ethmoidal cells extend outwards immediately below the floor of the frontal sinus and are only separated from it by a thin, almost transparent septum of bone. Furthermore, the fronto-nasal canal must be enlarged and suppurating anterior ethmoid cells in its immediate neighbourhood must be carefully broken down or reinfection of the higher sinus will occur. Having proceeded thus far the latter cavity should be lightly packed with sterilised gauze which can be changed on alternate days until the obliteration of the sinus by granulation tissue is complete. From the moment the operation is completed the motto of the surgeon must be, "Free, unhindered, spontaneous drainage," and if he secures this he need never fear that any serious harm will come to his patient.

The treatment of ethmoidal and sphenoidal suppurations will demand from the surgeon a practical familiarity with intranasal operations and technique and without having acquired these he and his patient will probably be disappointed with the result of surgical intervention. Generally speaking, operative manipulations in the ethmoidal region will be safe when they are carried out below the level of insertion of the middle turbinal bone and much excellent information may be gained as to the progress one is making by the frequent examination of the diseased area with the tip of the little finger passed upwards through the nostril. In this way the limit between soft chronically inflamed (rarefying osteitis) and firm healthy bone can often be ascertained. In most operations upon the ethmoidal (and frontal) sinuses it will be a great advantage to remove at least the anterior half of the middle turbinal bone as a preliminary procedure not only because it is often itself chronically inflamed but the absence of this structure will enable the surgeon to deal more easily with the lateral mass of cells and free drainage will be secured during the after-treatment. A dangerous area is reached when instruments are used above the level already mentioned, for here we are in close proximity to the cribriform plate.

The sphenoidal sinus is best reached through the nasal cavity and it will nearly always be necessary first to remove the middle turbinal bone. In dealing with this deep seated sinus the surgeon must make use of a bright reflected light and thoroughly define the anterior sinus wall and its ostium before he commences removal of the same. Operations upon this sinus and the posterior ethmoidal cells are best carried out under the influence of cocaine (20 per cent.) anæsthesia, and the most suitable instruments for breaking down the thin bony structures in these regions are Hajek's series of hooks. The inside of the sphenoidal sinus should never be curetted, for if a large opening be made in the anterior wall suppuration will generally cease if the cavity be frequently cleansed with mild antiseptic lotions. Curettage of the inside of the sinus, and especially of its upper and outer walls, may prove to be a very dangerous procedure. Those who have had much experience in operating upon the sinus will agree that it is much easier of approach than would [illegible] seem probable. The opening in its anterior [illegible]s be made as large as possible, for it [illegible]ked tendency to contract. [illegible]eded it must, I think, be conceded that [illegible]n the surgical treatment of the sup[illegible]e nasal accessory sinuses. On the contrary, only in so far as the surgeon bases his treatment on the fundamental principles of surgery can he look for a successful result of his intervention. In one sense only can the subject be regarded as "specialised" and that is in the matter of the technique which is rendered necessary by the peculiar anatomical and physiological characteristics of the regions themselves. For these reasons a variety of special instruments and methods of examination are absolutely essential. If, however, the surgeon can spare sufficient time for perfecting himself in the manipulations necessary for the investigation of the diseases of the nasal accessory sinuses the resulting advantages should be threefold—viz., to the surgeon himself will be opened up a subject of fascinating interest and of great possibilities, to the patient will the prospect of relief from suffering be enhanced, while surgery will continue in no small degree the advancement of its science and art.

NOTE ON THE VALUE OF HOT-WATER INJECTIONS AS A SUBSTITUTE FOR NUTRIENT ENEMATA IN THE TREATMENT OF GASTRIC ULCER.

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FOR the last 18 months I have treated all cases of gastric ulcer requiring rectal feeding by enemata of plain water at the temperature of the body with results sufficiently uniform and satisfactory to be worth recording. I do not propose to discuss the indications for rectal feeding but rather to compare the results obtained when plain water is used instead of beef-tea, milk, eggs, starch, and the many other foodstuffs which are employed in concocting the four- or six-ounce enema which has become consecrated by usage in the treatment of these cases.

It is generally held that the rectum is capable of absorbing well (1) peptone; (2) white of egg, especially with salt added; (3) raw beef juice; and (4) starch and sugar and, to a far less extent, milk proteids and gelatin. It is also common knowledge that patients can be kept alive by this method of alimentation in comparative comfort for several weeks. But the comfort is only comparative. Relief from gastric pain and vomiting is usually prompt, but very soon other symptoms, attributable mainly to the rectal feeding, make their appearance. Of these the first to arise and the most important is thirst. Nor is this surprising seeing that the total amount of fluid given per rectum in the 24 hours varies from 16 to 40 ounces at the outside. It is usual to relieve thirst by allowing the patient to sip a small quantity of hot water from time to time, or to suck ice, or from half a pint to a pint of warm water is injected into the rectum once or twice in the 24 hours. This last method is the best but it has the drawback of increasing the total number of enemata and thereby the risk of rectal intolerance.

Ice by the mouth should, in my opinion, always be avoided. It often fails to quench the thirst and it is difficult to limit the amount taken. I have long since given up the use of ice in the treatment of gastric ulcer except in an ice-bag over the epigastrium, suspended from a cradle so as to insure the lightest possible contact, for the relief of pain. Sipping hot water undoubtedly relieves thirst in some cases, but as the primary object in the treatment of this condition is, so far as possible, to secure physiological rest for the stomach, I think this is best achieved by giving nothing whatever by the mouth for the first few days, at all events, and this can only be done by administering a sufficient quantity of water per rectum to prevent thirst from becoming urgent.

Another symptom which occurs in the course of a few days, I believe in all cases where the enemata contain beef-tea, is an unpleasant taste of beef-tea in the mouth not infrequently associated with a feeling of nausea. This symptom is sometimes very distressing.

By substituting ten-ounce enemata of plain water at a temperature of 100° F. for the smaller nutrient enema at present in general use it is possible to prevent thirst altogether in the great majority of cases and to do away entirely with the unpleasant taste in the mouth.

I am informed by my ward sister, to whose careful observations I am largely indebted, that since we have adopted the plain-water enemata the patients have been altogether more comfortable and much easier to manage than under the old *régime* of small nutrient enemata. I am quite satisfied that the general condition of the patients is at least as good, if not better, and that recovery takes place as quickly, and I may add that since I first adopted this treatment in November, 1902, I have not once had occasion to order a nutrient enema and have not once met with an untoward symptom in any of my cases.

It is a good plan to begin with a five- or six-ounce enema, increasing the bulk each time by one ounce until ten ounces are easily retained. I have not found it necessary to go beyond this. The enemata are given every four or six hours [illegible]. In most cases it is possible to [illegible] by giving small quantities of [illegible] mouth before the end of a week but in several instances my patients have had nothing whatever by the mouth for ten days or a fortnight, and in one or two cases for nearly three weeks, without making any complaint or giving any indication that they were any the worse for their prolonged abstinence. To sum up, the method here advocated gives results at least as good as the ordinary nutrient enemata. It is far simpler to carry out, it is decidedly more bearable for the patient, and incidentally it does away with the unpleasant and offensive daily wash out.

The results obtained with enemata of plain water suggest some interesting reflections on the value of the foodstuffs of [illegible] the absorptive power of the [illegible] to discuss these points.

[illegible]

ANKYLOSTOMIASIS.[1]

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THE subject of my paper is, it seems to me, one that must peculiarly appeal to a medical society situated in a colliery district. The disease ankylostomiasis is one that the majority of the members can know little of and that only from reading. I find in Taylor's "Medicine," sixth edition, 1901, that the disease is unknown in England and in the second edition of Quain's "Dictionary of Medicine" the same appears, so we err in good company. My own attention was first drawn to the matter about 12 months ago in connexion with the appearance of the disease in Cornwall and since then I have taken a deep interest in the subject and have done all I could to interest others. I take it we may at any time have to deal with the pest and those of us with colliery sick clubs will have to give freely their time and labour in curing the victims of the ailment. It is difficult to cure and the ankylostomum duodenale once introduced into a colliery is very difficult to destroy. In England the Government, the colliery proprietor, and the collier through his union have seriously taken up the subject. The *Colliery Guardian* sent a commissioner (Mr. Salter) to study the disease in Westphalia and his report is issued as a supplement and a second edition appeared about a month ago revised by Dr. Haldane. The latter was sent to Westphalia and Cornwall by the Home Office and his reports have been issued as blue-books. About three weeks ago the Home Office issued a memorandum on the mode of detection of the ovum of ankylostomum duodenale.

You will notice the first paragraph begins: "It is considered by Dr. Haldane not improbable that worm disease already exists in other mines in Great Britain besides those which are infected in Cornwall." My own opinion, and I advance it in all humility, is that we have had it in our own district, if not present now, but that fortunately for us the ovum did not find a suitable nidus—viz., air, moisture, and a temperature over 60° F. We have collieries here in which we could find some, if not all, of these requirements.

The ankylostomum is a nematode worm, the male being one-third of an inch long and the female about half an inch long; it infests the jejunum and not the duodenum. The female lays an enormous number of eggs which can only become larvæ after their discharge in the fæces. Then, with a high temperature, absence of sunlight, presence of oxygen, and moisture, the eggs hatch in a week, producing free larvæ. Experimentally it has been proved that ova and free unripe larvæ are, when swallowed, unable to develop into adult worms. In a matured stage they become productive on entering the small intestine. Antiseptics so far are of very little use. Deprived of oxygen or exposed to sunlight they die. In ordinary water they live for long periods but drying kills them at once. Dr. Stockman says they live for about six years. The human intestine is its only known host.

The symptoms of the disease are those of anæmia in a serious form: pallor, palpitation, dizziness, dyspnœa on exertion, loss of appetite, and sometimes diarrhœa or melæna. In Cornwall an irritable pustular skin eruption, locally known as "bunches," has been found. Though not often fatal it will be easily understood why the afflicted are incapable of work. I ought to mention here that a great number of men have been found to be infested with the worm and yet show no symptoms of anæmia—a fact that tends to confirm my own impression that men returning from service in India, Egypt, and South Africa must have brought the worm here. It is recognised that these men constitute an almost equal danger with the others. Until very recently we were led to believe the pallor of the body was due to hæmorrhage and the worms sucking the blood from the intestine. Dr. Haldane and Dr. Boycott, in the *Journal of Hygiene*, prove that it is not so. Measurements made by them show the anæmia to be due to a great increase in the total volume of the blood with a corresponding dilution of the hæmoglobin and in consequence the fainting, dizziness, and palpitation are caused by the defective aeration of the tissues, and the heart in particular, the condition being analogous to that of poisoning by carbon monoxide.

I need not go into the treatment, which in England has been thymol and in Germany male fern, though a number of other drugs have been tried. What we ought to do is to try to improve the sanitary conditions of our collieries. You all know that underground, with a very few exceptions, nothing is done. A collier is free to go where he likes. He fouls his hands and eats his food at his work and indeed often enough at home he will not wash them before taking his dinner. No one asks that he shall have a lavatory in his working place but he ought to have suitable pails placed at convenient points in and about the workings. The pails should be brought to the surface daily and their contents burned in the furnace, run into a cesspool, or spread on the land. A great number of closets, water-closets where possible, must be provided on the surface and possibly some day there may be a bath on the surface. In Germany every collier has to have a bath at the colliery and to change his working clothes for others before he is allowed to leave the works. Lastly, I contend that every colliery ought to have a supply of pure fresh water not only on the bank but in the pit. How many times have you seen wounds that have been washed with tea because no other fluid was to be had.

Hindley.

TRANSPLANTATION OF TENDON FOR MUSCULO-SPIRAL PARALYSIS.

BY H. M. W. GRAY, M.B., C.M. ABERD., F.R.C.S. EDIN.,
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THE following case presents some remarkable and interesting facts.

A boy, aged 16 years, fractured his right humerus and by a fall during convalescence the fracture was made compound. Thereafter the musculo-spiral nerve became included in the callus. To free this, operation was performed and apparently, judging from the resulting paralysis, the nerve must have been severed during the manipulations. Further operations were done to improve matters but without success. Two years after the last operation the boy came under my care. At that time musculo spiral paralysis was complete. He could not extend the fingers or thumb at the metacarpo-phalangeal joints in the very slightest degree, although, as usual, the terminal phalanges could be extended by the action of the interossei and lumbricales. The fingers were fully flexed on the palm and the wrist was also flexed. He could not supinate in the least when pronation was complete but if the forearm and hand were placed midway between pronation and supination, supination could be carried slowly and feebly to almost the full extent (by the biceps). The flexors and pronators were all normal.

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[1] Presidential address read before the Wigan Medical Society on April 14th, 1904.

I exposed the tendon of the flexor carpi ulnaris by a longitudinal incision over it, cut it across just above the pisiform bone, and detached a few of the lowest fibres of the muscular attachment to the ulna. I made then an oblique incision over the back of the forearm, reaching downwards as far as the level of the wrist-joint, and separated out the common extensor tendons. A tunnel close to the ulna was made through the interosseous membrane, just above the upper border of the pronator quadratus, a forceps was passed through this from back to front, and the tendon of the flexor carpi ulnaris was pulled through. Hyperextension of the fingers and wrist was made, the extensor tendons were cut across just above the level of the wrist-joint, and the distal parts were sutured to the end of the flexor carpi ulnaris tendon. The wounds were closed and the elbow-joint, forearm, and hand were enveloped in dressings and plaster-of-Paris, the wrist and fingers being fixed in the hyperextended position and the elbow flexed.

I expected that the boy would have to be educated to attempt to make ulnar flexion at the wrist when he wished to carry out extension of the fingers. At the end of three weeks after the operation, when the dressings were removed, the wounds were soundly healed. I flexed the fingers cautiously and then asked the boy to straighten them. To my surprise he did so at once and to the full extent. I leave physiologists to explain *why* a flexor nerve and muscle should, in the circumstances, respond so quickly to extensor impulses. The boy told me that he had tried to move the fingers under the plaster but I had not indicated to him how the movement of extension was to be produced. This was all the result I expected, but I found that the boy could now supinate, even though the forearm was previously fully pronated, and that supination was more complete than before. These movements are now carried out easily and strongly. The boy is so pleased with the result that he does not think it necessary to submit to further operation to give him extension of the thumb. When at rest the thumb lies more or less flexed in the palm. When the boy attempts to extend it it is abducted from the palm, the metacarpal is drawn inwards, and the terminal phalanx is slightly extended, probably from increased tension of its extensor tendon. All this permits the boy to grasp certain objects of narrow calibre without having to place the object in position with the other hand. When he attempts extension of the thumb one can see the tendon of the flexor carpi radialis becoming prominent. This indicated that it could be used to produce extension of the thumb in a way similar to that carried out with the ulnar flexor. What I now wish is to transplant the tendon of the flexor carpi radialis through the interosseous space close to the radius, and then attach to it the severed tendons of the extensors of the thumb at different levels so that extension of the proximal phalanx will be obtained slightly in advance of extension of the distal one It may be some time before the boy submits to this procedure, so I think it right to record the case now. I have not heard of any similar operation being done for musculo-spiral paralysis.

Judging from the great success which has attended the transplantation of the flexor carpi ulnaris I have not the slightest doubt that transplantation of the flexor carpi radialis on to the thumb extensors will give equally good results. The latter procedure will increase still further the power of supination. I recommend that both should be transplanted at the same sitting. There is no necessity to transplant the pronator teres in order to procure supination (as Tubby has done). This operation diminishes largely the power of pronation. In the operation I recommend two comparatively useless muscles are made to fulfil very useful functions and I feel certain that approximately normal movements will be the final result. Of course, such an operation is superfluous where successful nerve suture can be done.

Aberdeen.

THE RESULTS OF TREATMENT IN 301 CASES OF PHTHISIS BY OPEN-AIR METHODS.

BY DAVID LAWSON, M.A. ST. AND., M.D. EDIN.,
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IT is not without considerable feelings of misgiving on the part of the writer that he has yielded to the pressure which has been brought to bear upon him from various quarters to publish the results of the experience gained during the past three years of sanatorial treatment of phthisis at Banchory, for, as is well known, there exists in the minds of no inconsiderable section of the medical profession, not without fair reason, a well-marked prejudice against statistics of so-called "cures" and the more so when, as in the present instance, the statistics furnished emanate from the not altogether disinterested source of a paying institution. In another quarter he has expressed sympathy with that prejudice in the following terms: "It is therefore plain that if we are to be guided by the evidence furnished by statistics as to the value of the sanatorial treatment in phthisis then we must be prepared to ignore in our calculations those which reach us from paying sanatoria."[1] This statement was made in course of a criticism which was written after having made a careful study of the results published during the previous year by various classes of sanatoriums at home and abroad, for in these this remarkable fact was brought out, that whilst the percentage of cures in the pauper sanatoriums sometimes fell so low as 2 per cent., and in no case exceeded 15 per cent., those claimed by paying institutions invariably amounted to from 50 per cent. to 80 per cent.—in one case to as high as 100 per cent. And yet, notwithstanding these facts, it has appeared to him that, in view of the already large and steadily increasing number both of the profession and of the public whose interest in the subject is undoubted and who are anxiously awaiting the results of the treatment carried out in our own land before they definitely decide to accept or to reject the claim which has been made on behalf of sanatoriums as curative agents in cases of tuberculous diseases, it is his duty to place upon record the results obtained in those specially favourable conditions under which he has been working in the Scottish highlands during the past four years.

Whilst the weight of opinion may incline to the view that for a working basis we ought to found our calculations as to the efficacy of the treatment upon the results obtained in charitable or pauper institutions rather than upon those of wealthier sanatoriums, there is much to be said on behalf of those who hold the opposite view and contend that the results obtained at higher-class institutions furnish the better guide of the two. In considering the matter it is well to remember that sanatoriums for the pauper classes at present in existence in this country consist for the most part of modified mansion houses, located in the vicinity of large towns, run on lines of strictest economy, upon the medical and nursing side wofully understaffed, and sadly deficient in those scientific adjuncts to the treatment which wealth alone can supply. Moreover, the call upon their accommodation is so great that in order to relieve, if even in a small measure, the largest possible number of sufferers they are unable to retain their patients for a sufficiently long time to effect their cure. Indeed, many place three months as the limit of each patient's stay, after which, whether benefited or not, he must vacate his bed in order to make room for another. Contrast with this the case of a better-class institution the site of which in the first instance has been made the subject of careful thought and judicious choice, planned and built altogether irrespective of expense from the very commencement for the special purpose of carrying out open-air methods of treatment, with first-class laboratory and electrical installation, and relatively large medical and nursing staff resident in the building. And add to that the important consideration that its patients are largely drawn from the moneyed classes who come prepared to stay indefinitely so long as there exists the slightest chance of ultimate recovery being attained. It is surely reasonable to expect that in the latter circumstances the percentage of favourable results obtained shall far exceed that secured under the former conditions and as such shall supply a more accurate indication of the possibilities for good of the *régime* in question than can possibly be obtained in the case of the former. It is upon this ground, it is thought, that the facts here published merit careful consideration.

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[1] Edinburgh Medical Journal, September, 1903.

The sanatorium at Banchory was opened in December, 1900, and at once received 20 patients, most of whom had been located in the neighbouring district awaiting admission. Between that time and December, 1903, there were treated and discharged 301 patients in all stages of the disease. No attempt was made to effect a selection of suitable cases. As was the experience in other pioneer institutions in this country, a large proportion of patients altogether unsuitable at first presented themselves for treatment, a fact which goes far to explain the heavy mortality that took place amongst the patients of the first year when compared with those of the two following years.

1. *Deaths.*—Dealing first with the mortalities which have taken place we find that out of a total of 302 patients which have passed through the sanatorium in the period under review 84 of these, equivalent to 28 per cent. of the whole, have died. Of that number 12 have died in the sanatorium itself, mostly, however, in the first year. No death has taken place from phthisis in the institution since October, 1902. One patient died in 1903, but in that instance the death was due not to phthisis but to the bursting of an aortic aneurysm. The fact that 62 out of 84, equivalent to 77·5 per cent. of the whole number of deaths, took place in patients who were admitted during the first year furnishes its own evidence as to the undesirably large proportion of unpromising cases with which one was at first supplied. Happily with a growing appreciation upon the part of members of the medical profession, as a whole, of the limitations of the treatment and of the desirability of advising its adoption at the earliest stage of the disease, the clinical type of case sent in later has steadily improved, until now in the vast majority of instances patients arrive at a time when there is every reasonable hope of their deriving permanent benefit from their stay. It is, therefore, a matter of probability, almost amounting to certainty, that future figures will prove much more encouraging than those which fall to be recorded here. Whilst the figures given represent all deaths which took place within that period, it is well to point out that in the cases of six patients, all subjects of phthisis, the immediate cause of death was due not to tuberculosis but to accidental complications. These were accounted for respectively by: (1) diabetic coma; (2) aortic disease; (3) aortic aneurysm; (4) appendicitis; (5) locomotor ataxia (rectal crisis); and (6) actinomycosis.

2. *Worse or no improvement.*—A large number of those who did not improve or who are now known to be worse are to be found in the class which has preceded this. But of those surviving one is aware of eight who derived, so far as could be judged, no benefit whatever from sanatorium treatment and whose condition is now worse than it was when they first entered the sanatorium.

3. *Improved, but disease not arrested.*—The vast majority of those who have improved have eventually had the disease arrested and so will come under consideration later, but there remains a certain number (13) who, whilst they have improved, still show signs of active disease. These for the most part have gone abroad, hoping to find in the reputed curative properties of foreign climate that factor which will ultimately promote their complete restoration to health. Some, however, have remained in Britain, and, so far as one has been able to learn through correspondence, the progress which the latter are making in no way seems to suffer by comparison with that which others are making in foreign lands. In regard to these cases one's experience abundantly substantiates that of Burton-Fanning[2]: "In no single instance has the course of the disease been materially different after going away than it would presumably have been had the patient remained in his own country."

We pass now to consider the more cheerful aspect of our subject—namely, those cases in which arrest of the disease has taken place. It is convenient to divide these into two classes—namely, (1) those in whom the disease has been arrested and the patient is able to work; and (2) those in which arrest is present but the patient is passing the life under conditions which admit of care being continued to be exercised. In 64 cases, in addition to signs of arrest in the chest, the patient's sputum if present failed to reveal the presence of tubercle bacilli either under the microscope or on inoculation before the patient left the sanatorium, or alternatively the sputum had entirely disappeared. There is a certain number of other instances in which the patients appear to be perfectly well and to be able alike to enjoy the burdens and luxuries of life, yet who occasionally produce a little sputum which on examination reveals the presence of tubercle bacilli.

It has been urged by some whose actual experience of open-air work is limited that the results obtained at sanatoriums in this country are usually unsatisfactory in so far as they are transient and that the patient rarely recovers his health sufficiently to be able to resume his old vocation in life. Indeed, there are many who go so far as to assert that in no circumstances should the patient again return to those conditions under which the disease was contracted. The fact that 111 (or 36·7 per cent.) of those treated during the past three years have now returned to, and are carrying on, their ordinary vocations in nearly every instance in this country is one which goes far to discount the value of that contention. No doubt in many instances the occupations followed are such as conveniently provide the patients with opportunities for continuing to live the life which they learned to live when undergoing sanatorium *régime*. Still there remains a very large number of cases in which, as in the case of lawyers, medical men, and merchants, the continuing of such life is attended with almost insuperable difficulties.

Duration of treatment.—The average term of residence in the sanatorium of these cases has been approximately five months. But it should be explained that here, also, the figures have suffered material modification by the inclusion of those taken from the first year's work. A comparatively large number of patients at first came in order "to learn the treatment" with a view to carry it on in country surroundings elsewhere. The term of residence in many of these cases did not exceed one month. During the past year such cases have rarely appeared, patients now for the most part preferring to remain until they are discharged. The longest period spent by one patient has been 22 months and the average of those discharged in 1903 was seven and a half months.

Weight gained.—The average weight gained has amounted to 16½ pounds. One's belief is that too much has been made in some quarters of mere gain in weight. The patients before leaving have for the most part been required to take considerable exercise, which has usually resulted in the weight being materially reduced below the highest point attained. In view of the fact, clearly demonstrated over and over again, that mere weight without condition is a dubious blessing, the desirability of making fit after signs of active disease have disappeared even at the expense of weight has, to my mind at all events, been conclusively established.

Residence abroad.—Those who have gone abroad fall under two groups. The first comprises a number who having completely recovered their health in this country afterwards went abroad in order to assume posts which their friends had procured for them. These have not gone abroad for purposes of treatment. Nevertheless, persuaded of the signal benefits which the colonies afford, they have gone there with the intention of spending the rest of their lives in the new country, as it appears to hold out to them the combined advantages of good business prospects and a fair chance of long life. The second is composed of quite another type. It is for the most part comprised of cases of old-standing disease, cases in which the disease has at length become to all appearance quiescent, but only after having caused extensive changes in the lungs. These cases find the rigors of winter climate somewhat trying at home and therefore go to sunnier climes where the conditions of life are pleasanter during the winter and early spring months than they are at home. Some, indeed, have settled abroad altogether for this reason. Such patients do not aim at ever [illegible]

Of those others who are living under careful conditions in our own country many are constrained to do so out of considerations of expense; but some prefer the society of their friends at home to the vaunted climatic advantages which expatriation affords and therefore remain at home from choice. But in every case recorded here there is sound evidence that the disease is in a state of arrest.

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[2] THE LANCET, August 15th, 1903, p. 455.

Heredity.—A point of more than passing interest to statisticians brought out by these figures is the fact that of those who have recovered 98, or 51 per cent., have apparently no hereditary taint, whilst 94, or 48·9 per cent., possess a distinct hereditary burden.

GENERAL LESSONS OF EXPERIENCE.

Residence abroad.—Living in daily and hourly contact with his patients the sanatorium physician enjoys peculiar facilities not only for making and collecting clinical observations over a prolonged period of time and so of advancing our knowledge of the course and treatment of the disease in its manifold forms but through the social relationship which exists between himself and his patients he possesses unique opportunities which are denied to those engaged in medical and consulting practice of ascertaining the views of patients themselves upon the one matter which occupies their minds and attention to the exclusion of others—namely, the treatment of the disease. The information derived in this way from early cases whose first experience of treatment takes place at the sanatorium in quesion is of very minor importance but it is not so in the case of those whose search for health has extended over a period of several years and whose time has been spent abroad in large continental hotels and in districts the climate of which enjoys an established reputation in the treatment of lung disease. Many of these, after spending, it may be, one, two, or three seasons abroad, eventually land in one or other home sanatoriums. As a result of what they learn there and the "results" which they see around them they come to hold the view, rightly or wrongly, that if they had in the first instance been sent to a sanatorium instead of to a hotel they would long since have recovered their health. They had not been told anything to the contrary and they believed that the specific properties of the climate would secure their recovery. They had received no instruction regarding the nature of the life they were expected to lead and in consequence much of their time had been spent in pursuits which whilst they furnished a measure of enjoyment were carried on in surroundings which denied them that very atmosphere which they had gone to seek. Many of those patients hold the view strongly that if phthisical patients are not to be advised to enter continental sanatoriums then they ought to pass a preliminary period in some British institution in order to familiarise themselves with the principles underlying open-air treatment. They come to believe that if they are to derive full benefit from any climate *régime* is essential.

Prognosis.—Another point about which patients are apt to compare notes and to remark upon is the fact that the confident anticipation which had been held out to them that they would be quite well in three months had not been justified by events. From this they infer either that sanatorium treatment is not what is claimed for it or that the medical man had not fully appreciated the extent of the mischief in his case. As patients after they have entered a sanatorium find themselves surrounded by many convincing evidences of the efficacy of the life they are following I fear they more frequently make the second rather than the first inference. In this way the prestige of the medical man is apt to suffer in the minds of the patient. If experience of sanatorium life has taught the writer one lesson more than another it is the unwisdom of venturing to predict the duration of treatment which will be necessary to insure the complete recovery in any given case. In the type of instance here referred to the prognosis had of course been based chiefly or altogether upon the evidence of extent and distribution of the disease in the lung as revealed by physical examination. Early infiltration of one apex, it was assumed, clears up rapidly and a bilateral disease indicated a more prolonged term of treatment. Roughly that may be so but the exceptions are so numerous that he who follows the rule and prognosticates upon this basis will frequently find himself in the humiliating position of being called upon to explain to dissatisfied friends the disparity which has sprung up between promise and fulfilment. Experience has engendered caution. It is my practice now always to decline to express a definite opinion regarding prognosis in any case of phthisis until the patient has been under treatment for at least a month and I feel sure that if medical men in general would follow some such guarded course the charge that residence at sanatoriums sometimes interferes with that confidence which ought always to exist between patient and medical man would become practically unknown and much heartburning would be saved. There is much yet to be written upon the subject of prognosis in phthisis which has not yet seen the light and as it will probably form the subject of a future communication it need not be further referred to here.

Hill-climbing.—So far back as Brehmer's time emphasis was placed upon the special value of hill-climbing in the treatment of phthisis. Since then, however, there has arisen a school which holds a different view and which advocates that a patient should be kept at rest until the lung condition has completely cleared up. Experience here as to the comparative value of the two methods leads one to the strong conviction of the incomparable value of hill-climbing during convalescence when placed beside rest or even exercise on the flat. As a workable basis we have found that it is well to begin hill-climbing on a small way at an early point of the exercise stage. When the patient has reached a point where he is able to walk about six miles at a stretch without any marked temperature reaction appearing then the real hill-climbing is pressed. Latterly, it has been our practice to send the patient at least three times weekly, usually more frequently than that, a climb of about 1000 feet, with a long walk added. In many cases this is increased till it involves a climb of 1500 feet, the patient covering in all anywhere from ten to 20 miles at a stretch. The results obtained in such cases latterly have been so consistently good that one has come to be convinced that hill-climbing supplies a factor of treatment which is of cardinal value and, therefore, in selecting sites for future institutions this is a point to which the very greatest importance should be attached. The writer is hardly called upon to repeat the explanations which have already appeared so frequently elsewhere as to how hill-climbing operates in promoting recovery. But he is of opinion that it is right he should record the fact that his experience of its action has led him to believe that its systematic employment as an element of treatment is absolutely essential if the best results are to be obtained. There is, however, one class of apyrexial case in which he has found evidence that its use does harm rather than good. It should consequently never be pressed in cases of advanced chronic fibroid disease.

Diet.—So much has been done here in investigating the value of different diets and methods of dieting in tuberculosis that that part of the work might itself very well form the subject of a very extensive paper. But as it is unsuitable to deal with it fully now the writer will content himself by recording generally the teachings of experience. The very large diets which are associated with a certain German institution and which have come to be adopted in many quarters in Britain were at once found to be unnecessary and undesirable. Their application was invariably associated with marked dyspepsia and vomiting, weight, however, being usually gained under their administration. It was clearly demonstrated that in the vast majority of cases weight could be put on as fast and in some cases faster by a diet of more moderate amount when the proportion of the relative ingredients had received careful consideration than when a very large mixed diet was administered. In regard to fats, taken all over an average of two ounces of butter per day seemed to attain the best result and only in very few cases (six) where butter was badly borne did cod liver oil furnish a useful adjuvant or substitute. By presenting a larger variety of food and giving a smaller amount of each kind appetite has been well maintained and dyspepsia has become rare. In order to secure proper variety it has therefore been found to be an advantage to depart from the usual two or three course dinner and to give one containing a large number of courses and a moderate amount of each. Bread, butter, and milk in measured quantities suitable to each patient, however, accompanied all meals. In those cases of considerable pyrexia and marked signs of active disease the value of basing the diet given upon information obtained from metabolism investigation conducted in each case has been abundantly demonstrated. In passing it may be mentioned that the presence of various purin bodies in the urine have been found to furnish indications of special value in this line. The number of calories indicated was arrived at and a diet equivalent to that was fixed upon and written out. It has been found that by weighing each meal presented to the patient and the amount taken systematically day in and day out the patient's progress was more satisfactory than when he was placed upon an average diet. In some cases every meal taken has been weighed over a continuous period of six, seven, eight, and even nine months without intermission. Needless to point out this has entailed an enormous amount of work, but, as has been already said, the improvement in the results obtained has more than justified the expenditure of labour involved. The assistance rendered by the presence of a dental department established in the sanatorium over a year ago has been greater than was expected and has fully justified its presence. Since then dental defects present when a patient entered have at once been remedied before the treatment was begun. In a number of cases this factor seemed to have an important bearing upon the disappearance of dyspepsia which was hitherto present and the continuance of which would certainly have added to the difficulty of treating the cases.

The x rays and high-frequency currents.—The therapeutic value of high-frequency currents and the x rays as applied to lung disease still requires to be established but that both are extremely valuable adjuncts to treatment is a point upon which two years' close observation has abundantly shewn. High-frequency currents find their principal application in those cases of atonic dilatation of the stomach so difficult to treat successfully by other means and yet so commonly met with in phthisical cases. They are of further value in the neurotic type of patients and also in the various neuralgias accompanying the anæmia present in phthisis. A good deal has been written upon the subject of the Roentgen rays with regard to lung disease and no doubt in the near future much more will be done in this direction. It has been customary always to screen and to skiagraph our patients soon after admission after having previously formed an opinion by a careful physical examination of the conditions present, and it has frequently been one's experience to detect by this means conditions which had not been even so much as suspected previously to the x rays being used. Particular allusion is made to four cases of aortic aneurysm recognised within a period of 12 months by this means. As lavage is not infrequently employed in cases of gastric dilatation there were grounds for thankfulness for the revelation which enabled one to avoid what would have proved if adopted in these instances a dangerous procedure. All chests have been systematically examined by screening from time to time whilst patients are under treatment and one has found observations so made on the subject of changes at work in the lesions a matter at once interesting, instructive, and helpful in the matter of treatment. The value claimed for the x rays in the treatment of tuberculous glands has been fully confirmed by the observations made in the few cases which have come under notice. One case of lupus of 36 years' standing has cleared up under its use and at the present moment, over 12 months since the treatment was suspended, appears to be quite well. The x rays have also been applied in several cases of enlarged glands at the root of the lung. The results obtained in those cases, whilst not striking, have been at least encouraging.

Throat cases.—I am unable to give exact figures in regard to throat cases. All the cases of tuberculous involvement of the larynx that have come under my notice have been cases complicating pulmonary phthisis. Throats have been systematically examined and where necessary treated locally. In four cases distinct ulceration of the larynx healed under systematic local application of lactic acid and have remained well.

I gratefully acknowledge the valuable assistance I have received from Dr. Ian Struthers Stewart in compiling this paper.

Banchory, N B.

GEOGRAPHICAL DISTRIBUTION OF HARE-LIP AND CLEFT PALATE.

BY R. W. MURRAY, F.R.C.S. ENG.,
SURGEON TO THE NORTHERN HOSPITAL, LIVERPOOL.

I WAS anxious to obtain some information regarding the frequency with which hare-lip and cleft palate occur amongst the natives of different countries and last winter I wrote to a number of medical men in various parts of the world asking them their experience in this matter. I have received replies from China, India, Burmah, Straits Settlements, Java, Hawaii, Jamaica, and Central Africa, and as the information so kindly supplied to me may be of interest to others I give a brief account of the results of my investigations.

Dr. R. T. Booth of Hankow writes: "In my experience during five years' hospital practice in Hankow I have operated about six or seven times for hare lip. This, however, by no means gives an adequate idea of the frequency with which this deformity occurs amongst the natives. I should say that hare lip is common among the Chinese. In one day I counted four cases as I walked along the main street of this city. The Chinese do not pay much regard to their personal appearance; so long as the deformity does not interfere with their prospect of business success or of marriage they pay no attention to it. Hence the comparative infrequency with which such cases come under our care in hospital. Cleft palate, in my experience, is of rare occurrence; in none of my cases was there any deficiency of the hard palate, and while walking the streets I have sometime stopped and looked at the palate of a hare-lip case but there was no cleft of the palate in any I saw. In one case of hare-lip on which I operated there was an interesting condition of the soft palate and uvula. The formation of the hard palate was complete but there was a well-marked division of the soft palate and uvula: the portions of the soft palate were bridged over by mucous membrane only, which formed a transparent line down the middle of the soft palate; the uvula was bifurcated. This is the only case of any deficiency in the palate I have seen in China."

Dr. Robert Howard, writing from Lake Nyassa, Central Africa, says: "I have never seen an example of hare-lip or cleft palate amongst the natives on the shores of Lake Nyassa. I should be sorry to say that the deformity never occurs, for if it were a bad case the baby would probably die from inanition due to not being able to suck, or, again, the child might be put to death for some superstitious reason. I have never seen or heard of such cases and, so far as my experience goes, the deformity does not occur in this part of the world."

Mr. G. V. Lockett of Kingston, Jamaica, writes: "I have been at the General Hospital (200 beds) for about ten years and have seen only about 20 or 30 cases of hare-lip and cleft palate. All deformities are rare in this country. The people here are such a mixture that classification is impossible."

Mr. V. N. Chitale of Bombay writes: "Hare-lip and cleft palate are very common indeed in the Bombay Presidency and my friends tell me that this deformity is fairly common all over India amongst the different races."

Dr. Edward Armitage, writing from Hawaii, says: "Amongst the natives here I have never seen or heard of a case of hare-lip or cleft palate. I first came here in the summer of 1893."

Mr. G. W. Johnstone of Singapore says: "I have observed hare lip occasionally amongst the Malays and Chinese. I have never had a case to operate upon in any of the hospitals in the East which I have had charge of. On several occasions my offer to rectify the deformity was not accepted. A Malay is rather proud of a deformity and looks upon it as a mark of Allah's favour."

I also heard from Mr. S. J. D. Esser of Java who says that hare-lip and cleft palate are common deformities amongst the natives there. They do not consider the deformity any disadvantage and are seldom anxious to have an operation performed for it.

It is remarkable that hare-lip should be a comparatively common deformity amongst the natives of India, China, and Java and never be seen amongst the natives on the shores of Lake Nyassa or in Hawaii and the neighbouring islands. I believe it to be highly probable that hare-lip and cleft palate occur with varying frequency amongst all nations of the world and that the frequency with which it is seen amongst uncivilised natives depends very largely upon their religious belief, which would determine whether a child born with a hare-lip should be put to death or allowed to live. In an island such as Java where the deformity is not regarded with abhorrence but is looked upon with indifference, or possibly as a mark of Divine favour, one can well understand that as the result of frequent intermarriage hare-lip would become, as it is at present, of common occurrence. If, on the other hand, as is probably the case in Central Africa and some of the islands in the South Pacific, the mothers for superstitious reasons destroy their defective offspring, this would account for the deformity never being seen.

Liverpool.

CASES OF CONGENITAL DEFORMITY IN THE FŒTUS.

By H. CRIPPS LAWRENCE, M.D. Durh.,

AND

C. BRAINE-HARTNELL, M.R.C.S. Eng.

In the first of the two following cases what might be described as the principal abnormality consisted of hernia of the stomach, spleen, and intestines into the thoracic cavity. The case was that of a male infant who was born after a normal labour and respired at birth but exhibited cyanosis soon afterwards. When he was first seen by us the respiratory movements were chiefly abdominal. He was ordered a "mustard" bath which partially revived him. Dextrocardia was diagnosed during life, the heart pulsation being to the right of the right nipple line. The liver was in the normal position and enlarged. The lungs evidenced atelectasis, a little air entering at the right base and still less at the left base. There were resonance over the right half of the thorax and marked hyper-resonance over its left half. Death occurred 14 hours after birth.

A post-mortem examination was made of the contents of the thoracic and abdominal cavities. On removing the sternum the heart was found to be pushed over to the right side of the chest, the right ventricle being uppermost, the base of the heart pointing to the right of the right nipple line and the apex pointing to the left of the right nipple. The pericardium contained a few drachms of serum. Atelectasis adnata existed, the lungs being compressed on each side of the spine. The right lung was slightly inflated, especially its lower lobe; the left lung was still less inflated. The tissue of each lung floated in water. The left side and part of the right side of the thorax was occupied by the stomach, the whole of the small intestines, and the greater part of the colon. The spleen was found behind the stomach isolated and separate from the left suprarenal capsule, the latter with its corresponding kidney being in the abdominal cavity. The spleen had a deep cleft in it dividing it to its centre. The colon was continuous with its lower portion through a ring-shaped aperture in the left crus of the diaphragm. Below the diaphragm the upper two-thirds of the abdominal cavity was occupied by the liver, the left lobe of which was relatively small. The gall-bladder was distended with greenish bile. Beneath and below the liver the two kidneys, which were structurally normal, with their suprarenal capsules, were found some two inches below their proper position on each side of the spinal column. To the left of the spine were a small portion of the descending colon, the sigmoid flexure, and the rectum.

The second of the two cases, which was seen by only one of us (H. C. L.), was a female infant. It was stillborn and was expelled suddenly, the funis being ruptured. Inspection of the body enabled the following particulars to be noted. The length of the body was 17 inches. The circumference of the head was ten and a quarter inches; the antero-posterior diameter was four and three-quarter inches; the occipito-mental diameter was four inches; and the sub-occipito-mental diameter was three and a half inches. The occipital bone was very small; the large interval between it and the posterior fontanelle was closed by membrane. The anterior fontanelle ran down as far as the coronal suture, becoming continuous with the frontal suture, the whole hiatus being occupied by membrane. The right ear was malformed, having only a rudimentary helix and no concha. The left eyelid was arrested in growth, shortened, and closed. The thorax was contracted above and expanded below. The acromial end of each clavicle was prominent. There was well-marked "beading" of the ribs. The right forearm was pronated. The right thumb and forefinger were flexed; the middle finger was flexed across the forefinger. There was dactylitis of the first phalanx and the proximal end of the second phalanx of the ring finger, which with the little finger was straightened out. The left forearm was supinated. The left thumb was extended from the palm; the four fingers exhibited dactylitis; the phalanges [illegible] forefinger were extended, the upper end of the [illegible] being dislocated on to the palm; the remaining [illegible]xed. The umbilicus was occupied by a large [illegible]taining several coils of intestine; the sac measured four inches in circumference and two and a half inches from the abdominal wall to the fragment of funis at its lower end. The head of each femur was dislocated, the right more than the left, towards the thyroid foramen. The muscles of the arms and thighs exhibited indurations. The right tibia was curved and somewhat twisted, with the concavity on the inner side. The left tibia was more curved than the right one, with marked concavity on the inner side. The right foot manifested talipes equino-varus. The right big toe was in a line with the side of the foot; the next two toes were long; all three toes were separated from one another. The second toe was straightened; the two outer toes were shortened and flexed. The left toes were normal in length but the left little toe was deformed and curved under the sole of the foot. The genitals were normal.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—Morgagni *De Sed. et Caus. Morb.*, lib. iv., Prooemium.

EAST LONDON HOSPITAL FOR CHILDREN, SHADWELL, E.

A CASE OF DIAPHRAGMATIC HERNIA.

(Under the care of Dr. Eustace Smith.)

For the notes of the case we are indebted to Mr. P. Stanley Blaker, late resident medical officer.

A male child, aged two years, was admitted to the East London Hospital for Children on June 16th, 1901, for diarrhœa and vomiting. The history elicited from the mother was as follows. The patient was taken ill suddenly with severe vomiting on the morning of June 13th, which persisted after each meal till admission into hospital. He also became very drowsy and feverish and started in his sleep every now and then. On June 11th and again on the 16th (the day of admission) the patient had an attack of diarrhœa, though during the intervening time the bowels appeared to have been normal. There was no history of any previous illness. The family history was good. On admission the patient was fairly well nourished but looked very pale and extremely ill. In bed he lay on his back, with his legs extended and in an apparently semi-conscious condition. The eyes were sunken and half-closed, showing the sclerotics. At times he screamed. The breathing was quiet and easy though hurried and there was no cyanosis. The pulse was rapid (about 120) and regular. The temperature was 105° F. in the rectum. There was no œdema. An examination of the chest revealed nothing abnormal in the heart or the lungs. The abdomen looked natural, moved with respiration, and was soft, though the patient somewhat resented palpation. The liver and the spleen were made out to be of normal size. The progress of the case may be briefly summarised as follows. On the day after admission there was marked tenderness of the abdomen, so much that the patient cried out whenever the abdomen was touched; this, however, became less evident later. The bowels had acted several times, the motions being green, slimy, and offensive. On the 18th some dulness and tubular breathing were detected over the upper lobe of the right lung posteriorly and a day or two later these signs of consolidation were also manifested over the front of the right chest. The vomiting ceased soon after admission and the diarrhœa also abated, but gradually. The temperature ranged between 102° and 105°. The left ear discharged pus freely. The general condition became worse and the patient died on the 23rd.

Necropsy.—The body was well nourished. The eyeballs were much sunken. The tongue, the fauces, and the œsophagus were natural. With regard to the thorax the upper lobe of the right lung was solid, voluminous, but not adherent. On section it presented greyish lobular areas of broncho-pneumonia. The middle lobe also had patches of

broncho-pneumonia but to a less extent. The lower lobe was shrunk to about a third
collapsed or airless nor
upper lobe of the left l
of broncho-pneumonia.
and was covered by a layer of lymph on the surface. There was thick green lymph scattered over the whole surface of the visceral and parietal pleura of the right lung, but there was no collection of fluid pus. As to the heart, there were a few flakes of lymph in the folds of the pericardium round the vessels at the base. With regard to the abdomen, behind the liver and immediately to the right of the œsophageal opening, was a diaphragmatic hernia. The tendon of the diaphragm was stretched out over the protrusion (there was no rupture of the tendon) in the right side of the chest and formed a sac of about the size of a large hen's egg. The mouth of the sac was not constricted and it contained about half of the stomach, including the cardiac and pyloric orifices, so that the finger could be passed straight into the sac from the œsophagus or from the duodenum Most of the greater curvature of the stomach was outside the sac. There were no adhesions and the hernia was readily reduced. There was also some omentum in the sac. The stomach and the intestines were natural. The liver was fatty; the spleen was natural; the kidneys were pale and showed some cloudy swelling. The brain and the meninges were healthy.

Remarks by Mr. BLAKER.—A diaphragmatic hernia is a sufficiently rare condition to merit publication of the above case. Two varieties of diaphragmatic herniæ are described —one the congenital (or true) and the other the acquired (or false). In the former the abdominal viscus passes through either a deficiency in the structure of the diaphragm or through one of the natural openings which may be unusually large. Such openings may be the œsophageal or one of the fissures situated between the sternum and seventh costal cartilage in front or between the lumbar and costal attachments of the diaphragm behind. Sometimes, however, a portion of the diaphragm seems to be weakly developed and yields before a hernial protrusion. This bulging occurs more often in the muscular portion of the diaphragm. In the latter variety (acquired), which is by far the commoner (about 10 to 1), the hernia is nearly always due to an injury which tears through the diaphragm and allows the abdominal viscus to escape in practically every case without a peritoneal covering. Both varieties are said to occur mostly on the left side—i.e., the protrusion takes place into the left side of the chest—the pleura being either torn through or else carried before the hernia. The presence of the liver on the right side is held responsible for this greater frequency of herniæ on the left side. The organ most commonly displaced is the stomach, next in frequency is the transverse colon, and then follow the omentum, the small intestines, the spleen, the liver, the pancreas, and the kidneys in the order named. Considering these few facts it will be seen that the case recorded was not altogether of the usual type. The hernia was of the congenital variety; the outer sac was formed by a bulging in the tendinous portion of the diaphragm and was on the right side in spite of the presence of the liver.

I am indebted to Dr. Eustace Smith for permission to publish the notes of the case.

ROYAL ALBERT HOSPITAL, DEVONPORT.

PERFORATED DUODENAL ULCER; OPERATION; RECOVERY.

(Under the care of Dr ALONZO G. RIDER.)

FOR the notes of the case we are indebted to Mr. H. M. Major, assistant house surgeon.

The patient, a male, aged 44 years, was at 12 30 P.M. on Jan. 8th, 1904, seized with acute epigastric pain immediately after swallowing a piece of beef. He was seen by Dr. Rider at 1.30 P M. who found him in great pain and much collapsed. There was extreme tenderness over the whole abdomen, especially in the epigastric region. Liver dulness was present. One-sixth of a grain of morphine was given and hot water bottles were applied to the feet. He was seen again at 4 P M when the collapse had partially passed off. The pain was much more severe and more generalised. Bilious vomiting which did not relieve the pain was frequent. Liver dulness was then indistinct and fixation of the abdominal muscles in the upper part of the abdomen was commencing. Dr. Rider ordered his immediate removal to the hospital but delay occurred and he did not arrive till 7.30 P.M.

The following history was given. The patient had suffered on and off for the past three years with pain after food and occasional vomiting The pain, which came on at short intervals after a meal and was referred to the epigastrium and occasionally to between the shoulders, was relieved by vomiting. He had obtained considerable relief by dieting himself. There was no history of hæmatemesis but he had remarked on the very dark (tarry) appearance of his motions. There was a history of constipation for some years. For the past three weeks there had been a considerable increase in the amount of pain which persisted after vomiting. The pain was so severe at times that he had been unable to eat anything, though he managed to continue his work. On Jan. 7th when he returned from work he was unable to eat any supper and on the 8th his breakfast consisted of a couple of dry biscuits. He went to work but was in considerable pain and on returning home at mid-day had just started his dinner when the violent attack of pain commenced.

On admission he was extremely collapsed. The temperature was 97° F. The pulse was 112, thready, and at times almost imperceptible. A hypodermic injection of five minims of liquor strychninæ was given at once. The whole abdomen, especially in the upper part, was absolutely rigid. There was no abdominal distension and the percussion note was apparently normal. There was increased diminution of the liver dulness Immediate operation was decided on and measures were taken to minimise shock.

The patient was anæsthetised by Mr. H. M. Major (chloroform and ether being used), and assisted by Mr. J. J. N. Morris the abdomen was opened by a five inch incision between the xiphisternum and umbilicus (on reaching the subperitoneal fat it bulged forward, giving the appearance of a knuckle of small intestine presenting in the incision). On opening the peritoneum free gas escaped as well as a small quantity of greenish turbid fluid from a pouch in the gastrocolic omentum. On drawing up the stomach into the wound a quantity of similar fluid escaped from the neighbourhood of the pylorus and on further examination a perforation foureighths of an inch by three-eighths of an inch (the long axis being transverse) was found on the anterior surface of the first part of the duodenum. There was a considerable amount of indurated tissue surrounding the ulcer. The perforation was temporarily closed by a gauze swab and systematic sponging of the whole of the abdominal viscera was undertaken, followed by irrigation with many pints of normal saline solution. No solid pieces of food were discovered but some flakes of recent lymph were removed from the viscera in the neighbourhood of the perforation. Suturing was performed with difficulty partly on account of the friable nature of the surrounding tissue and partly owing to the depth of the intestine (it was not considered necessary to divide the right rectus). A purse-string silk suture surrounding the perforation was first passed, followed by several interrupted Lembert sutures. A quantity of saline solution was left in the peritoneal cavity and a drainage-tube was passed down to the duodenum.

The patient stood the operation well and during its performance was given a hypodermic injection of five minims of liquor strychninæ and an enema of five ounces of hot coffee and one ounce of brandy. The enema was ordered to be continued every four hours and the strychnine every two hours until toxic symptoms showed themselves. Twitchings occurring at 1 A M (he having then had 20 minims in five and a half hours) the injections were stopped for four hours and then three minims were given every four hours. No further trouble occurred with the injections. Four hours after his return to bed he vomited a small amount of green frothy fluid and this continued at half-hourly intervals until 8 A.M., the total amount being five ounces. After a hypodermic injection of a quarter of a grain of morphine sulphate and $\frac{1}{150}$th of a grain of atropine sulphate he vomited once only.

On Jan. 9th the patient had a fair amount of sleep. The temperature was 98°, the pulse was 82, and the respirations were 20. The first dressings were slightly stained with serous fluid. The abdomen moved well with respiration. Nutrient enemata of white of three eggs, four ounces of peptonised milk, one ounce of raw starch, and half a drachm of salt were ordered every six hours in place of the coffee and brandy. In the evening the temperature was 99·2°, the pulse was 82, and the respirations were 22. The dressings were very slightly stained. The patient complained of thirst, for which mouth washings with hot water were ordered and a pint of saline solution by the rectum. There was some pain on inspiration under the right costal arch. On the 10th the temperature was 98°, the pulse was 68, and the respirations were 20. He was at first restless during the night but slept well and woke refreshed after a hypodermic injection of a quarter of a grain of morphine sulphate and $\frac{1}{100}$th of a grain of atropine sulphate. The strychnine injections were stopped. The wound looked perfectly healthy. There was some increased amount of discharge. The pain under the ribs was less. In the evening the temperature was 99·6°, the pulse was 76, and the respirations were 22. He felt comfortable. On the 11th the patient had passed a good night and looked distinctly better. The temperature was 98°, the pulse was 72, and the respirations were 20 There was practically no discharge; the tube was left out and a wick of cyanide gauze was substituted. The pain under the ribs had quite gone. He was given sips of hot water (half an ounce) every two hours. The bowels opened naturally and the motion was normal in appearance. On the 12th he had had a good night. He felt and looked very well. He was given ten minims of bovinine and water to one ounce every two hours. On the 13th the bovinine was gradually increased to one drachm and alternated with one ounce of peptonised milk every two hours. The nutrient enemata were stopped. The further progress of the case was quite uninterrupted. The patient was gradually put on full diet and left the hospital at the end of a month for the convalescent home feeling quite well.

Medical Societies.

CLINICAL SOCIETY OF LONDON.

The Value of the X Rays in the Diagnosis of Early Pulmonary Tuberculosis. The X-ray Treatment in Recurrent Cancer of the Breast.

A MEETING of this society was held on May 13th, Dr. FREDERICK TAYLOR, the President, being in the chair.

Dr. A. S. GREEN (Lincoln) and Dr. W. H. B. BROOK (Lincoln) communicated a paper upon the Value of the X Rays as a Factor in the Diagnosis of Pulmonary Tuberculosis which was illustrated by lantern slides. The object of the paper was to demonstrate the use of this method of diagnosis in the early stages of the disease. That the full value of the x-ray examination might be obtained it was absolutely necessary to compare the evidence derived by this method with that elicited by careful examination of the physical signs and by a microscopical examination of the sputum. It must be definitely laid down that the Roentgen rays were only to be used as an adjunct to the usual methods of examination and could never replace these latter. Dr. Green had examined and photographed during the past two and a half years a large number of patients, in nearly every one of whom the physical signs had been carefully examined by Dr. Brook. X-ray photographs taken at various intervals both before and after sanatorium treatment were exhibited and the physical signs were narrated. In some cases where the physical signs had entirely disappeared under treatment the shadows were absent from the second plate; in others where the patient had made great improvement but the physical signs had not entirely disappeared the shadows had altered in character; in others again, in spite of the patient's improvement and the disappearance of the chief physical signs, the plates taken before and after treatment were identical both in density and extent. The examination must be carried out by both screen and plate methods. By means of the former the following points could be noted: (1) the height and movement of the diaphragm on the two sides both in quiet (minimum) and forced (maximum) respiration, and these must be compared in front and behind, it having been shown that where the disease was more active or extensive the level of the diaphragm would be higher and the movements more curtailed and that unilateral limitation of movement of the diaphragm was one of the earliest signs of pulmonary tuberculosis; (2) the position and size of the heart, the shape and slope of the ribs and the width of the intercostal spaces; and (3) the transradiancy of the lungs and the effect upon this of inspiration. This examination could be carried out with the patient standing up or (preferably) lying down on a table with a vellum top and a tube below freely moveable in both directions. The skiagrams exhibited had all been taken by the plate-to-back method with the tube from 20 to 24 inches from the plate. The exposure had varied from 30 to 60 seconds. Development should be very thorough and should always be carried out by the medical man himself instead of being left to chemists and photographers, as much could be learnt during the process of development which was not so apparent when the plate was fixed.—Dr. W. EWART congratulated Dr. Green and Dr. Brook upon their paper and remarked on the value of the movements of the diaphragm and of the ribs in the early diagnosis of pulmonary tuberculosis.—Dr. C. THEODORE WILLIAMS did not quite agree with the statement that cavities, excepting very minute ones, could not be diagnosed by auscultation. Modern auscultators were not perhaps as careful as those of a previous generation. Some cavities might be difficult of detection but were readily diagnosed if the patient were made to cough.—Dr. G. B. BATTEN considered that as a means of realising more vividly the physical condition than was, perhaps, possible by auscultation the x rays were to be welcomed in the diagnosis of phthisis, also for recording the progress of the disease in its different stages. Skiagrams were useful both to the patient and to the medical man.—Dr. H. S. FRENCH inquired as to the extent of fibrous tissue which could be seen in a skiagram and how it could be distinguished from tuberculous deposits.—Mr. C. R. C. LYSTER asked what methods were adopted for measuring the output of the tube and also if the x rays could be utilised to distinguish between bronchitis and tuberculosis. A thickened pleura also presented difficulty.—Dr. WILLIAM PASTEUR inquired as to the relative transparency to the rays of enlarged bronchial glands and whether fluid in the pleural cavity could be seen to vary with the position of the patient.—The PRESIDENT considered that ocular demonstration of the morbid condition was most valuable but at the same time shadows were not always infallible and required to be interpreted with care. Post-mortem records of cases so examined would be very valuable.—Dr. GREEN and Dr. BROOK replied.

Dr. E. A. PETERS (introduced by Mr. CHARTERS J. SYMONDS) described two cases of Recurrent Carcinoma of the Breast treated by the X Rays. In the first case the original operation had been performed by Mr. Symonds. The treatment was pursued for 22 months; the subcutaneous nodules and ulcer disappeared under the treatment. They returned on cessation of the treatment but in a condition of diminished activity. Eventually growths appeared subcutaneously at the back of the thorax. These again nearly disappeared on treatment. Unfortunately the operation cicatrix broke down during an attack of dermatitis and caused a large ulcer which persisted to the patient's death in the twenty-second month of treatment from thoracic involvement. Meanwhile the other breast and the subcutaneous structures and glands of the other wall of the thorax became involved. The supraclavicular glands became affected while the supraclavicular region was exposed to the x rays. The patient found in the x rays great relief from pain but suffered from the ulcer and pressure on the nerves. In the second case subcutaneous nodules and pleuritic thickening improved very considerably under a month's treatment. The patient died shortly afterwards from thoracic involvement. There seemed to be a tendency for scar tissue to break down under the influence of the x rays.—Dr. H. LEWIS JONES said the question of the treatment of malignant disease by the x rays was one of the highest importance. The treatment had a most undoubted and beneficial effect upon superficial deposits and ulceration. But it was most disappointing to find cases die from internal deposits while under treatment. Locally there was success, remotely there was failure. The solution of this problem afforded opportunity for much speculation. But as a practical point x-ray treatment should be applied much earlier than it generally was; the treatment might be employed immediately after operation. There was no doubt that the rays possessed the property of changing the characters of a growth or even of preventing its tendency to recur.—Dr. BATTEN referred to a case of recurrent cancer of the breast in which the nodules had been removed by operation as fast as they had recurred but upon the seventh occasion he had exposed the part to the x rays with the result that the nodules had completely disappeared, the patient ultimately dying from an intercurrent malady. The x rays appeared to have a selective effect both upon degenerating and also upon actively growing epithelial cells. Some dermatitis must ensue to produce a beneficial effect. The occurrence of internal deposits suggested the possible liberation of toxins by the superficial treatment.—Dr. A. E. T. LONGHURST asked whether the rays might not at times excite the local condition and so give rise to a rapid development of the disease.—Mr. A. A. BOWLBY had no doubt whatever that the x rays were by far the most potent agent at their command for the treatment of recurrent cancer of the breast superficially situated. On the other hand, they might produce considerable inflammatory reaction, as in a case he mentioned which died from cellulitis of the neck.—Mr. LYSTER expressed the opinion that excision was still the best method of dealing with cancer when it was discovered early enough but that in inoperable cases relief of pain, comfort to the patient, and removal of recurrent nodules could be brought about by the rays.—Dr. PETERS replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF STATE MEDICINE

Poisoning by Cantharides.—Poisoning by Coal Gas and Carburetted Water Gas.—Duties of Medical Men at Coroners' Inquests.

A MEETING of this section was held on April 22nd, Sir JOHN W. MOORE, the President of the section, being in the chair.

Dr. F. C. MARTLEY brought forward a case in which an elderly woman had been Poisoned by Cantharides. About an ounce of the powdered drug had been administered to her in a glass of rum but in spite of the amount having been so large she survived for 31½ hours.

Professor E. J. MCWEENEY read a paper on the Cases of Poisoning by Coal Gas that have occurred in Dublin since the addition of carburetted water gas to the ordinary coal gas. He said that the first person to draw attention to the increased percentage of carbon monoxide in the Dublin coal gas was Professor Emerson Reynolds who, in a paper read before the Royal Dublin Society in 1900, communicated the result of a number of analyses made by him which went to show that the ordinary percentage of carbon monoxide—namely, 6 per cent.—had been more than doubled during February and March, 1900, and this increase he accounted for by the addition of carburetted water gas. Some recent analyses made by Mr. Holmes Pollok, of the Royal College of Science, showed the presence of 17 2, 16 8, and 14 6 per cent. of carbon monoxide. Professor McWeeney then proceeded to recount in detail the circumstances attending the seven fatal cases that had come under his notice during the past three years. Special features of interest attached to each. In the first group the family of four lived in a house where gas was not used and there were no fittings. The gas had penetrated into it from a broken main in the street with the result that one of the persons was found dead and the others were more or less collapsed. The hæmoglobin in the fatal case contained much carbon monoxide. In the second group an attempt had been made to defraud the gas company by leading the gas into the house without it passing through the meter. The indiarubber tube used in the attempt had slipped off, with the result that the family of three persons were asphyxiated in their sleep. The third group of cases was that of a man and his wife who were suffocated in a bedroom at a Dublin hotel by gas escaping from a wall-bracket the stop-cock of which was half open. The last case was that of a young man who was asphyxiated in his bath by the carbon monoxide contained in fumes escaping from a badly constructed and unventilated "geyser." The hæmoglobin in this case was loaded with carbon monoxide.—Professor C. R. C. TICHBORNE said that in the last case it was evident that the carbon monoxide did not come from the combustion of the gas, as it would then have been converted into carbon dioxide, but must have got into the room as carbon monoxide. He suggested that as the accident had happened about 9.30 P.M., a time when there was great pressure in the mains, the carbon monoxide might have escaped through the air inlets in the Bunsen burners.—Mr. O'CONNELL J. DELAHOYDE said that in his opinion a good deal of the ill health among the working classes was to be put down to the use of penny-in-the-slot meters and gas cooking stoves which were not connected with a flue.—Dr. T. P. C. KIRKPATRICK said that it seemed remarkable that carbon monoxide gas was escaping at such a rate as to accumulate in a man's hæmoglobin and to poison him without exploding though the gas jet was lighted all the time.

Dr. MARTLEY read a short paper on the Duties of Medical Men at Coroners' Inquests, a subject that had been suggested by events which had been reported by the press to have occurred at a recent inquest. It appeared that a man had been taken dead into a hospital at which he had attended as an out-patient more than six months previously. The coroner asked the house surgeon to give his opinion as to the cause of death without making a necropsy. This he declined to do, whereupon the coroner directed the jury to find a verdict. The following motion was adopted unanimously by the section:—

> Resolved: That the Council of this Section be requested to communicate to the Council of the Academy the facts relative to the case in which one of the Dublin coroners recently called upon a member of the medical profession to certify to the cause of death of a patient who was brought dead into the Royal City of Dublin Hospital, with a recommendation that those facts, as well as the relation of the profession to coroners' courts, should be brought under the notice of the authorities.

SECTION OF PATHOLOGY.

Exhibition of Specimens.

A meeting of this section was held on April 29th, Dr. H. C. EARL, the President, being in the chair.

Dr. T. G. MOORHEAD showed three slides in which the Leishman-Donovan Bodies appeared, giving a description of the cases from which they were taken and a history of the discovery of the bodies and their relation to malaria.

Professor E. J. MCWEENEY showed specimens of Blood from a case of Pernicious Anæmia exhibiting Punctate Basophilia. Many of the red corpuscles were thickly sprinkled with granules of strongly basophilic character which could be detected in preparations stained by Jenner's and Pröscher's modifications of Romanowsky's stain, as well as in triacid preparations. He was inclined to look upon the granules as due to karyorrhexis.

Professor MCWEENEY showed slides of Rabbit's Blood containing the Nagana Parasite; also of Human Blood containing the Parasite of Sleeping Sickness. These latter had been given to him by Dr. W McCarthy, travelling scholar in pathology of the Royal University of Ireland, who had obtained them from the Pasteur Institute where he had been working.

EPIDEMIOLOGICAL SOCIETY.—The last meeting of the session of this society was held on May 13th, Dr. B. A. Whitelegge, the President, being in the chair.—Dr. Moritz Pistor, Principal Medical Officer to the Ministry of Religion, Education, and Public Health of Prussia, read a paper on the Prevalence of Enteric Fever in Prussia during the ten years 1892 to 1901, with remarks on the etiology and prevention of the disease. After a brief retrospect of the history of the recognition of a *febris pestilens* by Willis and Sydenham and of the differentiation of typhus fever and enteric fever by Hildebrand and Murchison 50 years ago he proceeded to trace the diminution in the mortality from enteric fever from an average of over 6 to less than 2 per 10 000 of the population throughout the kingdom during the last quarter of a century, though admitting that owing to the habits of the people in the less advanced provinces, especially where the population was mainly Polish, the registration of the causes of death was imperfect and the notification still more so, many cases of illness not being medically attended, so that he would not attempt to estimate the morbidity or the fatality on such defective data. The reported death rates in the various districts year by year were shown in a table and illustrated by a coloured map. In the analysis of these death-rates it seemed impossible to fix on any single condition—climatic, orographic, or geological, or connected with the industries—as the chief factor. Districts having everything in common had high or low mortalities and others differing in every respect had the same, the habits of the people themselves being of the greatest importance. The highest mortalities were in Trier on the Moselle, near to the French frontier, with hot summers and mild winters, closely followed by Arnsberg, also in a mountainous country, with a mining and industrial population, and Dantzig lying low on the sea coast but with colder winters. Lower but still above the mean came the vast plains from Dantzig to Königsberg, devoted to agriculture, and Aachen, Magdeburg, Coblentz, and Hildesheim west of the Elbe and for the most part industrial. Below the mean were Nassau, close to Arnsberg, with a continental climate and mainly agricultural; Hanover, with the exception of Hildesheim, industrial in the south but agricultural and maritime in the north, with Holstein and Schleswig of like character; the wealthy residential town of Wiesbaden; and Berlin, the metropolis of the kingdom and empire. Aurich on the North Sea, including several islands, had the lowest mortality from enteric fever and diphtheria. Lower Silesia with the district of Oppeln, which had an evil reputation for its general sanitary conditions, in constant communication with Austria and Russia, was, strange to say, below the average, while on the other hand Stralsund, in the otherwise healthy district of Pomerania, remarkable for the cleanliness of its peasantry, showed a high mortality which, however, was accounted for by the inclusion of deaths in the University Hospital of Greifswald, for the water-supply was unimpeachable. The low death-rate in Upper Silesia and the Westphalian coalfields was explained by the general provision of excellent public supplies after the wells in the locality had been drained or rendered undrinkable through the mining operations in recent years. The excessive prevalence of enteric fever in the eastern provinces, whether agricultural or industrial, was connected with the apathy and disregard of all hygiene by the Polish population, the Poles being incorrigibly dirty. So, too, in the mining districts of Arnsberg and parts of Westphalia the miners were very largely foreigners and immigrants, French Walloons, Poles, Italians, and even Roumanians. Even in the German population, however, miners as a class were deficient in the sense of order and cleanliness, drawing their water from wells and watercourses which they had polluted with excreta and sewage and living in a state of overcrowding. As a rule the sanitary conditions of Saxony and the Rhine provinces were good, while the pure German populations of Hanover and Schleswig-Holstein were from their excellent sanitary surroundings and prosperous circumstances the freest from enteric fever. Dr. Pistor having discussed the views of Murchison and Budd and of Buhl and von Pettenkofer on the etiology of enteric fever expressed his belief with Koch that the bacillus was incapable of maintaining its existence in the soil and even of retaining its vitality for many days out of the human body. Sudden outbreaks and epidemics were mostly caused by accidental pollutions of water-supplies and milk-supplies, while other articles of food and direct personal infection were the ordinary vehicles in the sporadic forms of the disease, unrecognised cases or those that were so mild as not to inspire alarm playing a more important part in the ordinary spread of the disease. He referred to the Gruber, Conradi, and von Drygalski's serum and other methods of diagnosis, but considered that they could be relied on only in the hands of experts. If, however, every case were reported and traced to its source the assiduous carrying out of every sanitary precaution would in course of time bring enteric fever, like cholera, into the class of what he might call "travelling diseases."

GLASGOW SOUTHERN MEDICAL SOCIETY.—A meeting of this society was held on May 12th, Dr. Thomas Richmond, the President, being in the chair.—Mr. R. H. Parry exhibited amongst others the following specimens and read notes of the cases from which they were removed. 1. A prostate removed by Freyer's method. This was removed complete in 15 minutes, only a thin outer layer of the gland being left adherent to the recto-vesical fascia; the removal of this outer layer was considered inadvisable as its absence would have permitted of extravasation of urine into the pelvis. The prostatic urethra was removed along with the gland. 2. A Foreign Body removed from the œsophagus by œsophagotomy. It was a piece of coal which had been introduced into the gullet with suicidal intent. The operation was the second one performed for a similar condition in the same patient who after this operation, from which he made a good recovery, was removed to an asylum. 3 A specimen from a case of Complete Gastrectomy. The patient, who was a woman, was sent to the Victoria Infirmary in April, 1902, by Dr. A. A. F. Steen. Until three months prior to admission she had suffered from weakness and giddiness with progressive emaciation; she had no gastric symptoms up to this time when she suffered from pain and sickness, weakness and anæmia. A swelling was discovered in the "pit of the stomach" two months before operation. When admitted to hospital she was in a very low condition, the emaciation being extreme, and Mr. Parry had great doubts as to the advisability of any operative procedure at all but she made continual appeals to him "to do something." The abdomen was opened in the middle line and the stomach was examined; it was found to be very small, with a considerable carcinomatous tumour involving the pylorus and extending along the lesser curvature almost to the cardiac end of the viscus. The whole was removed, the duodenum with the head of the pancreas being carried over to the left side and stitched to the œsophagus by end-to-end approximation. The operation was hurriedly completed owing to the serious condition of the patient, the parietes, which consisted practically of skin and peritoneum (so great was the emaciation), being speedily brought together. On the day following the operation a portion of bowel protruded from the wound and this gave rise to some little disturbance, but thereafter the patient recovered gradually, food being taken by the mouth on the fourth day after operation. She was shown to the society and declared herself to be feeling very well. She was able to work and to take food fairly well, her breakfast usually consisting of an egg, toast, and tea and her dinner of a little butcher's meat and potato. Fish she declared did not agree well with her. She sometimes suffered a little pain but constipation, which had been a marked feature of the case prior to the operation, now troubled her very little. She looked remarkably well. 4. A specimen of the Middle Third of the Anterior Wall of the Stomach removed for cancer 18 months ago, the tumour also involving the transverse colon. The patient was now alive and well.—Mr. Parry read notes of another case of Complete Gastrectomy which did well for seven days when, owing to the yielding of some of the sutures, complications supervened which terminated fatally. He also showed specimens from two cases of Pylorectomy and two cysts of the Pancreas, the removal of which was followed by recovery. He said that these cysts were generally found about the tail of the pancreas and were, as a rule, mistaken for floating kidney; an important point in the diagnosis of this condition was that the right kidney was the one usually found to be moveable, and even after its reposition a small part of it might still be palpable, but in the case of the left, after replacement no part of the kidney should be palpable and where something was felt in the left loin in these circumstances strong suspicion should be entertained of the presence of a pancreatic tumour.—Dr. J. Lindsay Steven, Dr. T. K. Monro, Dr. Carstairs C. Douglas, Dr. D. Macgilvray, and the President took part in the ensuing discussion.

EDINBURGH OBSTETRICAL SOCIETY—A meeting of this society was held on May 11th, Dr. N. T. Brewis, the President, being in the chair.—Dr. F. W. N. Haultain read a paper on Malignant Uterine Complications of Fibro-myomata. He described cases and exhibited micro-photographs of specimens showing distinct sarcomatous degeneration of fibro-myomata with recurrence after removal. He had found four cases of malignant degeneration out of 1200 collected cases of fibro-myoma. He discussed the question of panhysterectomy as compared with the supravaginal method of treating the stump after removal of the uterus with fibro-myomata. The latter operation had a considerably less mortality in the hands of most operators and was therefore to be preferred, as the risk of possible malignant degeneration of the cervical stump was much less than the extra risk of the mortality in panhysterectomy. He considered that fibroids which produced no symptoms should be left alone as the risk of their removal by operation was much greater than the possible risk of malignant degeneration if left without operation.—Professor A. R. Simpson, Dr. James Ritchie, Dr. J. H. Ferguson, and others discussed the paper.—Dr. J. W. Ballantyne read a paper entitled "The Obstetric Satchel: a Problem in Asepsis." With respect to the intra-uterine use of antiseptics he said that it was better to prevent the access of pathogenic organisms to the uterus than to pursue them with antiseptics after they were there. By a germicidal action of the vaginal mucus and possibly by other protective mechanisms of a more complex kind, microbes introduced into the vagina from without were rendered innocuous. The gush of liquor amnii, practically a normal saline solution, helped to wash away any microbes which the vaginal mucus (perhaps becoming scanty) had failed to kill. The placenta, like a huge sterilised sponge, swept through the vagina, carrying clots, shreds of membrane, meconium, vernix, and all such putrescible matter before it. Outside the vaginal orifice, however, there were congregated multitudes of pathogenic and pyogenic organisms which might be carried in on the examining finger, on instruments, or on the douche nozzle, and near the anus there was the bacillus coli communis which was greatly to be feared in its later developments. Obstetricians disinfected the vulva lest fingers, instruments, or douche might receive contamination on entering the vagina. The accoucheur's hands were carefully prepared and the necessary instruments were boiled in maternity hospital practice and to some extent in private practice, but the ordinary obstetric bag was a weak point. The bag with detachable lining was an improvement, although it fell short of the requirements necessary for a surgical operation, as an ovariotomy. Dr. Ballantyne showed an obstetric bag of enamelled iron trays, &c., suggested by Professor Edgar of New York. He then described his modification, which he designated a satchel. It consisted of two trays made of tinplate, the one to fit into the other but not completely; the larger measured 17 inches by 7½ inches by 6 inches; the other was less deep. In the space between these the bottles of chloroform, ergotin, ether, douche tubes, &c., were contained in a cotton hold-all with many compartments. The various obstetric instruments were each in linen bags, all previously sterilised. A sterilised coat or apron was carried in sterilised towels. The two metal cases could be used as trays for washing the hands or for sterilising instruments over a fire. The whole was covered with a brown canvas cover which acted as a carrier. There was no rattling noise in carrying it.—Dr. G. L. Chiene, Dr. A. D. Webster, and others discussed the paper.—Professor Simpson showed a Commemoration Plaque of the Fiftieth Anniversary of the Foundation of the Obstetrical Society of Leipsic.

PATHOLOGICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on May 11th, Dr. E. S. Reynolds, the President, being in the chair.—Dr. J. Dreschfeld and Dr. F. Craven Moore described three cases of Primary Sarcoma of the Liver. 1. A female, aged 56 years, suffered for four months from gastric disturbance, pain in the hepatic region, abdominal tumour, loss of weight, jaundice, and towards the end from ascites. At the necropsy the liver was found to be occupied by a large single mass of new growth; the peritoneum and the cœliac and mediastinal glands were the seat of metastases. In structure the new growth was a sarcoma, round- and spindle celled, probably arising from the endothelium of the portal capillaries. 2. A male, aged 23 years, suffered for five months from weakness, wasting, and abdominal tumour. There was no ascites or jaundice. The necropsy revealed a diffuse infiltrating new growth of the liver, with metastases in the portal glands. In structure it was a typical endothelioma of the portal capillaries 3. A male, aged 61 years, suffered for five months from weakness, wasting, and abdominal tumour. No jaundice was present. Ascites occurred towards the end. At the necropsy the liver was found to be occupied by a number of nodules of new growth, the larger of which were cystic. In structure they were angio-sarcomata undergoing myxomatous degeneration.—Dr. Charles H. Melland and Dr. D. Orr gave a lantern demonstration of coloured micro-photographs illustrating the morphology of the malaria parasite.—Dr. R. T. Williamson showed specimens of a Small Sarcoma of the Cerebellum affecting the left amygdala only. The symptoms had been chiefly headache, vomiting, double optic neuritis, and ataxia with a tendency to fall to the left. Marchi's method of staining revealed marked degeneration of the posterior root fibres in their intramedullary course in the upper half of the spinal cord. There was marked degeneration in Burdach's columns in the cervical region but Goll's columns were unaffected.—Dr. Williamson also showed specimens from the brain of a patient who had suffered for 12 months from intense headache. There was no optic neuritis until the last four days of life. Four tuberculous masses were present in the cerebrum, all of which were surrounded by a thick fibrous capsule. The masses resembled gummata but their tuberculous nature was shown conclusively by the presence of numerous tubercle bacilli.—Dr. I. Walker Hall showed an Intrapericardial Aortic Aneurysm communicating with the pulmonary artery and left auricle.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—The closing meeting of the session of this society was held on May 9th, Mr. A. E. Maylard, the President, being in the chair.—Mr. G. B. Buchanan showed the Sac and Coverings of an Umbilical Hernia with omentum adherent round a large part of the wall from a patient 71 years of age, operated on for strangulated hernia.—Dr. A. Napier showed a patient, the subject of very extensive Lupus Verrucosus, who was under treatment by curetting, actual cautery, and injections of tuberculin; there had been marked improvement since this treatment was commenced. —Mr. Buchanan also showed a specimen of Epithelioma of the Œsophagus which had penetrated into the larynx.—Dr. Napier read notes of a case of Acromegaly in a woman, aged 34 years. The condition had been slowly advancing for five years. A series of photographs and the patient were shown.—Dr. J. Wainman Findlay read notes of a case of Chronic Lymphatic Leukæmia and demonstrated the condition of the blood. The patient was 60 years of age. The enlargement of the glands under the chin was noticed two years previously and now all the superficial glands were greatly enlarged. The proportion of leucocytes to red corpuscles was about 1 to 2 5 and the small lymphocytes formed 96 per cent. of the first-named. The red blood corpuscles numbered 1,424 000 and the white blood corpuscles 568,660 per cubic millimetre. The patient had had syphilis 35 years ago and malaria some time later.—Dr. T. K. Monro and Mr. J. Archibald Campbell reported a case of Splenic Abscess and Empyema due to the Bacillus Typhosus and associated with a positive Widal's reaction but without intestinal lesion. Except fever the case showed none of the signs of enteric fever. The case terminated fatally in about three weeks.—Mr. R. H. Parry showed a case illustratin Brophy's Operation for Cleft Palate.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—A meeting of this society was held on April 28th, Dr J. H. Stowers, the President, being in the chair.—The following cases were exhibited: Dr. Alfred Eddowes: (1) A case, aged 20 years, of Lichen occupying nearly the whole of the body covered by clothing; and (2) microscopical specimens from a case of Acute Eczema.—Dr. E. G. Graham Little: (1) A case for diagnosis; the
philis, ? Tubercu-
Ulcer; (3) Lichen
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mma of the Left
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Both Ear
ago.—Dr.
D. Savill
Morphœa
and (5)
(1) A sma
Dr. E. Stainer: Localised Atrophy of the Skin.—The President: (1) Alopecia Neurotica Universalis; (2) Eczema Pustulosum of the Hands; and (3) photographs of a case of Hydroa Herpetiforme —Dr. Wilfrid B. Warde: Persistent Œdema of the Hand and Forearm.

LEEDS PUBLIC DISPENSARY.—Professor Clifford Allbutt who for many years was closely associated with the Leeds Public Dispensary, opened the new buildings of that institution in North-street, Leeds, on May 12th In the course of a very interesting address Professor Allbutt dwelt upon the splendid victories which the healing art had achieved. Typhus fever and other diseases, he said, had become rare or had disappeared, pulmonary consumption had been reduced, and the extraordinary discovery of the nature of malaria had changed or would change the face of vast fertile areas which had hitherto been almost uninhabitable. With these changes going on they might hope that charitable institutions such as the Leeds Dispensary would not need to be enlarged continually in the future as they had in the past. Prevention of disease and knowledge of its laws were being attained and he thought would encroach upon the curative part of their profession.

Reviews and Notices of Books.

The Treatment of Injuries by Friction and Movement. By WHARTON P. HOOD, M.D. St. And., M.R.C.S. Eng., L.S.A., Honorary Surgeon to the Royal Academy of Music, &c. London: Macmillan and Co. 1903. Small 8vo, pp. 182. Price 4*s.* 6*d.*

JUST a third of a century has passed away since Dr. Wharton P. Hood contributed to our columns and afterwards published in book form a series of papers on Bonesetting, in which he explained to the medical profession the nature of the manipulations then customarily practised by the persons who assumed the title of "bone-setters" and whose use and wont it was to deal with cases, at that time unfortunately only too common, in which a period of unduly prolonged rest after what might at first appear to be only a trivial injury had been followed by some form of permanent disability. Dr. Hood showed that these cases were, as a rule, examples of spurious ankylosis combined with muscular wasting, and explained not only the nature of the manipulations by which they were frequently cured but also the safety and advantage with which these manipulations could be conducted under the guidance of adequate anatomical and surgical knowledge. It was well known at the time that the so-called "bone-setters" frequently inflicted serious injuries upon persons who came under their hands and also that members of the fraternity had been successful in cases which had resisted the treatment of the most skilful surgeons—cases some of which had been rendered almost notorious by the rank or position of the patients. In commenting upon Dr. Hood's papers when they first appeared we expressed the opinion that they were calculated to inflict a death-blow upon a form of quackery which had rested upon a neglected or forgotten truth; and said that the author had called attention to morbid conditions which had been only very faintly described in books and scarcely at all recognised in practice, as well as to methods of cure at once simple and intelligible. Manipulations analogous to those of the "bone-setter" were at that time often required in practice; and, in the hands of a good surgeon, would be applied to none but suitable cases and under precautions which removed all danger of injurious consequences.

In the little book which, after the lapse of so long a period, Dr. Hood has recently given to the profession he reviews the results of an experience of old and recent injuries which extends, he tells us, to 23,500 separate cases, and relates the results of his attempts so to modify early treatment as to prevent the occurrence of those crippled conditions which in his first publication he showed the way to cure He tells us that during the first few years after the publication of his book on bone-setting he was naturally called upon to see old injuries in larger proportions than recent ones, but that before long cases of the latter kind came under his notice with sufficient frequency to call for complete reconsideration of the methods commonly employed in dealing with them. He points out that an approach to his methods which he began to practise 20 years ago was advocated in 1895 by Dr. J. Lucas-Championnière, and still more recently by several English surgeons, but he doubts whether any of these gentlemen admit his view of the physiological principles on which the treatment should depend or the extent to which friction and early movements of the affected part should be carried. On all these points as well as on the actual conditions of sprains and of ruptured muscular fibres, and on the methods by which such injuries may be prevented from becoming causes of prolonged disability, Dr. Hood writes with great clearness; but so concisely and with so complete an absence of superfluous verbiage as to render quotation extremely difficult. We can cordially recommend his work to the attention of every practitioner who is liable to be called upon to deal with injuries, especially with injuries of the class likely to arise from the modern practice of athletics; and we believe that very few readers will either be inclined to lay it aside until they have finished it or will fail to obtain valuable practical suggestions from its pages.

The Refraction and Motility of the Eye. For Students and Practitioners. By WILLIAM NORWOOD SUTER, M.D., Assistant Surgeon to the Episcopal Eye, Ear, and Throat Hospital, Washington, D.C. Illustrated with 101 engravings in the text and four plates in colours and monochrome. London: Sidney Appleton. 1904. Small 8vo, pp. 390. Price 9*s.* net.

THE work is divided into four parts, the first part treating of the theory of refraction; the second describing the refraction and motility of the normal eye; the third giving an account of the methods of determining the refraction of an eye with their application to cases of hypermetropia, myopia, and astigmatism, with a chapter on anisometropia and upon presbyopia and anomalies of accommodation; and the fourth part dealing with disorders of motility which are considered under the two heads of non-paralytic disorders of muscular equilibrium and paralytic disorders of motility. Into a comparatively small space Dr. Suter has compressed a large quantity of information, and although owing to the number of books dealing with the refraction of the eye it is difficult to state in other language than such as is to be found in the ordinary text-books on optics the essential facts of the reflection and refraction of light, the change of direction impressed upon luminous rays by lenses and prisms, and the course pursued by such rays through the media of the eye under conditions which lead to the formation of a normal or distorted image of the external world, yet Dr. Suter manages to give a certain freshness to his expositions, whilst his familiarity with the subject enables him to form and to express his opinion upon disputed points. Thus, to take one example only, in regard to the rival theories of Helmholtz and Tscherning upon the nature of the accommodation of the eye to objects at different distances which has been the subject of much discussion and still divides the opinions of experts, he supports Helmholtz's views, remarking that "the diminution of spherical aberration which occurs in accommodation, as shown by Tscherning, is a direct sequence of the peripherally diminishing curvature and consequently it is not inconsistent with Helmholtz's theory. As regards Tscherning's experiments upon the eyes of animals it should be noted that traction made upon the suspensory ligament can cause increase of curvature at the summit only when the lens has a hard nucleus surrounded by soft cortical matter as may be found in the lens of the adult ox, the animal upon which Tscherning's examinations were made. In the lens of the calf traction causes flattening at the summits of the surfaces. It is evident, therefore, that Tscherning's experiments do not substantiate his theory, for the solid nucleus which is necessary (as admitted by Tscherning) in order that traction may cause an increase of curvature does not exist in childhood—the period of greatest accommodative activity"—a very sound argument and conclusion.

The methods of determining the refraction of an eye are fully described. These are divided into subjective and objective methods, the former including those in which optometers are employed, some of which are based on the action of a convex lens, others on the principle of the opera glass, others on Scheiner's experiment, others on the property of chromatic aberration, others on the measurement of the retinal diffusion-circles, others on the movement of the diffusion-image on the retina, and others based upon visual acuteness and its assistance when defective by means of lenses. The objective methods include the determination of the refraction of the eye by the direct and indirect methods of ophthalmoscopy, by skiascopy, and by keratometry. In each instance Dr. Suter explains the mode in which the test is applied, as well as in many instances the advantages and disadvantages of the test, in actual practice. We have mentioned these tests to show how carefully this ground has been worked over, especially in America, and to indicate to the student how large is the field on which he is entering in commencing the study of the diseases of the eye when so much is to be learnt on the subject of refraction alone. The fourth part of the book devoted to squint is carefully and clearly written; the various methods of tenotomy and of advancement of the tendon of the *rectus* muscle are well explained and illustrated. We recommend Dr. Suter's work as an excellent *résumé*, without being too abstruse, of the present state of our knowledge of the normal and the abnormal refraction of the eye.

Mrs. Piper and the Society for Psychical Research. Translated and slightly abridged from the French of M. SAGE by NORALIE ROBERTSON, with a Preface by Sir OLIVER LODGE. London: R. Brimley Johnson. 1903. Pp. xviii.-187. Price 3*s*. 6*d*. net.

IT is not very easy to determine what should be done by the critic in the case of a book of this description. To ignore it entirely is not wise, because if this be done it is said that the medical profession know nothing about certain strange mental phenomena and decline to be taught by people who devote their time and abilities, such as they are, to the investigation of these things. If, again, such a book as this be dismissed, as it positively deserves, with a brief sentence it may be thought that no study has been devoted to it or that it opens a new world at which the medical mind shrinks back aghast and tries to disguise its wonder by a passing jest. If a still different course be taken and the work be discussed as a serious contribution to mental science the medical reader would, for his part, have real cause for complaint.

The claims which this little volume has for passing notice are two. In the first place it contains an introduction by Sir Oliver Lodge and in the second it will serve to show the general reader in a few words the curious position taken up by the friends of Mrs. Piper and will enable him to form his own opinion on the deductions and inferences which they make from the observed phenomena, if it be granted that a correct account has been given of the latter. Sir Oliver Lodge's introduction is a little apologetic. He had consented to write the preface "with some misgivings" before he saw the book and "now that I see it in its English dress," he adds, "I find my misgivings justified." However, the author, M. Sage, he says, speaks deprecatingly of his purpose in writing it and calls it "un modeste ouvrage de vulgarisation," and from this point of view Sir Oliver Lodge considers it successful. He goes on to say that he wishes to guard himself from any endorsement of the sentiments and comments of M. Sage, and these appeared to him "less appropriate" when they were translated, although "as they were intended in the original they were not out of keeping." This it must be admitted is not an easy argument to follow but we may take it that Sir Oliver Lodge considers the book a fair one so far as Mrs. Piper is concerned and that it will tend to the popularisation (vulgarisation) of her work.

Mrs. Piper is the wife of an American shopman, is of a home-loving disposition, of little education, commonplace, "sometimes even trivial" in her conversation, and her personality is attractive. She came to England and Professor Charles Richet had a sitting with her; she went into a "trance," her voice changed, and, lo! "she is no longer Mrs. Piper but Dr. Phinuit who speaks in a loud masculine voice in a mingling of negro patois, French, and American dialect." M. Sage explains that the Phinuit personality is what spiritualists call "a control," that by control is meant the mysterious being who is supposed to have taken possession of the organism of the medium, and he asks whether the controls are only "secondary personalities" or "disincarnated human spirits." Without answering his own question he says, "in either case they must have a name." Now, on this point we are inclined to join issue. Is there any reason why Mrs. Piper in the circumstances described shall not keep her own name? We need not follow the career of Dr. Piper Phinuit in detail and habitual readers of this sort of literature know what to expect. They will be pleased to come across their old friend Stainton Moses who had, at the time he was sent for, been about three years "in the spirit." We doubt if the scientific side of psychical research is well served by the publication of this book.

Infant Feeding. By LOUIS FISCHER, M.D. Third edition. With 54 illustrations. *Philadelphia: F. A. Davis Co.* 1903. Pp. 357. Price $1.50 net.

A PARALLEL reading of this edition and of the one which preceded it by no means convinces us that Dr. Louis Fischer has effected any genuine improvements in his work on infant feeding. It is true that he has modified certain of his views, notably on laboratory milk and on the value of Gaertner's milk, and has introduced generally more accuracy and precision into his methods, but the subject matter is so badly arranged and consists to so disproportionate an extent of quotations which are borrowed from other authors that it is impossible to regard this edition at all events as anything beyond a compilation, and not a very satisfactory one at that. It is difficult to suggest a reason for many of these literary plagiarisms; for instance, considerable space is devoted to quotations which would certainly discredit the use of such old nursery friends as lime water, bicarbonate of soda, and sugar of milk, if they could be taken seriously, and yet in face of the prominence which is given to these somewhat startling pronouncements we find in other sections of the book that the use of these commodities is warmly advocated. We only mention these seeming contradictions, which are unimportant in themselves, as illustrations of the general want of consistency which so markedly detracts from the merits of Dr. Fischer's book as a practical guide to the feeding of infants. It is difficult to determine which, if any, of the many artificial methods described in these pages is the one which Dr. Fischer recommends for the ordinary routine feeding of infants. He claims, however, that Coit's decimal method is the simplest and most easily applied system for the home modification of milk. For this method three solutions are required—a 10 per cent. cream, a 10 per cent. saccharated skimmed milk, and a 10 per cent. solution of sugar. By combining these solutions in various proportions milk mixtures of various percentage composition may be obtained. The method does not appear to us quite as simple as Dr. Fischer would have us believe; indeed, the mathematical calculations which are involved in the working out of the formulæ strike us as particularly complicated. The method has, however, the extreme advantage of being a scientific one and one which, though perhaps never absolutely exact, possesses only a small margin of possible error. Two chapters which are devoted to the subjects of milk substitutes and milk idiosyncracies in children deal respectively with two most important and difficult problems. Both of these chapters contain some very useful hints although neither of them can be regarded as complete solutions to the questions involved. In speaking of the unpopularity in certain quarters of milk laboratories and their methods, the author regards it as possible that certain of the unsatisfactory results which have been noted may be due to the overheating of the milk. He urges, therefore, that those who employ these laboratories should insist upon "having the formulæ compounded by using raw milk and fresh cream"; the natural living qualities of the milk may thereby be preserved thus rendering it more assimilable than when it has been subjected to prolonged heating. He anticipates that if this simple precaution be taken even the strongest opponents of this method may yet be convinced of the superior advantages of milk which has been handled and modified with the care which is usually bestowed upon it at milk laboratories. We notice on p. 140 the curious statement that glycerine is "an oil," and as such indicated in children requiring fat; and we further notice that this "oil" is recommended to be injected to the amount of five ounces mixed with 20 ounces of warm water into the infant's rectum when suffering from constipation. Apart from the heroism of this proceeding, it strikes us as one which would be rather expensive for routine or hospital practice. As will have been gathered from the preceding remarks we do not regard Dr. Fischer's book as a good one on the subject of infant feeding. It is controversial without being critical and, although it contains an immense amount of sound information, the information is so badly arranged that it ceases to be instructive.

A Text book of Pathology. By ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania; Physician to the Philadelphia Hospital. With 394 illustrations in the text, many of them in colours, and seven full-page chromolithographic plates. Fourth edition, thoroughly revised. London, Philadelphia, and New York: W. B. Saunders and Co. 1903. Pp. 933 Price 21*s*.

IN reviewing a work that has reached a fourth edition but little need be said as to its general nature and scope. Dr. Stengel has endeavoured to continue to present the subject of pathology in as practical a form as possible and always from the point of view of the clinical pathologist. He has succeeded in his design in a most admirable manner. In the preface to the present edition Dr. Stengel remarks that its preparation has been rendered difficult by the mass of important work that has appeared in the last two or three years. We can fully appreciate the embarrassments which he encountered. During that period an immense amount of work in pathological investigation has been accomplished. Dr. Stengel, however, has constantly kept before him the necessity of incorporating only demonstrated facts and avoiding unproved hypotheses. In thus acting he has done wisely. It is very confusing to the student to be presented with theories and suggestions on abstruse subjects none of which has definitely been proved to be correct. Such discoveries may be interesting to an expert but are useless for purposes of instruction. The section of the book dealing with general pathology has required the greatest care and has been most extensively revised, several of the important chapters having been practically rewritten. Ehrlich's theories of immunity and allied processes are fully considered and explained in as lucid terms as such an involved subject will permit. Dr. Stengel is of opinion that "Ehrlich's side-chain theory" explains the facts regarding the action of toxins and the formation of antitoxins better than any that has been suggested and he further adds that all the steps in this theory have been practically demonstrated. The chapter on inflammation has received close attention and now contains a *résumé* of the latest investigations on the subject. In discussing typhoid fever attention is drawn to the fact that local or general typhoid infection may occur without the intestinal lesions or usual clinical features of typhoid fever. In such cases local inflammatory lesions, suppurations or necroses, or septicæmia have been observed. A short description is also given of paracolon or paratyphoid infection. Cases have been reported resembling typhoid fever clinically but in which the Widal reaction was persistently absent and in which bacilli closely resembling the typhoid or colon bacillus, though differing in some essential particulars, were isolated from the blood and tissues. Dr. Stengel asserts that the bacilli differ from the bacillus of typhoid fever by their ability to produce gas in glucose-containing media and to produce alkali in nutrient media. They differ from the bacillus coli communis by not coagulating milk, by not fermenting lactose, and by failing to form indol. The remarks on tuberculosis have been carefully arranged so as to include most of the latest researches. The relation of human to animal tuberculosis, however, is only briefly touched upon. A short description is given of the smegma and other acid-proof bacilli. The etiology of yellow fever is discussed. The experiments of Reed and Carroll naturally receive notice, for these observers demonstrated the importance of mosquitoes as agents in the transmission of the disease. It was definitely proved that a special form of mosquito—the stegomyia fasciata—carries the contagion from one person to another. The bacillus icteroides, discovered in 1897 by Sanarelli, seems to be a secondary invader and not the cause of the disease.

The second half of the book (on Special Pathology) has been also subjected to considerable revision, although extensive alterations have not been so necessary as in the first portion of the work. The chapter on Diseases of the Blood has been brought up to modern requirements. A classification of the varieties of leucocytes is exceedingly difficult as transitional forms are abundant. The classification introduced by Ehrlich and his pupils is here adopted and while it is not entirely satisfactory it has one advantage over others—viz., that it is comparatively simple. The pathological changes occurring in the red corpuscles are also described. Investigations into the properties and alterations of the erythrocytes have necessitated the introduction of some new terms, such as "anisocytosis" and "hemokiniæ," which in due time will become familiar. A few observations are also made on the pathological changes in the plasma. These are mainly of a chemical character and consist of the presence of abnormal substances or of normal constituents in excessive quantity. A chapter has been added on the Technique of Pathological Methods. We must conclude with a few words of congratulation with regard to the illustrations. They are admirable. In this edition many of the old ones have been replaced by new and a number of plates have been added where more ample illustration has seemed advisable. We may draw especial attention to the plates illustrating the diseases of the spinal cord which are beautifully executed.

LIBRARY TABLE.

The Practical Care of the Baby. By THERON WENDELL KILMER, M.D. Philadelphia: F. A. Davis Co. 1903. Pp. 158, with 68 Illustrations. Price $1.—This little book adds one more to the list of works on the care of infants which owe their authorship to a member of the staff of the Baby's Hospital in New York. Evidently no trouble or expense has been spared to make it a thoroughly attractive book. It is lavishly provided with excellent illustrations, printed in large type and we imagine in every way suitable for young mothers who "know absolutely nothing about the care of a baby." A considerable amount of space —we are inclined to think a rather disproportionate amount—is devoted to the description and illustration of babies' and children's clothing. The directions for feeding, which is always the most important feature in a book of this kind, are taken from Dr. Emmett Holt's "Care and Feeding of Infants"—not, however, from the last edition of that little work but from one of the earlier issues. This, in our opinion, shows a wise discrimination, for the method which Dr. Holt first advised is altogether simpler and more practical than the system he now suggests. There has been pressed into a comparatively small space an immense amount of information on such subjects as airing, exercise, sleep, teething, the condition of the bowels, increase in weight, and a host of other matters about which even mothers of large families often remain ignorant to the end. About one-third of the volume is given up to the consideration of minor ailments and emergencies, with full instructions as to what to do should such arise. In every respect we regard "The Practical Care of the Baby" as a most excellent little book.

The Knights Hospitallers in Scotland and their Priory at Torphichen. By GEORGE THOMAS BEATSON, M.D Edin., C B. *Citizen* Office, Glasgow: James Hedderwick and Sons. 1903. Pp 33. Price 2*s*. 6*d*. net.—Dr. Beatson is the chairman of the Council of the St. Andrew's Ambulance Association and the question arose as to whether this association should affiliate with the Order of St. John of Jerusalem. Dr. Beatson therefore compiled a paper upon the history of the latter order in Scotland and read it before a meeting of the St. Andrew's Association which was held in February, 1903 The book before us is the said paper somewhat enlarged. Dr. Beatson commences by giving a description of the origin of the order and refers to the Amalfi merchants as building a hospital in Jerusalem about 620 A.D. That gossipy pilgrim Felix Fabri, in his Evagatorium[1] circa 1480 A.D., gives the date of the foundation of the Amalfi Hospital (Maria de Latina) as in the reign of Charlemagne—i.e., about 800 A.D.—and the date of the Hospital of St. John the Almoner as 1118 Further, he says that the knights were not under the patronage of St. John the Baptist until after they went to Rhodes. Dr. Beatson, however, says that the Jerusalem House was dedicated to the last-named saint We hold no brief for the accuracy of Fabri and doubtless Dr. Beatson has had access to many other documents bearing on the early history of the Order. The Knights went to Scotland by invitation of King David I. and they were an offshoot from the English Langue. They established themselves at Torphichen where they built a preceptory in 1124 A.D. The tower and the two transepts still remain and we are glad to see are cared for by the *present Lord Torphichen.* Within the domain of the preceptory were five sanctuary stones, two of which are still to be seen. The preceptory, like so many other admirable institutions, came to an end at the Reformation, and small wonder too, for the last preceptor was a personal friend of Knox. Dr. Beatson's interesting work concludes with an urgent appeal for union between the Order of St. John of Jerusalem and the St. Andrew's Ambulance Association.

Sayings of K'ung the Master. Selected, with an introduction, by ALLEN UPWARD. London: The Orient Press. 1904. Pp. 50. Price 1*s*. net.—This little book is one of a series, entitled "The Wisdom of the East," which deals more or less with the religion, the philosophy, and the ethical code of Oriental nations. K'ung-fu-Tzee, or K'ung the Master, was Latinised by Western missionaries into Confucius and this teacher is generally said to have been the founder of a religion. According to Mr. Allen Upward he was nothing of the kind but merely a teacher. He refused to discuss the supernatural because he knew nothing about it. Like St. James he considered that faith without works is dead. Though he himself said, "At 50 I knew the decrees of heaven," he contented himself with teaching men how to live on this earth, teaching them partly by precept but mainly by example, and his ideal was good government in the interest and for the happiness of the humble. The selections given are chiefly from the translation of the Analects by Legge.

JOURNALS AND MAGAZINES.

The Practitioner.—The issue of this magazine for May contains some unusually interesting and attractive articles. Dr. Guthrie Rankin writes a philosophical essay upon old age which might be perused with advantage outside of, as well as within, the ranks of the medical profession. Dr. Leonard L. B. Williams contributes an article entitled "Some Aspects of Obesity." Dr. Williams's views upon the efficiency of slow feeding, cold baths, proper limitation of clothing, &c., are sound and well put and the article should be a useful corrective to the many "fads" that are apt to gather round this question of fat. Dr. H. D. Rolleston provides a careful review of recent work on gastric affections, giving the impression that whatever has been written lately in any tongue has not escaped his notice.

The Journal of Physiology. Edited by Sir MICHAEL FOSTER, K.C.B., F R S, and J. N. LANGLEY, F.R.S. Vol. XXXI., No 2. London: C. J. Clay and Sons. May 3rd, 1904. Price 6*s* 6*d*.—The articles contained in this number are as follows.—1. On the Formation of Prussic Acid by the Oxidation of Albumins, by R. H. Aders Plimmer, D.Sc., Grocers' Company's Research Student. Dr. Plimmer shows that by the oxidation of albumins with Neumann's acid mixture, or after treatment of the products of hydrolysis, or with potassium dichromate and sulphuric acid in suitable proportions prussic acid is formed, but it does not appear to be formed from the oxidation of the amino-acids. 2. On the Histological Changes produced by Injection of Adrenalin Chloride, by W. B. Drummond, M B., C M Edin., with four figures in the text. Dr. Drummond points out that the histological changes observed by him are due to two factors: the first is the influence of adrenalin upon blood pressure and the second its direct toxic action, the former displaying itself in congestion of the viscera and in the occasional presence of hæmorrhages and of serous effusion and the latter exhibited by the changes in the cells of glandular organs and especially of the liver and kidney. 3. Observations on the Influence of Adrenalin Poisoning on the Liver, with special reference to the glycogen, by W. B. Drummond, M.B, C.M. Edin., and D. Noel Paton, M.D. Edin., with two figures in the text. The glycogen, it is shown by these observers, is diminished in acute, but not invariably in chronic, adrenalin poisoning. The lobules in acute adrenalin poisoning frequently show degenerative changes on their central zones. 4. On the Adaptation of the Pancreas, by F. A. Bainbridge, M.B. Cantab., M.R C.P. Lond., Research Scholar of the British Medical Association. Dr. Bainbridge shows that under normal conditions the pancreas of dogs contains no lactase though this substance is contained in extracts of the intestinal mucous membrane. Yet when dogs are fed for two or more weeks on a milk diet their pancreatic juice obtained by means of secretin invariably contains lactase. He believes that lactose acts upon the intestinal mucous membrane, causing it to produce some substance which is carried in the blood-stream to the pancreas, stimulating that gland to form lactase. 5. On the Physiological Action of the Alkaloids of Jaborandi Leaves, by C. R. Marshall, with 19 figures in the text. Mr. Marshall finds that jaborandi leaves contain three alkaloids—pilocarpine, isopilocarpine, and pilocarpidine. Pilocarpine resembles in its action the effects of electricity on the vagus and this action is counteracted by atropine. Isopilocarpine acts like a weak pilocarpine and pilocarpidine produces still weaker but similar effects. 6. On the Innervation of the Ileocolic Sphincter, by T. R. Elliott, Coutts Trotter Student of Trinity College, Cambridge, with nine figures in the text. Mr. Elliott demonstrates that the junction of the small and large intestine is controlled by a muscular sphincter not by a mechanical valve. Stimulation of the sympathetic causes the sphincter to contract but inhibits the circular muscle in the wall of the ileum and the colon. In the cat the constrictor fibres issue chiefly from the thirteenth thoracic and first and second lumbar roots. This number also contains the Proceedings of the Physiological Society for March.

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[1] Hassler's edition, Stuttgart, 1843, vol. ii., pp. 246 and 274.

The British Journal of Children's Diseases. No. 1, Vol. I. London: Adlard and Son. Price 1*s.*—The impetus which has been imparted to the progress of pediatrics in this country by the active operations of the Society for the Study of Diseases in Children has rendered the occasion opportune for the publication of a journal which is exclusively devoted to this important branch of medicine. The first number of the *British Journal of Children's Diseases* was published in January of this year and will continue to appear monthly under the editorship of Dr. George Carpenter. It is practically certain that a journal conducted on the lines which are foreshadowed in the first number will be actively supported by a large and increasing number of readers. The first number contains several excellent original articles, notably by Dr. James Taylor on a case of Hemicrania, by Dr. Edmund Cautley on Congenital Stenosis of the Pylorus, by Mr. Clinton T. Dent on the same subject, by Dr. G. A. Sutherland on Intussusception and Henoch's Purpura, and by Mr. T. Glenton-Kerr on the Administration of Children's Hospitals. The number also contains under the title of "Excerpta Puerilia" a number of miscellaneous notes on matters in the domain of pediatrics which will be of general interest.

New Inventions.

A NEW BEDSIDE SPITTOON.

IN the ordinary earthenware bedside spittoon with a loose funnel some of the sputum usually dries on the latter and becomes a source of danger in addition to presenting an unsightly appearance. The chief objection to the forms with hinged lids is the difficulty of keeping them clean, for sputum lodges and dries in the hinge which is speedily destroyed if attempts are made to sterilise the spittoon by boiling. The various spittoons with loose paper or card linings are advisable but their cost prevents their extensive use in hospital practice. Whilst resident medical officer at the Mount Vernon Hospital for Consumption at Hampstead I designed a bedside spittoon which has been made by Messrs. Allen and Hanburys of 48, Wigmore street, London, W., and has been in use at the hospital for some months. It is strong, being made of enamelled iron, and is not unsightly. It is also cheap (12*s.* 6*d* per dozen) and easily kept aseptic as it is not injured by boiling and it has no crevices in which sputum can lodge.

FIG. 1.

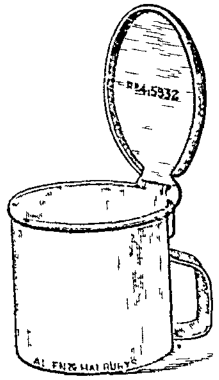
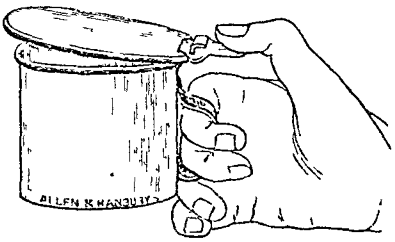


FIG. 2.



As will be seen from the illustrations the handle is placed lower down than is usual and from the rim above it a small curved projection passes backward and engages in a small slit in the lid, forming an efficient hinge. The lid is easily removed and is opened by pressing on its projecting process when raising the cup.

SYDNEY R. WILLIAMS, M.R.C.S. Eng., L.R.C.P. Lond.
Fishponds, Bristol.

Looking Back.

FROM

THE LANCET, *SATURDAY,* May 20, 1826.

NOW the whole of the *alimentary canal,* (like the *air-passages,*) is lined by a *mucous membrane,* which is subject to the affections that belong to this kind of structure in general; namely, inflammation, with its consequences, and which has received different names, according to the particular part it occupies. These, which are mere *varieties,* have been considered as different *species* of disease; although, pathologically considered, they are essentially the same, and require a treatment, in all essential points alike, doubtless with some modifications, arising out of their relative connexion with other parts. We have no general term in common use like that of catarrh to express an inflammation of the lining membrane of the alimentary canal altogether; but the affections of particular parts of it, have had *specific* names given to them. Thus, when that part of the mucous membrane which lines the mouth, is affected with inflammation, it constitutes the disease termed *aphtha,* or the *thrush.* When the fauces are similarly affected, the disease is termed *cynanche* or *angina;* in common language, the *sore throat* or quinzy.

In the œsophagus and stomach, the affection is termed *cardialgia* or *heart-burn,* in the small intestines, *diarrhœa;* in the large intestines, *dysentery.* And when the whole alimentary canal is at once similarly affected, the disease has been termed *cholera morbus.*[1]

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[1] Excerpt from lecture on the Theory and Practice of Physic, delivered by Dr. Clutterbuck in the theatre, General Dispensary, Aldersgate street.

NATIONAL SANATORIUM FOR CONSUMPTION, BOURNEMOUTH.—The annual general meeting of governors of this charitable institution was held in London on May 12th at the Westminster Palace Hotel, the Right Hon. Arthur F. Jeffreys, M.P., occupying the chair. The annual report of the committee of management for the year 1903, which was unanimously adopted, stated that the accounts showed a deficiency of £305, as compared with a deficit of £540 the previous year. As a result of the special appeal the annual subscriptions showed an increase of £139 and donations an increase of £514. The committee regretted that the annual subscriptions did not show a larger increase, as the income was still insufficient to meet the current expenditure. It desired particularly to add that by the additional accommodation which is being provided new annual subscriptions to the amount of at least £500 were urgently needed. During the year 225 patients were admitted, of whom 182 were discharged improved, many being fitted to return to their occupations. 64 patients were continued from 1902, so that the total number under treatment last year was 289. The average length of stay in the sanatorium was 11·8 weeks. Mr. Robson-Burrows, a member of the committee of management, informed the meeting that the plans and specifications for the new extension of the sanatorium had been prepared and that tenders were being invited for carrying out the work.

THE LANCET.

LONDON: SATURDAY, MAY 21, 1904.

The Future of Medical Education in London.

THE oration by Sir ISAMBARD OWEN before the Medical Society of London, which we publish at p. 1399 of this issue, was peculiarly appropriate at a time when on all hands it is admitted that medical education is passing through a trying period of transition. Although many look hopefully to the future when all difficulties shall be smoothed away, others feel a certain degree of anxiety lest the schemes upon which reliance has been placed may never be carried into effect or may so far revolutionise medical teaching that disastrous consequences may ensue. Sir ISAMBARD OWEN commenced his oration with a pithy anecdote to demonstrate the lack of general interest in science exhibited in this metropolis as compared with continental cities, and there can be no doubt that in London we are so accustomed to the modesty of our greatest men of science that when living they pass unnoticed in the street, and when dead their names are only gratefully remembered by their fellow workers. The desirability of erecting statues or other memorials does not occur to their followers who hold that their masters still live in the memory of their work, while money may be better spent in advancing science or in alleviating distress. Different nations have different methods of expressing appreciation. This, however, formed only the introduction of Sir ISAMBARD OWEN'S argument. His chief contention was that, as compared with other nations, there is in this country a lamentable lack of public interest in education. Considering that the political atmosphere has recently been so much agitated on this very subject it is interesting to note that the average Englishman only gets excited about education when it concerns a point of religion. In contrasting the general condition of education in this country with that obtaining abroad most effective use was made of the report of the Mosely Educational Commission to the United States of America, from which can be gathered much that is instructive and much that is depressing. The report is instructive in showing the appreciation of the value of education and the readiness of the State and of private benefactors in the United States to contribute enormous sums to improve what is rightly regarded as an "essential condition of prosperity." It is depressing to us as a nation when, with certain isolated recent examples, the American spirit is contrasted with the grudging spirit with which appeals for educational improvements are regarded in this country.

While this is true of all forms of education, the public apathy is perhaps most marked towards medicine, and we believe Sir ISAMBARD OWEN is right in attributing this to want of knowledge rather than to wilful indifference. To some extent, however, it must undoubtedly be assigned to the spirit of honourable rivalry which has so long existed between the different metropolitan medical schools. This rivalry has led to needless multiplication of teaching institutions and as the character of education has gradually changed so the need of expensive laboratory accommodation has grown. The slow evolution of the London Schools of Medicine is emphasised by Sir ISAMBARD OWEN—it was not born or made but simply "grew spontaneously in response to a need." At the present time the growth has been so great that it is becoming a source of weakness rather than of strength and all concerned in the welfare of London medical education are restlessly awaiting the advent of one or more benefactors. The buildings are there but without a preliminary endowment they cannot become self-supporting. Not long since we referred to the munificent gift of Sir DONALD CURRIE to University College. It will be remembered that before the incorporation of this College as an integral part of the University of London it was necessary to dissociate the hospital and the subjects of clinical study from all financial connexion with University College[1] Sir DONALD CURRIE'S gift provided for the erection of buildings for a school of advanced medical studies connected with the hospital, leaving the subjects of preliminary and intermediate medical study to be taught within the College. Sir ISAMBARD OWEN believes that the division of the curriculum into two nearly separate portions, the one mainly professional and the other purely academic, affords some ground for hope in the future, and he looks to the University of London as a central teaching authority to assist, to lead, or to coordinate the scattered educational agencies. The plan submitted is, however, open to some misunderstanding. What is hoped for is not quite clear. We are told that while London is asleep the provinces are moving and that disaster must follow unless London awakes to some sense of its responsibility. This supposed condition of somnolence, this sleeping sickness, appears only to mean that the best clinical teachers with the best clinical material may, unless some relief is forthcoming, find themselves without anyone to teach. Surely this danger has been painfully impressed for many years by the diminishing entries at the London medical schools. It is not the teachers who need rousing but those from whom it is hoped that endowment may be derived. The teachers realise the position but London appears to be too vast, too cosmopolitan, to take cognisance of the present needs of medical education and of the danger of losing the opportunity of successfully competing with the provincial schools, some of which have received munificent endowments. The solution offered by Sir ISAMBARD OWEN is the speedy establishment as part of the University of London of a public institute of medical sciences to undertake teaching in physics, chemistry, biology, anatomy, and physiology for the purposes of medical students. This scheme has been drawn up by the Faculty of Medicine of the University and officially adopted by the Senate. All that is wanting is to find the funds and these have been estimated at £375,000. The scheme is bold but there is one small danger. In the earlier part of the oration reference is made to the American disposition to "regard buildings and sites as of more importance than men," and this is certainly suggestive. When, if ever, the new public institute is in full work it must inevitably enter into competition with those medical schools which continue to teach the same subjects, and it must also draw its teaching staff from them since previous practical experience is to be desired. The University of London will not follow American example, we trust, in *attaching more importance to the edifice than to the personnel* of the teaching.

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[1] THE LANCET, March 26th, 1904, p. 880.

The oration deserves thoughtful study, especially in connexion with the words of Mr. A. PEARCE GOULD who, in seconding a vote of thanks, remarked that a public appeal was likely to meet with more ready response if it resulted from the coöperation and fusion of the interests of the medical schools than if made merely to benefit one institution. The public, who may rightly plead weariness of requests to support this or that hospital, may yet come to the rescue in favour of medical education as a whole if the matter is put bravely before them. The whole subject is one of extreme difficulty and must undoubtedly be met in a broad spirit. Sir ISAMBARD OWEN clearly hopes that in the future the various medical schools will be content to receive only those students who have already passed all the subjects of preliminary and intermediate medical study and thus will be freed from the necessity of the present wasteful expenditure on these subjects. The scheme is deserving of support if the creation of a new building and a new organisation under the control of the University of London is really the only means by which an appeal for endowment can be successful. It is impossible, however, to read the admission that the present "buildings of the schools would in the aggregate suffice for the needs of many a renowned university" without feeling regret that they should be superseded and converted to other uses.

A Russian Medical Man on Medical Practice.

A LITTLE while ago we devoted a leading article to the consideration of private practice as it appeared in a novel, the central figure of which was a general practitioner in a country town of Germany.[1] A Russian book translated into English under the title of "The Confessions of a Physician" attracts us again to view a very similar subject. Here, however, the field is perhaps a wider one, for it is rather medical practice as a whole and the ethical position of a medical man in the community at large than the trials of any particular branch of the profession that the Russian author takes for his theme. If the German's book produced an impression that was on the whole painful and discouraging his Russian colleague is able to provide us with no more cheerful aspect of medical practice. Much must be allowed for the obviously morbid and too sensitively introspective nature of the author himself. He is conscientious, scrupulous, and self-accusing to the last degree and suffers acutely for mistakes which, if they had happened to others, he would have been ready to pardon and to explain. Moreover, he describes accurately scenes and actions which, though a necessary part of medical practice both in and out of hospitals, yet in their description may lay the author open to the charge of grossness. We by no means proffer this charge, yet we regard certain passages in this book as rendering it entirely unfit for the perusal of the non-medical reader.

To the medical man the author appeals by his obvious sincerity and by his determination to omit nothing, whether discreditable to himself or the reverse, of the impressions which were made upon him from the first days when he began his professional studies. In these days, as a young man is apt to be, he was overwhelmed by the material side of things, coming to the facts as science revealed them and incapable as yet of realising a spiritual aspect even to that which is apparently merely gross. Thus his anatomical studies distorted for him all human creatures. "People who were near and dear to me assumed a dual quality: that young girl, for instance—there is so much originality and attractiveness about her! When in her presence I feel happy and light of heart, but at the same time all that goes to make her is well known to me and there is really nothing extraordinary about her; her brain is corrugated by the same convolutions such as I have seen upon hundreds of brains; her muscles are permeated through and through with fat which makes the dissection of feminine corpses such an unpleasant task; in a word, there is nothing in her either attractive or suggestive of poetry." At this stage of his career he is surprised, shocked, and depressed by the moral agonies to which he thinks female patients must often be exposed by examination in hospitals. Here the English reader will find his sympathy but little stirred for if VERESAEFF'S account be true then there must be in Russian hospitals a great want of that consideration and careful decency which, we are glad to know, obtain generally in the teaching of gynæcology in this country. Advancing a little further along the path of medical study our author now is almost driven to despair by realising how many conditions there are for which even the most enlightened medicine and surgery can offer no relief. His anger is like that of the uninstructed son who declares all medical men useless because his father is dying from malignant disease. Such anger might with equal reason be directed against nature herself. It would be as sensible to revile Omnipotence for permitting such diseases as medicine for being incapable of curing them. Medicine does not claim infallibility or omnipotence. Ignorance thrusts these upon her shoulders and then raves when medical science does not rise to performances which she never claimed to achieve. VERESAEFF, of course, with further study, is reconciled by the sight of how very much medicine and surgery *can* do to the thought of the large amount which they still cannot. With regard to the examinations which complete his curriculum as a student and allow him to pass into the world as a qualified practitioner, the Russian author makes some scathing comments which are applicable in other countries besides his own. He objects to the theoretical as opposed to the practical value of the tests and concludes that "if you were to subject after the lapse of five years a fully fledged doctor to the same ordeal, without previous warning, he would fail ignominiously. ...... Not a single eminent physician would be able to pass his examination a second time without laborious preparation unless his inquisitors showed leniency

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[1] THE LANCET, April 16th, 1904, p. 1066.

—i.e., were to require a real knowledge of medicine, not the acquisition by rote of endless minutiæ of no value whatever to anyone." Launched into practice in a small governmental town of Middle Russia, VERESAEFF finds that his troubles only now really begin. He has never held a resident appointment in a hospital and has consequently had no real experience in the treatment of disease or in the management of patients. The effect of his doubts, his anxieties, and his mistakes upon a man who had enough intelligence to realise them and more than enough conscientiousness to suffer from them is such that he relinquishes practice in order to gain further real experience in hospital work. His reflections are bitter enough upon a system which has labeled him legally fit to practise without necessitating his being in any way actually efficient. "Who would think of sending out to battle soldiers who had only seen others shoot? Yet *doctors enter upon life clumsy recruits unable to handle their arms.*"

VERESAEFF'S next mental tortures—it will be realised that his early experiences in medicine afforded him anything but peace of mind—arose from the contrary results of therapeutic experiment. Drugs extolled on one side he finds deplored upon another and the treatment of one eminent authority is pronounced disastrous in the hands of another equally distinguished. At last, however, after painful years of unpaid hospital work and laborious private practice he finds his feet. "It was true that science gave me less than I had anticipated and that I was no genius. But would I be in the right to renounce my diploma? Were we average doctors so utterly useless? ...... We can be useful and accomplish much, on condition of rigid adherence to the old maxim *primum non nocere.* And, in the next place, we must once and for all discard the notion that our work consists in careless and unquestioning obedience to the mandates of science. We must realise how complex and responsible is the work before us, work unceasingly at self-improvement, and never rest or pause in our quest for truth. All this is terribly hard and many may faint beneath the burden; but as long as I find strength to bear it honestly I have the right to remain at my post." We should like to deal with those passages in which the author shows how little the medical man's difficulties are comprehended and sympathised with by the average person and to relate the cases which he quotes of unfair charges and newspaper comments upon medical men. Space, however, forbids us to go further than to recommend this book as one which, if it contains a great deal which cannot be read with advantage by the ordinary reader, is at any rate a work of the highest interest to the medical man and likely to stimulate in him only the most laudable ambitions and reflections.

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The Oliver-Sharpey Lectures.

IT is always pleasing to connect with recent researches the name of one who has contributed to them by the stimulating influence of his teaching. In the Oliver Sharpey lectures lately delivered at the Royal College of Physicians of London[1] Dr. GEORGE OLIVER, before approaching his subject, paid graceful tribute to his indebtedness to the lucidity and impressive character of the work of WILLIAM SHARPEY and reminded us that the aim of the endowment of these lectures was to foster the application of physiological knowledge to the prevention, alleviation, and cure of disease and the prolongation of life. The intimate connexion between physiology and medicine has long been recognised but those who labour in the interesting field of research must always be grateful to the clinician who is able and willing to extend the researches into the domain of practical medicine and to indicate their bearing upon alterations occurring in disease. It must be admitted that in these lectures Dr. OLIVER has set an example which is worthy of all commendation. Selecting as his subject Recent Studies on the Tissue-Lymph Circulation he has presented in the first lecture the results of recent work by himself and by others concerning the physiological conditions of the tissue-lymph circulation, while in the second he has given numerous valuable indications of the deductions which may be drawn and of the influence these researches will probably have upon the medicine of the future. It will be seen that he considers they throw a new light upon the explanation of gouty conditions and towards the end of this lecture he has suggested several new methods of treatment which will, no doubt, soon be submitted to rigorous investigation by those who have abundant opportunities of verifying or disproving the claims made on their behalf.

To some extent the first lecture is an extension of the author's Croonian lectures delivered in 1896. After dealing with the effect of the ingestion of food on the tissue-lymph circulation he considers in detail the alterations in the blood during digestion, noting changes in the corpuscles, in the hæmoglobin, and in the specific gravity. His observations on the variations of muscular contractility after food show that they always follow a certain order, from which he is able to draw valuable conclusions in relation to the effects of exercise and sleep. When dealing with the influence of sodium and potassium chlorides upon the arterial pressure and the outflow of tissue lymph reference is made in passing to the important rôle assigned by the late Sir WILLIAM ROBERTS to sodium chloride in the pathogeny of gout and to his valuable suggestion that gouty subjects might derive benefit from the substitution of potassium chloride for sodium chloride. Dr. OLIVER, pursuing a totally different line of inquiry, reaches the same conclusion —that sodium chloride favours, while potassium chloride inhibits, a gouty tendency. The section dealing with the influence of muscle extractives upon tissue-lymph circulation and upon the blood pressure is that which demands the most careful study, since this affords the key to the treatment which is formulated in the second lecture. This section really forms the major premiss of the syllogism and accordingly its verification is of the utmost importance. The conclusions merit quotation: "Such bodies as uric acid, creatin, creatinin, xanthin, glycogen, and sodium chloride perform an important function in nutrition, for during digestion they act as distributers of lymph to all the tissues, an office which the nutrient constituents themselves (proteids, fats, and carbohydrates) are incapable of discharging."

In the second lecture Dr. OLIVER deals with the influence of exercise, fatigue, rest, sleep, respiration of gases, internal secretion, temperature, and gravitation before reaching the consideration of the practical deductions and the new remedies suggested by this inquiry. It is interesting to note that he believes that the removal of lymph from the tissues is largely the result of absorption rather than of transmission along the lymphatics and the view of the relative part played by the short circuit by absorption and the longer circuit by the lymphatics is supported by details of a simple experiment which may easily be performed. The explanation of the efficacy of massage in relieving the sense of fatigue and the happy reference to the treatment of the weary heroes of the Odyssey, with the pithy remark that "human instinct, without knowing 'why,' practised what is now taught by physiological inquiry," will serve to show the readiness with which Dr. OLIVER annexes from ancient practice and modern teaching facts in support of his contention. Similar readiness is displayed with regard to the changes which occur during sleep. Consideration of the influence of the respiration of various gases upon the blood pressure and lymph circulation naturally leads to brief reference to the effect of sulphuretted hydrogen, notably in connexion with Harrogate water and an explanation of the recognised value of the compound sulphur lozenge introduced by Sir ALFRED GARROD. Extremely curious, and we believe quite new, is the observation, with its explanation, of the tendency of those working in sewers to become "rheumatic or quasi-gouty" in comparatively early life. Although Dr. OLIVER refers this tendency to an unknown emanation in the sewer atmosphere acting as a lymph factor it would be interesting to know by what means, apart from the observations he describes, he has eliminated the possible influence of other factors, such as alcohol or an excess of meat. In spite of the value of the researches connected with internal secretion practitioners will find the most absorbing interest in the practical deductions, and here it is important to bear in mind the distinction that is drawn between the arterial pressure and the "working physiological blood pressure" of the capillaries. The relative work is admirably expressed in very few words: "The arteries and veins are but conduits for the passage of blood to and from the seat of the metabolic traffic—the capillaries." From this point most of the lecture is concerned with gout in its protean forms, "a term which has been regarded by some as a convenient label for a sort of rubbish heap of nondescript ailments." The adoption of the views here enunciated would serve to produce some order out of chaos and certainly Dr. OLIVER supports his argument by practical suggestions for a dietary which is admitted to be beneficial and for which he supplies a rational explanation. The remedies enumerated include Witte's peptone, ammonium hippurate, lichenin, glycogen, and lævulose, and they are introduced as the outcome of the author's experiments, their claim to consideration being mainly based upon physiological observations. Dr. OLIVER, so far from speaking of them in glowing terms which might inspire distrust, admits that though he has employed them only in a tentative way the results encourage him to prescribe them. Introduced with such modest reservation but with an apparently sound physiological reason, these remedies seem to merit extended trial. The provisional conclusions with which the second lecture closes deserve thoughtful consideration. It is of the utmost practical importance to gain a "clearer insight how to control disarrangements of nutrition and metabolism," but many further experiments by other workers are needed before it can be admitted that Dr. OLIVER is right in thinking that this can be attained solely or mainly "by studying the conditions which increase or decrease lymph effusion." Meanwhile he is to be congratulated on the interest which his lectures must evoke and upon the skill with which he has demonstrated the intimate connexion between physiology and medicine.

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[1] THE LANCET, April 30th (p. 1175), and May 7th (p. 1262), 1904

Annotations.

"Ne quid nimis."

THE AMENDMENT OF THE LUNACY ACTS.

Sir John Batty Tuke availed himself of the vote for the maintenance of the Lunacy Commission for England and Wales in order to lay before the House of Commons the extreme inadequacy of this Commission as at present constituted and to ask for some inquiry into the subject. He pointed out that there are only three medical commissioners to supervise the treatment of 114,000 lunatics, so that, while in Scotland there is one such commissioner to every 3622, in England the proportion is one to 38,000, and he maintained that a Commission so undermanned must necessarily work in a wooden fashion, unsympathetically and without elasticity. The numerical inadequacy of which he complained was, he said, growing worse and worse, for there had been no enlargement of the Commission since its establishment in 1845, while the number of the insane had increased nearly five-fold and while a great change had come over the conception of insanity. The insane person was no longer regarded as a pyschological curiosity but as a pathological subject. The nation was doing its best to stamp out tuberculosis and cancer but it was not doing its best in respect to a disease which attacked three persons out of every 1000 and which, if not arrested, consigned its victims to a living death. Sir John Tuke was well supported by other medical Members of the House, and especially by Sir Michael Foster, who declared that in no branch of science had there been greater progress during the last generation than in the knowledge of the brain and the central nervous system. That wonderful web of delicate fibre and cells was being gradually unravelled and day by day a command was being obtained over the brain which was unknown when the Lunacy Acts were introduced. Though medical science had reduced other diseases, lunacy, if anything, was on the increase, and the main fault was in the present state of the lunacy laws which, if they did not hinder, certainly did not facilitate the application of science to the disease, especially in its early stages, in which it was most likely to be amenable to treatment. He proceeded to show the necessity for changes in the present methods of notification and certification and strongly supported Sir John Tuke's demand for a complete inquiry. Dr. R. Farquharson, who followed, dwelt upon the superiority of the Scotch method of managing what are often described as "border cases" and declared that there ought to be special hospitals or special wards and special pathological institutions. In fact, there was a general recognition by the medical Members of the House that the time had come when insanity should be regarded as a disease like other diseases and that it should be investigated and treated by ordinary clinical methods.

The Attorney-General, in rising to maintain on the part of the Government that everything is for the best in this best of all possible worlds, "was not satisfied" that there was any proof of increase of insanity. He has, however, presented a Bill, which was read for the first time on Wednesday afternoon, having for its object the amendment of the Lunacy Acts. His somewhat unscientific attitude in his speech makes of his practical action a pleasant surprise.

INFANTILE MORTALITY.

IN his report on the infantile mortality in the borough of Croydon, a report which covers a period of several years up to the end of *1903, Dr. H. M. Richards*, the medical officer of health, has amassed a large amount of information which is likely to prove of considerable service to the borough council in arriving at a satisfactory method of abating the unnecessarily high rate of mortality among infants in its district. The borough of Croydon is a very large one and covers nearly 10,000 acres of ground. It has an annual birth-rate which approaches 4000 and the annual number of deaths which occur among infants under one year of age very nearly reaches 400. To be exact the infantile mortality for the year 1903 was 133 per 1000 children born. This figure, though unnecessarily high, compares favourably with the mortality of many other districts. It has been Dr. Richards's object to investigate so far as possible the causes of this high mortality and to suggest such remedies as may prove of real practical value, not only for his own district but for others similarly situated. His investigations have, among other results, led Dr. Richards to the conclusion that perhaps the most essential element in the prevention of deaths among infants is the exercise of intelligent supervision on the part of the mothers. The greater the degree of poverty the greater the need for intelligence to compensate for the concomitant disabilities associated with defective food-supply and bad hygienic conditions. The education of the mother and of the rising generation of girls in the elements of nursery hygiene and in the principles of infant feeding must constitute, therefore, one of the most important factors in any scheme which has as its objective the reduction of infantile mortality. The preponderating proportion of deaths which occur among artificially fed infants clearly indicates the need for the encouragement of the natural method of feeding. Municipal cleanliness, especially in respect of the efficient scavenging and watering of the streets, is insisted upon by Dr. Richards as an important element in the maintenance of domestic cleanliness and as a corollary in the prevention of diarrhœal and other infectious diseases. Experiments carried out by the Croydon sanitary committee on the lines of more thorough scavenging and watering of a particular section of the East Ward were followed by improvement in the mortality among infants which was, to say the least, suggestive that such hygienic precautions were important elements in the prophylaxis of diarrhœal and other infantile complaints. To meet the difficulty in regard to substitute feeding in those cases in which breast feeding is unobtainable Dr. Richards considers the advantages of a municipal milk depôt for the purpose of providing at a reduced cost for the poor a supply of properly modified milk. We gather that the medical officer of Croydon, although by no means enthusiastic with regard to such a scheme, is on the whole in favour of the establishment of a depôt for his borough, although he admits that owing to the very large area it would have to serve many difficulties and complications will necessarily arise which may not have been in operation in other districts where this method has been successfully carried out. Be the advantages, however, of a milk depôt what they may, we cannot too strongly endorse Dr. Richards's view that even when a mother has been provided with the proper food for her infant only a short way has been gone towards rearing a healthy child. By far the most important results may be expected from educational methods and by the insistence of domestic cleanliness. No doubt a very great deal could be done by systematic visits from health visitors, by addresses and lectures, and by practical instruction to the elder girls in elementary schools, but there still remains the difficulty, at least so far as London is concerned, that domestic cleanliness is to some extent a question of expense.

MEDICAL DEFENCE.

THE scheme of medical defence as prepared by the Medical Defence Committee of the British Medical Association was submitted to criticism at a recent meeting of the South-West (Wandsworth) division, an account of which will found at p. 1452 of our present issue; and the result cannot be regarded as wholly satisfactory. Very properly the discussion was at first limited to the advisability of medical defence being undertaken by the British Medical Association, any reference to a scheme being ruled out of order until an expression of opinion had been given on the broad question. It was evident at a very early stage that the position of the Medical Defence Union formed the chief obstacle. While it was suggested that the new development of the British Medical Association would benefit by the experience and coöperation of the Medical Defence Union and of the London and Counties Medical Protection Society it was clear that the former body possessed strong views against the expediency of any such amalgamation. These views were ably stated by Dr. A G. Batemen and have already been discussed in these columns.[1] At the meeting at Wandsworth the matter was regarded mainly as influencing members of the medical profession who were already members of the Association and by 16 votes against seven it was ultimately decided that the meeting considered it desirable that the British Medical Association should take up the question of medical defence. Before the air was thus cleared it was stated on behalf of the Medical Defence Union that there was no intention of "winding up" and there really seems no valid reason why it should not continue its good work for the general practitioner who objects to being obliged to join the ranks of the British Medical Association before he can receive the benefits of protection by further payment. This side was more fully discussed when the scheme was before the meeting, but progress was blocked by an impossible motion to the effect "that no scheme submitted by the Association could carry on medical defence safely and efficiently until it has been prepared by a committee including the medical defence societies in their official capacity and after duly consulting its members through the divisions." Sir Victor Horsley ably urged the adoption of the scheme and while indicating that the existing societies should be invited to merge themselves in the Association he admitted that if the societies were not willing to come in he considered it a very open question whether a third body should be instituted. Much of the discussion of the scheme was far from helpful. Objection was raised to the submission of a scheme "to pass, to tinker up, or to decline." What could it matter where it originated so long as the meeting was asked to approve, to amend, or to reject it? From Dr. Bateman's inquiries members of the Association who are members of the Medical Defence Union are not in favour of amalgamation and it is therefore to be presumed that this body will continue, even should the British Medical Association succeed in gaining over the London and Counties Medical Protection Society. The moral support of the strong financial position of the British Medical Association was freely urged as an advantage of the scheme and this must necessarily become an inducement to attract into the fold those who are not already attached to the British Medical Association. After very prolonged discussion upon many subjects, from medical defence to the funds and expenditure of the Association and to its influence on medical men "in the antipodes, in India, in Canada, all over the world, all over the empire," the motion was put to the meeting and lost, and then it was agreed to adopt the principle of the scheme and to refer it to the committee of the division. When it is remembered that this lukewarm approval of the scheme was all that could be gained by Sir Victor Horsley's spirited advocacy it seems probable that the idea of medical defence being undertaken by the British Medical Association is not likely to be accepted so long as the Medical Defence Union holds aloof.

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[1] THE LANCET, April 16th, 1904, p. 1065.

TRANSVERSE WHITE LINES ON THE NAILS DUE TO ARSENICAL POISONING.

THAT transverse white lines on the nails are a sign of a passed illness is an old observation, but it was only after the epidemic of arsenical poisoning in Manchester and the north of England due to drinking contaminated beer that this condition was found to be one of the results of arsenical poisoning. *A priori* the marked action of arsenic on the epidermis would lead an observer to expect some effect on the nails which are only modified epidermis. Dr. E. S. Reynolds, to whom the merit is due of first pointing out this effect as well as of discovering the cause of the epidemic, found in some cases "a transverse white ridge across the nails; proximal to this the nail is normal but distal to it the nail is whiter, cracked, thin, and towards the tip almost papery and much flattened. In some cases there has been a series of parallel transverse ridges almost suggesting a series of week-end drinking bouts."[1] In the *American Journal of the Medical Sciences* for April Dr. C. J. Aldrich has described under the title of "Leuconychia Striata Arsenicalis Transversus" three cases of white lines on the nails due to arsenical poisoning. In one case a woman was suffering from severe arsenical neuritis, the result of taking with suicidal intent a teaspoonful of a rat poison. On the nails were white crescentic streaks about one sixteenth of an inch wide and presenting a curve identical with that of the lunula. On the toe-nails the streaks were less distinct. The body was covered with branny desquamation, much of the hair had fallen, and the palms and the soles showed some keratosis. From the position of the lines on the nails the time when the arsenic was taken could be estimated. In the second case a man sought advice for neuritis. He gave a history of "stomach difficulty" with hæmatemesis three months previously. Soon his legs became weak and he could get about only with the help of two sticks. He was ataxic and had foot-drop, the knee-jerks were absent, and there was some loss of sensibility On the nails were transverse lines similar to those described above. The patient on being told that his symptoms probably were due to poisoning at first demurred but then admitted that he had been poisoned with arsenic, refusing to give any explanation. In the third case a man, aged 29 years, addicted to alcohol and tobacco gave a history of abdominal pain, severe vomiting, and cramps in the arms and the legs three months before he came under observation. Six weeks later he began to lose power in the limbs and the arms became numb. He walked with sticks and had an ataxic gait. The knee-jerks were absent and the lower limbs and the fingers were slightly anæsthetic. On the nails were crescentic white streaks which so much resembled those in the previous case that Dr. Aldrich diagnosed arsenical poisoning. Some time later the patient confessed to having taken an arsenical rat poison. The lines corresponded in position to the time when the arsenic was taken. The toe-nails showed faint markings but there was no keratosis of the palms or the soles. It is to be noted that in Dr. Aldrich's cases there was not a "ridge" on the nails as described by Dr. Reynolds but only a streak. Perhaps the cause of difference was the more chronic poisoning in the latter's cases. These white lines are thus not a mere scientific curiosity but a sign which may prove of great use in the diagnosis of arsenical poisoning—a condition often liable to give rise to difficulties. It may be remembered that arsenical herpes, discovered by Mr. J. Hutchinson many years ago, remained long only a clinical curiosity the very existence of which was doubted by many authorities. But it was the presence of herpes in several cases in the epidemic referred to that gave Dr. Reynolds the clue to the cause.

SMITH *v.* PARE.

THE action of Smith *v.* Pare, recently tried before Mr. Justice Lawrance and a special jury, has ended disastrously for the plaintiff. In THE LANCET of March 14th, 1903, *p. 745, comment was made upon a newspaper article,* a circular letter, and a leaflet which advocated and advertised an alleged new treatment for the cure of cancer by means of high-frequency electricity. The leaflet and the letter associated the "cure" directly with Mr. E. A. Cloete Smith. Our annotation on the subject dealt with the fallacious hopes which such publications were likely to encourage in cancer patients rather than with the propriety of the manner in which publicity was given to Mr. Cloete Smith's methods, but the ethical question was subsequently considered by the General Medical Council and we believe that the circulars had by that time been discontinued. Apparently, however, they had had their effect, which in the case of the wife of Mr. Pare, the defendant in the action referred to, was one unfortunate both for the patient and for the plaintiff. The evidence given at the trial confirms our observations with regard to the probable efficacy of the treatment proposed, and the facts made public show how ill judged was the manner in which it was thrust into notice. Mr. Cloete Smith's friends were no doubt over zealous on his behalf and it must now be a matter of regret to him that they were so. Mr. Pare's wife was operated on by Sir Victor Horsley four or five years ago for an internal growth of such a nature that recurrence was not impossible. In September, 1902, she was suffering from pneumonia and blood poisoning and Mr. H. Huxley, who was consulted, recommended open air treatment, in consequence of which she was subsequently sent to St. Leonards. She was there in February and April, during which period Mr. Huxley did not attend her, but in March the husband showed to him a document which referred to the treatment administered by Mr. Cloete Smith and informed him that Mrs. Pare's relatives were extremely anxious for a trial to be made of it. The same circular was shown to Sir Victor Horsley and there appears to be no room for doubt as to the nature of the opinions which Mr. Pare received. It was that high-frequency electricity would not be likely to do his wife harm but could do her no good. No mention was made of the use of the x rays and there was no consultation with Mr. Cloete Smith whom Mr. Huxley, forming an unfavourable opinion of the ethical aspect of the circular, refused point-blank to meet. Mr. Pare eventually decided to avail himself of the services of Mr. Cloete Smith and the patient underwent the treatment prescribed by him at St Leonards. This, according to Mr. Cloete Smith himself, included at first the application of the high-frequency current twice a day for two hours and the application of the x rays at a distance of from 16 to 20 inches from the body. It was subsequently varied by the discontinuance of the high-frequency electricity but the x rays were applied for some time afterwards, the application of the rays being in the hands of a gentleman with electrical experience but who was not a medical man. A nurse who was in charge of the case, but who had entirely disclaimed all knowledge and refused all responsibility with regard to electrical treatment, deposed that she received no instruction to watch the patient's skin, but that owing to the pain suffered by Mrs. Pare she communicated with Mr. Cloete Smith on the subject. It was in consequence of this that the high-frequency treatment was left off and the nurse upon her own responsibility stopped the application of the x rays after having observed that burning had resulted from their use. Mr. Cloete Smith appears to have ordered their continuance but again the nurse stopped them and informed him that his patient was being tortured. On this occasion he seems to have examined Mrs. Pare and to have said that he had no idea that the burning had been so serious. It was at a date some time later than this that Mr. Pare realised the condition in which his wife was as the result of the use of the x rays, which had caused extensive dermatitis and burning, and the course he took was to seek Mr. Cloete Smith and to assault him, also refusing payment of his fees. The action tried was accordingly brought by Mr. Cloete Smith as plaintiff to recover 100 guineas for professional services and for damages for assault. Mr. Pare denied his liability as to the claim upon the ground that the treatment was useless, counter-claimed for damages for negligent treatment of his wife, and paid £2 into court in respect of the assault which he admitted. The judge after summing up left three questions to the jury, the first of which was as to whether Mr. Pare had consented to the use of the x rays. As to this there had been a conflict of evidence, Mr. Cloete Smith stating that he had mentioned and recommended them in discussing with the defendant the treatment which he proposed to apply, whereas Mr. Pare contradicted this and said that only the high-frequency treatment was mentioned, that he knew nothing of the x rays, and neither consented to them nor was asked to do so. The evidence of the nurse and of other witnesses tended to corroborate Mr. Pare and the jury found that he did not consent to the plaintiff's application of the x rays to his wife. The other questions were whether the treatment was proper treatment to apply, and whether the burning of Mrs. Pare's skin was caused by negligence and want of reasonable skill Upon these points the jury had a considerable body of expert evidence before them as to the condition of Mrs. Pare before and after the treatment, and as to the impossibility of either the high-frequency current or the x rays affecting the internal organs of the body to which they were professed to be directed. With regard to these questions they found that the treatment was improper, negligent, and unskilful. With respect to the assault there was no question for them save as to the damages, for it was not denied that it took place. They assessed the damages at £2, the amount paid into court. With regard to the counter-claim they found a verdict for the defendant for £100. As a consequence of these findings judgment was given for the defendant upon the claim, as the verdict in respect of the assault did not exceed the amount paid into court, and in respect of the counter-claim for £100. A stay of execution was refused. The line of treatment pursued with regard to Mrs. Pare scarcely requires comment. High-frequency electricity may have utility in diminishing pain in cases of malignant disease, but the application of electricity in the manner in which it was applied to Mrs. Pare is not likely to be adopted by medical men generally in respect of patients suffering as she was supposed by her relatives to be suffering when Mr. Cloete Smith's circular attracted their attention. Such ill-advised interference caused her to undergo an extremely painful experience and it is to be hoped that the relatives now feel regret and realise that whenever it is vouchsafed to science to discover any treatment which will stay the progress of a dread disease the discovery is usually the outcome of slow and laborious work, developed gradually by anxious observations and by carefully recorded and compared experiments. Such a discovery, when its utility has been fairly established, is not advertised by pamphlet, circular, or newspaper article as the special monopoly of an individual, but becomes part of a medical science which it is the pride and ambition of a great and learned profession to extend and to promote for the common good of mankind. The practitioner in attendance on the patient, who is acquainted with the patient's needs, can advise as to where skill and knowledge should be sought more correctly than can the gossiping acquaintance or the irresponsible manufacturer of journalistic sensations.

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[1] THE LANCET, Jan. 19th, 1901, p. 166.

OBSESSIONS AND MORBID IMPULSES.

INSANE obsessions and morbid impulses often play as important a part in human life as do the normal tendencies to thought and action which arise in the healthy and well-developed brain: And occasionally, by a curious irony of nature, it happens that a brain highly gifted in respect of intellectual and artistic endowments is the bearer of a blemish, a neurotic taint, which reveals itself occasionally or periodically in the appearance of absurd and irrational mental obsessions or of dangerous morbid impulses which to the individual are both repugnant and distressing. In the *Journal of Mental Science* for April Dr. James Shaw of Liverpool states that cases of obsession and morbid impulse are much more frequently met with in private than in asylum cases. "They may be physiological, as instanced by cases where catchwords or refrains haunt the mind for hours or days and then vanish" and, like hallucinations, they may be induced by drugs. On the other hand, they may be grave and indicative of some deep-seated, if not serious, taint or maldevelopment of the brain. In a leading article published in THE LANCET three years ago,[1] attention was drawn to the subject of the rhythmic psychoneuroses and morbid impulses which affect many persons on the borderland of mental health. The patient suffering from obsessions, says Dr. Shaw, is quite aware that they are entirely subjective and can describe his symptoms fairly well. He is capable of being reasoned, temporarily at least, out of his morbid fears, recognises any "criminal" tendency of the inciting thoughts, and is able, for a time at all events, to resist their promptings, and is quite alive to the absurdity—and in cases of mania blasphematoria or coprolalia to the obscenity—of his besetting words and thoughts. The besetting words and phrases, which in the sane are probably the equivalent of "voices" in the insane, and the obsessing images are commonly unpleasant and induce thoughts and reactions of distress, surprise, and disgust. Verbal obsessions are those in which words—mostly obscene or blasphemous—constitute the morbid besetment. They differ from coprolalia in that the words are not necessarily uttered by the patient. Such verbal obsessions may constitute the leading feature of a form of "obsessional" melancholia, as in two cases which Dr. Shaw has previously reported in THE LANCET.[2] "Both patients presented marked neuropathic heredity, and extreme religiousness. The words which were described by them as obscene and unutterable, and which were in fact never uttered, caused them intense mental anguish." Both patients had suffered from influenza prior to the mental illness and both presented motor agitation, especially of the arms. A more serious case in which morbid impulses to strike others and to injure himself were present was the following one of a married man, aged 32 years, whose brothers and sisters suffered from hypochondriacal delusions or mental depression. Hitherto he had resisted the morbid impulses referred to, being well aware that these promptings, so foreign to his better nature, were subjective and abnormal. "The inclination to strike sometimes arose without any provocation on seeing a weapon and a person near each other. ...... He was in constant dread of doing something violent. ...... When closely interrogated he said the 'internal voices' or 'loud thoughts' [which impelled him] were in his head." He also had the fixed belief that his soul was lost and he had crude hallucinations of sight and hearing. He saw "flashes of light" before his eyes and heard "creakings and clankings" in corners of rooms. He was full of emotion and would burst into tears when describing his experiences and he was afraid of having to go to an asylum. He was treated with rest, a change of surroundings, tonic cold baths, and medication with bromides and belladonna and aperient tonics. After steady improvement he went away and under the stress of an accident and unfavourable circumstances he relapsed and became worse, so that he had eventually to be placed in an asylum. Emotional, affective, or phobic obsessions may constitute, says Dr. Shaw, almost the whole disease in cases of obsessional aberration (rudimentary paranoia). Perhaps the most typical of these is the fear of open spaces (agoraphobia). An excessive and unreasoning fear of death or of disease makes many persons take extraordinary, though really futile, precautions. Women are especially the subjects of such obsessions of fear of death or of infection. In some cases of morbid impulse the will is occasionally powerless to prevent its execution and the question of responsibility has to be decided. Psychologically, says Dr. Shaw, a species of dissolution appears to take place in the highest cerebral centres (those of control of the thoughts and emotions) in cases of obsession and morbid impulse. Toxic conditions, mental exhaustion, and indulgence in alcohol may cause exacerbation of symptoms by inducing freer liberation of morbid impulses from the brain to the motor centres (impulsive acts). Treatment consists mainly in avoidance of cerebral excitement, rest, massage, hydrotherapy, aperients, cerebral sedatives with tonics, and judicious hypnotic suggestion.

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[1] THE LANCET, April 20th, 1901, p. 1150.
[2] THE LANCET, August 9th, 1902, p. 359.

THE UNIVERSITY OF WALES AND A MEDICAL DEGREE.

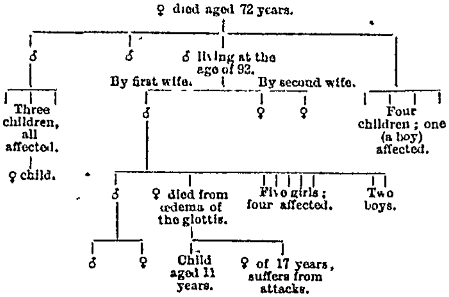
THE annual meeting of the court of the University of Wales was held on May 13th at Holyhead when Sir Isambard Owen, the senior Deputy Chancellor, who presided, referred to the fact that the University is not at present empowered to confer degrees in medicine and surgery although it prepares medical students for the preliminary examinations of other universities. Consequently students from Welsh schools were taking important places in other universities while the University of Wales lost the credit of their training. In order to obviate this Sir Isambard Owen suggested that a petition should be made for a supplemental charter which should enable the University to grant degrees in medicine, surgery, and obstetrics. H.R.H. the Prince of Wales, who is Chancellor of the University, has written through Sir Arthur Bigge signifying his approval of the proposal which was also advocated by Sir John Williams. The court accordingly decided to make application for a supplemental charter. We hope that the University of Wales will be successful in obtaining its request. Nowadays the possession of a medical degree is of great value to members of the medical profession. In the absence of a one-portal system, the institution of which seems now to have receded to an indefinite distance, it is puzzling for the public that some of the best equipped and ablest general practitioners in our body are not in possession of a doctor's degree. We welcome therefore the opportunities that are afforded by our new universities. But it must be pointed out that such a boon to local students as the possibility of obtaining an M.D. degree makes the plight of the London student additionally hard seeing that he can only obtain a doctorate from his university upon terms that are arduous as compared with those exacted by many other universities.

THE LATE MR. ADRIAN HOPE.

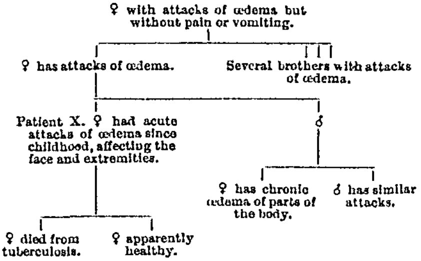
THE death of Mr. Adrian C. F. Hope, which took place at St. Thomas's Home on May 10th after an operation for appendicitis, has caused profound regret, especially amongst those members of the medical profession with whom he has been associated at the Hospital for Sick Children, Great Ormond-street, London, W.C., of which he was secretary. Mr. Hope was the eldest son of Colonel W. Hope, V.C., and at one time held an appointment at the Bank of England. He afterwards became private secretary to the Governor of Ceylon and in 1885 he was appointed secretary to the Hospital for Sick Children—a position for which he was eminently suited by reason of his sympathetic, tactful, and courteous nature. The welfare of the little patients for whom Great Ormond-street Hospital was founded was the one great object to which he devoted his life and the important position which that hospital has taken among children's hospitals is due in no small measure to the energy which he threw into his work. To his initiative was due the Coronation bazaar which was held in aid of the hospital in 1902 at the Royal Botanic Gardens and opened in July of that year by Her Majesty the Queen. Apart from the historic character of the bazaar it was remarkable for the brilliancy and distinction of its patrons. The visitors included most of the well known leaders of society, many representatives of our colonies, and several Indian princes. The sum realised on that occasion amounted to £19,000. Though the work of the Hospital for Sick Children occupied almost the whole of his time Mr. Hope found opportunities for helping hospital work in other directions and was president of the Hospital Officers' Association.

NEUROTIC ŒDEMA OF HEREDITARY ORIGIN.

ALTHOUGH the influence of heredity as a factor in the causation of certain forms of œdema, not of cardiac or renal orgin, was mentioned by Quincke in 1882, it was not until 1888, when Osler published the details of a case, that the subject attracted general notice. This was partly due to the position of Osler as a clinical investigator and partly to the exceptional circumstances which enabled him to obtain and to publish a full and accurate history of the patient's antecedents. Dinkelacher, a pupil of Quincke (1882), recorded the case of a matchmaker who had for years been affected with attacks of acute œdema and whose son, a child, aged one year, had suffered from the third month with the same affection, and in 1885 Valentin added the information that another son, then two years old, born subsequently to 1882, was also affected with similar attacks from the first week of life. The case reported by Osler is published by Dr. A. W. Fairbank of the Boston Hospital for Children in the *American Journal of the Medical Sciences* for May and he also adds details of other cases and personal observations. Through the fortuitous recollections of some of the members of the family, and especially the unimpaired memory of a great grandfather, aged 92 years, who had himself been affected for 74 years, a family history extending through five generations and involving 22 members was obtained of Osler's famous case. The characters of the affection in this family were the occurrence of local œdematous swelling in various parts of the body, the almost invariable association of gastro-intestinal disturbance—colic, nausea, vomiting, and occasional diarrhœa, and the strongly marked hereditary disposition. The genealogical table is as follows:—


♀ died aged 72 years.
♂
♂
♂ living at the age of 92.
By first wife.
By second wife.
Three children, all affected.
♂
♀
♀
Four children; one (a boy) affected.
♀ child.
♂
♀ died from œdema of the glottis.
Five girls; four affected.
Two boys.
♂
♀
Child aged 11 years.
♀ of 17 years, suffers from attacks.

Ricochon (1895) reports an instance of acute œdema, accompanied by colic, vomiting, meteorism, malaise, and febrile disturbance, as follows:—


♀ with attacks of œdema but without pain or vomiting.
♀ has attacks of œdema.
Several brothers with attacks of œdema.
Patient X. ♀ had acute attacks of œdema since childhood, affecting the face and extremities.
♂
♀ has chronic œdema of parts of the body.
♂ has similar attacks.
♀ died from tuberculosis.
♀ apparently healthy.

This patient X's attacks could be brought on with great suddenness by mental emotion. The attacks appeared on an average once a fortnight. Her mother had similar attacks from childhood and died at the age of 63 years from dropsy. Dr. Fairbank also cites individual cases observed by Schlesinger (1898), Wardrop Griffith of Leeds (1902), and himself and states that these instances taken from records of medical literature leave no doubt as to the influence of heredity in these cases of acute recurrent neurotic œdema. In a more chronic type of the affection as cited by Milroy[1] the family history of the disease could be traced over six generations, comprising 97 individuals, of whom over 22 per cent. were affected. Of these the third generation comprised nine individuals all affected and all the children of one father. No more curiously interesting affection exists than this, says Dr. Fairbank. Death occurs in some, almost invariably from œdema glottidis, but others who are affected with it may live to a good old age. Of the ultimate neurotic nature of the affection, concludes Dr. Fairbank, there can be no serious doubt.

THE DISTRIBUTION OF PLAGUE.

As regards the Cape Colony, the medical officer of health of the colony states that for the week ending April 23rd there were 2 cases of plague discovered at Port Elizabeth and that of 232 rats and 66 mice examined during the same period 82 rats and 7 mice were plague-infected. Plague-infected rodents were also found at East London, but of 343 rats examined in the Cape Town and Harbour Board area none was infected with plague. As regards the Mauritius, no case of plague was discovered for the week ending May 13th. As regards the Transvaal, a telegram from Lord Milner received at the Colonial Office on May 14th states that for the week ending May 14th the plague return was as follows: Total number of fresh cases reported since May 7th, 14—namely, 2 white persons and 12 coloured. Of the cases reported as plague 12 have been found not to be so, making the present total of suspected and proved cases 136—namely, 23 white persons and 113 coloured. Since May 7th the number of deaths reported is 2—namely, 1 white person and 1 coloured. At Hong-Kong for the week ending May 14th there were 28 cases of bubonic plague and 27 deaths from the disease.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

IN another column we publish a letter from Mr. Hugh C. Smith, the chairman of the executive committee of the above Fund, together with a communication from Sir John Aird who generously offers to increase his annual subscription by £105 as a help towards raising the income of the Fund from investments and other permanent sources to £50,000 per annum. Before the anonymous donor to whom Mr. Smith refers gave his magnificent donation the assured income of the Fund amounted to about £36,000 per annum, being £14,000 short of the sum to which it was hoped that the assured income would have amounted by the beginning of this year. He therefore offered to give a capital sum producing one-third of the shortage provided that by Dec. 31st of this year capital enough to produce the remaining two-thirds should have been subscribed or provided for. This probably means that a further sum of about £310,000 still remains to be collected. Sir John Aird's generous contribution should certainly stimulate other donors and we earnestly hope that despite the increasing calls which have to be met—namely, rates and taxes—the people of these islands will do their utmost to help the metropolitan hospitals which benefit not only the people of London but those of the United Kingdom or even, we may say, of the Empire at large.

THE SPOROZOA IN RELATION TO DISEASE IN MAN AND ANIMALS.

THE eighth and concluding lecture on the sporozoa was delivered by Professor E. A. Minchin at University College, London on May 9th[1] It dealt with those sporozoa the affinities and place of which in classification are doubtful. Though difficult to classify, these forms are nevertheless of importance as disease-producing agencies. They include forms parasitic or chætopod worms (tubifex) and belong to the genus actinomyxon; the haplosporidia, which are sporozoa of small size and extreme simplicity of structure, which occur as parasites in rotifera; and the exosporidia, the lymphosporidia, and isolated species not placed in any group. The exosporidia include two remarkable forms—viz., amœbidium, a parasite which occurs on the gills and antennæ of crustaceans—and siedleckia, a somewhat similar organism which presents phenomena of multiplication and spore formation comparable to some of the lower algæ but which in other characteristics shows affinities with the gregarinæ—e.g., schizocystis. The lymphosporidia occur in the cœlomic fluid of crustacea and fresh water fishes and a lymphosporidium was recently ascertained to be the cause of death of American lake trout which had been affected and destroyed by epidemics of an hitherto obscure disease. The few isolated species of sporozoa which remain unclassed include a gregarine-like parasite which is found in the mesenteries, lymphatic glands, and subcutaneous tissue of the flounder and which has a special interest because gregarinæ do not occur in the aged 32 years, whose brothers and sisters suffered from hypochondriacal delusions or mental depression. Hitherto he had resisted the morbid impulses referred to, being well aware that these promptings, so foreign to his better nature, were subjective and abnormal. "The inclination to strike sometimes arose without any provocation on seeing a weapon and a person near each other. ...... He was in constant dread of doing something violent. ...... When closely interrogated he said the 'internal voices' or 'loud thoughts' [which impelled him] were in his head." He also had the fixed belief that his soul was lost and he had crude hallucinations of sight and hearing. He saw "flashes of light" before his eyes and heard "creakings and clankings" in corners of rooms. He was full of emotion and would burst into tears when describing his experiences and he was afraid of having to go to an asylum. He was treated with rest, a change of surroundings, tonic cold baths, and medication with bromides and belladonna and aperient tonics. After steady improvement he went away and under the stress of an accident and unfavourable circumstances he relapsed and became worse, so that he had eventually to be placed in an asylum. Emotional, affective, or phobic obsessions may constitute, says Dr. Shaw, almost the whole disease in cases of obsessional aberration (rudimentary paranoia). Perhaps the most typical of these is the fear of open spaces (agoraphobia). An excessive and unreasoning fear of death or of disease makes many persons take extraordinary, though really futile, precautions. Women are especially the subjects of such obsessions of fear of death or of infection. In some cases of morbid impulse the will is occasionally powerless to prevent its execution and the question of responsibility has to be decided. Psychologically, says Dr. Shaw, a species of dissolution appears to take place in the highest cerebral centres (those of control of the thoughts and emotions) in cases of obsession and morbid impulse. Toxic conditions, mental exhaustion, and indulgence in alcohol may cause exacerbation of symptoms by inducing freer liberati morbid impulses from the brain to the (impulsive acts). Treatment consis citement

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[1] New York Medical Journal, 1892.

[1] References to the previous lectures will be found in THE LANCET of March 12th (p 736) and 26th (p. 889), April 2nd (p. 960) and 9th (p. 1009), and May 7th (p 1295) and 14th (p. 1371), 1904.

rally made the richer and superior ption is thus encouraged. The shell of the white egg is stained in the simplest possible way, perhaps by immersion in a decoction of coffee berries or by means of an aniline dye. This resource may satisfy the eye, but, after all, there is probably not the slightest difference from the nutritive point of view between the naturally brown-coloured egg and the white one. There is most probably, however, an important dietetic difference between two eggs, the yelk of one of which is a very pale yellow colour and that of the other a rich, almost reddish, colour. It is a notorious fact that the country-produced egg may usually be placed under the latter description, while the egg produced by the hen who is under an unhealthy and limited environment shows an anæmic colour, generally a very pale yellow. The eggs of wild birds—as, for example, the plover—show a yelk of a rich reddish colour. The substance which contributes colour to the yelk of the egg is iron, just as it is iron which gives colour to the blood, and there seems to be little doubt that the iron compound in the yelk of the egg is of a similar nature to that of the blood. It is easily assimilated and eggs are regarded as a suitable food for the anæmic person, as they present a concentrated and generally easily digested form of nutriment rich in iron. The iron compound of the egg has, in fact, been termed a "hæmatogen," because it is probable that from it the blood of the chick is derived. The amount of iron in the yelk of an egg would appear to increase with the intensity of its colour and there can be little doubt that the maximum is reached in the richly coloured yelk of the egg produced by a fowl existing in healthy surroundings, for then its processes of nutrition would be working under very favourable conditions. As an

equipped and ablest general practitioners in our body are not in *possession of a doctor's degree.* We welcome therefore the opportunities that are afforded by our new universities. But it must be pointed out that such a boon to local students as the possibility of obtaining an M.D. degree makes the plight of the London student additionally hard seeing that he can only obtain a doctorate from his university upon terms that are arduous as compared with those exacted by many other universities.

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Dr. Haldane recommended the use of water j to keep down the dust. In the case of rock drilling the us water jets should be made compulsory by law and the sa legislation should obtain for blasting. Mr. Pengelly, a ju and a miner, supported the use of jets but another juror, a a miner, objected to water jets. The jury returned a verd that the deceased had died from pulmonary phthi apparently caused by the inhalation of dust and added t following riders :—

1. That in view of the large number of miners who have rece died in this district from the effects of dust inhaled during r drilling and other underground work, particularly in the Transv and also in Cornwall, we consider that special legislation for t purpose of dealing with this very grave source of danger to health urgently called for.

2. That copies of this resolution be submitted to His Majest Secretaries of State for the Home Department and for Colonial Affa

It is much to be hoped that the results of this inquest w inspire the Government to take action at once upon t matter. It may be that the use of water in a deep mi may lead to various difficulties as regards hygiene fro other points of view than the respiratory one. But wat rock drills are being used in the Simplon tunnel works an the particular drill—namely, that on the Brandt system—w exhibited at the *conversazione* of the Royal Society on th evening of May 13th, to which we refer more at length i another column. Pulmonary disease is so fatal to mine that where it is possible the water drill, which certain does prevent dust, should undoubtedly be used.

THE REGISTRATION OF NURSES.

THE question of the registration of nurses is temporaril shelved but it is one which must inevitably again call fo notice seeing that it provides a bone of contention betwee two influential sections of the nursing world. *We hold n* brief for either party, as will be evident from a perus of the annotations dealing with this topic which hav already appeared in our columns,[1] but we may appropriately summarise the evidence for and against the proposed alteration of the status of nurses in order that our readers may understand what is really in dispute. This object will be materially furthered by reference to two articles which have appeared in the *Nineteenth Century*, one in February last and one in the current (May) number. In the former Lady Helen Munro-Ferguson states the case for registration with some fulness, while the latter gives Miss Eva C. E Lückes, the matron of the London Hospital, an opportunity of presenting her views on the subject. At present, according to Lady Helen, the nursing profession "has no governing body, no standard of training, no corporate existence. Every hospital, whatever its size and standing, is a self-constituted training school." Everything depends on the matron who "may so legislate that her nurses will leave the hospital having seen but one department of work and remain, therefore, practically untrained in every other important direction." Under the present system there is no authority which is in a position to safeguard the interests of the public, and, on the other hand, nurses have "no fear of professional shipwreck to deter them from unprofessional conduct." The key of the position which Miss Lückes takes up is the opinion that the qualities of a good nurse are not capable of registration and this view is frequently reiterated in the article to which we allude. "Technical knowledge is only one, and that the least important, side of a nurse's qualifications," she says, and proceeds: "Where nursing is concerned the results of examination are specially misleading. A nurse may possess plenty of technical knowledge of her work and have no faculty for displaying this knowledge at examinations. ...... One of the most insidious injuries that registration would inflict upon future nurses would be to make the right women believe that if they could not pass such examination as may be required by a central board they must get their living in some other way." On one point we are entirely in sympathy with Miss Lückes, and that is in condemnation of the "pseudo-scientific young person who is more concerned with showing off her 'little knowledge' to the doctor and more interested in the 'case' than in the patient," but we do not quite see why registration should "tend to multiply this type indefinitely."

THE PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

THE annual dinner of the members of the Pharmaceutical Society of Great Britain and their friends was held in the Whitehall Rooms of the Hôtel Métropole on May 17th, when the President of the society, Mr. S. R. Atkins, occupied the chair He was supported on his right by Sir William S. Church, the President of the Royal College of Physicians of London, and on his left by Mr. J. Tweedy, the President of the Royal College of Surgeons of England. As might have been expected the speakers during the evening referred chiefly to the subjects uppermost in pharmacists' minds just now—namely, the new Poisons Bill shortly to be introduced into Parliament and the Pharmacy Bill. The former proposes to relax to some extent the present conditions under which poisons are sold and to extend the power of selling certain of them to unqualified persons. Pharmacists regard this Bill, not without some excellent reasons, as practically a proposal to introduce free trade in poisons. The Pharmacy Bill is a measure seeking to deal with companies practising as pharmacists. There can be no doubt that pharmacists are being seriously and unfairly handicapped by the pushful action of the unqualified trader. This is a serious menace to the dignity and interests of a hard-working profession, besides which it is obviously desirable that the public should be protected against unqualified trading. Strong and persistent concerted action is what is required, urging upon the Government the importance and need of the reforms just indicated. Mr. Thomas Lough, M.P., in replying to the toast of "The Houses of Parliament," expressed the belief that the Pharmacy Bill had been well received and he was strongly in favour of legislation being introduced with the view of checking the sale of poisons by other than duly qualified persons and all druggists' shops should, he contended, be managed by duly qualified men. Sir M. M. Bhownaggree, M.P., promised his support. In proposing the toast of "The Medical Profession," the President hoped that the help always willingly accorded by the Pharmaceutical Society in the preparation of the Pharmacopœia would receive official recognition. Sir William Church, replying to this toast, congratulated the pharmaceutical profession on the high standard of purity which had been obtained in regard to drugs and he hoped that he might count on securing the help of pharmacists towards introducing a system of control for the standardisation of sera. At present there was a great difficulty in obtaining serum preparations made to a uniform standard. Mr. Tweedy congratulated pharmacists on the improved status of their calling and said that the timely aid which the pharmacist always afforded, in a quite unostentatious way, in emergency cases was a tribute to their humanity and skill. Dr. J. Wilson Swan, F.R.S., then proposed the toast of "The Pharmaceutical Society," the President replying. The proceedings closed with the toast of "The Guests." Amongst those present were several Members of Parliament and the scientific societies were represented by their respective presidents.

MEDICAL SOCIETY OF LONDON: ANNUAL ORATION AND CONVERSAZIONE.

THE annual conversazione of this society was held on May 16th and there was a large gathering of Fellows. After a reception by the President, Dr. F. de Havilland Hall, the annual oration was delivered by Sir Isambard Owen who chose as his subject the Future of Medical Education in London. It is printed *in extenso* at p. 1399 of this number of THE LANCET. A vote of thanks was proposed by Dr. J. Kingston Fowler, seconded by Mr. A. Pearce Gould, and carried with acclamation. Afterwards music was provided by the string band of the 2nd Life Guards.

THE annual report and statement of accounts for the year 1903 of the Medical Defence Union have just been issued. The announcement is also made that the annual general meeting of the members of the union will be held on Thursday next, May 26th, at 5 P.M., at the Medical Society's rooms, 11, Chandos street, Cavendish square, London, W. Referring to the action taken by the union in regard to the scheme of the British Medical Association for medical defence the report of the council of the Medical Defence Union states that many letters have been received from members of the union in all parts of the United Kingdom in which cordial expressions of support and agreement with the action taken by the union are to be found.

THE net value of Sir Henry Thompson's estate has been sworn at £223,748, this being one of the largest fortunes left in recent times by a member of our profession. A certain, and not small, portion is represented by a legacy. Sir Henry Thompson desires in his will that his trustees shall send his portrait by Sir John E. Millais to the trustees of the National Gallery and that his autobiography shall not be published until ten years after his death.

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[1] THE LANCET, April 2nd, p. 946; 9th, p. 1009; and 23rd, 1904, p. 1140.

Mr. Howard Marsh, professor of surgery in the University of Cambridge and consulting surgeon to St. Bartholomew's Hospital, will deliver the Hunterian lecture at St. George's Hospital on Wednesday, May 25th, at 8 30 P.M., his subjects being (*a*) Intermittent Hydrops of the Joints and (*b*) the Influence of Growth on Deformities. All members of the medical profession are invited to attend.

A DINNER will be given to Mr. Chamberlain in recognition of his eminent services to preventive and tropical medicine at the Criterion, Piccadilly Circus, London, W., on Thursday, June 30th, at 7.30 P.M., by the Royal Institute of Public Health. Applications for tickets (one guinea) should be made to Mr. James Cantlie, M.B. (honorary secretary), at 19, Bloomsbury-square, W.C.

THE official summary of births and deaths and their causes in the principal towns of England and Wales during the year 1903 has just been issued, 76 great towns and 103 smaller towns being now included in the official purview of Somerset House.

THE death occurred on Monday last, May 16th, of Professor Etienne Marey, the inventor of the sphygmograph and famous for his physiological work in illustration of the cardiac and respiratory movements.

H.R.H. Princess Christian of Schleswig Holstein will be present on Saturday, May 28th, at the annual meeting of Guy's Hospital Ladies' Association, of which she is president.

WE publish below an appreciation by Professor William Stirling of the zeal, energy, and great scientific acumen of the late Professor Wilhelm His.

Mr. David Charles Lloyd Owen has been appointed an Esquire of the Order of the Hospital of St. John of Jerusalem in England.

PROFESSOR WILHELM HIS,

K. S. GEHEIMER RATH; PROFESSOR OF ANATOMY IN THE UNIVERSITY OF LEIPSIC.

BY WILLIAM STIRLING, M.D., D.SC. EDIN., LL.D.,
PROFESSOR OF PHYSIOLOGY AND HISTOLOGY AT, AND DEAN OF THE MEDICAL FACULTY OF, THE VICTORIA UNIVERSITY OF MANCHESTER.

(*Being a tribute of regard and esteem for the man, his work, and his beneficent influence.*)

FULL of years and honours, after a life of devotion to scientific pursuits, Wilhelm His, after a long period of suffering nobly borne, died at Leipsic on May 1st. Born on July 9th, 1831, in Basle, His pursued his medical studies there in 1849 for one session; he then studied in Berne, under Theile and Valentin, and then (1850-52) in Berlin, where he was a pupil of Johannes Müller and also of Robert Remak. His was much impressed with a lecture on development given by Remak embodying the results of his own observations. He afterwards studied at Würzburg (1853-54) where Virchow was then professor. Virchow, it may be remembered, was forced to leave Berlin and Würzburg was only too pleased to have him from 1849 to 1856 when repentant Berlin recalled Virchow. For three sessions His studied under Virchow and in 1856 he published his "Beiträge zur normalen und pathologischen Histologie der Cornea" (six plates), which was dedicated to Virchow. After studying at Prague, Vienna, and Paris His in 1856 became a *privat docent* at Basle under Meissner and succeeded him in 1857 as professor of anatomy and physiology when Meissner was called to Göttingen. Indeed, it was only a year or two ago since Meissner retired from Göttingen to be succeeded by Verworn. His remained in Basle until 1872, when largely through the influence of Carl Ludwig he was called to Leipsic to fill the chair of anatomy. On the retirement of Ernest Heinrich Weber his chair was divided, Ludwig becoming professor of physiology and His professor of anatomy. Thenceforth Ludwig and His worked together and they soon made Leipsic the centre from which emanated great works in their respective subjects and to which were attracted numerous pupils, both from the Fatherland and Europe, and, indeed, from all over the world, who were anxious to study under such distinguished masters.

For over thirty years the names Leipsic and His have been indissolubly linked together. Early in the "seventies" W. Braune was associated with His as professor of topographical anatomy. The death of Braune in 1892 was a sore blow to His and an irreparable loss to anatomy. The scientific contributions of His exceed 100 in number. Amongst the earliest were his papers on the cornea and its corpuscles; then followed his studies on adenoid tissue and the lymphatic glands, including those of Peyer and other glands associated with the lymphatic system. He was the first to pencil away the leucocytes and thus reveal the adenoid structure. His studies on the lymphatic system extended to the lymphatics present in membranes and to those of the central nervous system, indeed, the perivascular spaces of His still bear his name. Some of these researches were done jointly with his friend, Th. Billroth, who at that time was professor of surgery in Zürich. Let anyone refer to the beautiful plates on the structure of the lymphatic and thymus glands in the early numbers (1861-62) of the *Zeitschrift für Wissenschaftliche Zoologie* and he will find pictures unsurpassed by any at the present time.

A little known but valuable document is that "Ueber die Entdeckung des Lymphsystems," in memoriam Ernesti Gottlobi Bosei, published in 1874 at Leipsic by His. It gives one of the best and most accurate accounts of this historically interesting question, every statement being accompanied by a reference to the original source. On purely descriptive anatomy—apart from his series of models—his great work, jointly with L. Rutimeyer, is the "Crania Helvetica" (1864). The year 1865 marks a new departure and one that led him to his great life-work on development and embryology—viz., "Ueber den Bau des Säugethiereierstocks." This led to "Die Häute und Höhlen des Körpers" being studied from an embryological point of view.

His held in high estimation Robert Remak of Berlin. His was specially impressed with Remak's view that the true glands had a mixed origin, that while their vascular tissue arose from the mesoblast their epithelial cells were derived from the other two membranes. It was not this, however, which led His to his "life work." He reached that by a roundabout channel and we may take it as beginning in 1865 with his work on the ovary, and this work he pursued with assiduous labour and marvellous and enduring success for nearly 40 years. In "Die Häute und Höhlen des Körpers," a small quarto of 34 pages published as an "Akademisches Programm" in Basle in 1865, he refers to the fact that since the time of Bichat—nearly half a century—no comprehensive monograph had appeared on these important topics. His, however, treats the subject from the point of view of the development of the several organs and the origin of the tissues from the layers of the embryo, and he refers again to Remak's theory of the origin of the central nervous system from the epiblast and the peripheral nerves from the middle layer of the embryo. Before great progress could be made and before the origin of the nervous system could be fairly worked out, a microtome had to be invented and the technique much improved, and this His did His was the first to use a microtome which enabled him to prepare serial sections in 1866. His views on the archiblast and parablast were strongly opposed. After relinquishing part of his parablastic theory and modifying it in 1881, he in 1900 published "Lecithoblast und Angioblast der Wirbelthiere," wherein, with most other observers, His recognised the separate origin of the connective substance and the "Anlage" of the vessels. The former he derived from the mesoblast; the latter arises from the extra embryonal and peripheral mesoderm and grows from this later into the embryo. His had a surer ground when he studied the part played by mechanical processes

PROFESSOR WILHELM HIS

in determining the foldings and curvatures that occur in developing organs and he may be regarded as one of the chief advocates for what is now known as "the mechanics of development." His's semi-popular work published in 1874 and thrown in the form of letters dedicated to his friend Ludwig—"Unsere Körperform, und das physiologische Problem ihrer Entstehung"—set forth this view. He returned to the subject in 1894 (in the *Archiv fur Anatomie und Physiologie*) in a classical paper on the Mechanical Fundamental Processes concerned in the Moulding of Form. Beginning with the foldings and anfractuosities known to the geologist, His, by means of elastic plates, modeller's wax, strips of paper, leather, and various other materials, shows what an important part unequal growths on the one hand and pressure on the other exert in moulding the form and flexures of the central nervous system.

When Muller's *Archiv* ceased and when du Bois Reymond founded its continuation as *Archiv fur Anatomie und Physiologie* His took over the editorship of the anatomical part and nearly in every number from 1877, the year of its foundation, down to 1901 we find one or more papers from his pen and pencil dealing with development in all its aspects, from the unfertilised egg to the successive changes that occur in the embryonic layers from their appearance onwards, the development of special organs like the lungs, thymus, and thyroid, but above all the early stages of the nervous system. More especially important is his work on the human embryo. His large folio, "Anatomie menschlicher Embryonen" (Parts I., II., and III, 1880-85), is a monument of exact draughtsmanship and a mine of accurate detail of the early stages of the human embryo. His studied the early stages of development in the chick and in bony and other fishes. In his great work on the human embryo for the first time we have an accurate picture in word, portrait, sections, and models of the early stages of development. He meant to fill in the picture by giving the development of the individual organs but was unable to accomplish all his desires. Undoubtedly the most important are his numerous researches on the nervous system, some published in the *Archiv* and others in the Transactions of the Saxon Academy of Science. In his latest papers he studies the morphology of the total nervous system and suggests new views derived from a study of comparative development and deals with the inter-relations of the cell elements themselves. In the *Archiv* his numerous papers on the nervous system are specially important. In 1889 he set forth his researches on the "neuroblasts" and their origin in the embryonic cord. About 1886 he established a view which he had long held that the axis cylinder is a process of a nerve cell and he found that the axis cylinder of the anterior spinal nerve roots grew out from the cord while those of the posterior or ventral root grew into the cord secondarily from the spinal ganglia. It is easy to see how these results bear upon the more modern researches of Golgi, Cajal, and others.

His was one of the chief founders of the Anatomische Gesellschaft and was the chief mover in connexion with the scheme for unifying anatomical nomenclature. The commission was formed in 1889 and His was able to report in 1895. In 1876–78, along with Braune, he founded the *Archiv für Anatomie und Entwicklungsgeschichte* and was its editor. He became editor of the anatomical part of the *Archiv für Anatomie und Physiologie.* The magnificent and extensive institute for anatomy was built under his direction and formed the pattern of many others. From the "seventies" onwards Leipsic was the Mecca of young investigators desirous of prosecuting researches under Ludwig and His. He was always desirous of visualising his work and hundreds of models of embryos in all stages were accurately made to scale. The importance of the His-Steger models, which represent accurately the position, size, and relations of the viscera, is such that they are to be found in every medical school. New methods had to be devised to get such accurate results. His fully describes the "situs viscerum" in the *Archiv* of 1878. His reconstructions preceded the method devised by Born.

When the new Johanniskirche was being built in 1894 it was desired to find the bones of Johann Sebastian Bach in order to re-inter them in a suitable fashion. It was known that Bach, aged 65 years, was buried in a shallow grave and after much search His found an oaken coffin containing a skull that closely corresponded to the portraits of Bach. He [illegible]

of the Saxon Academy of Sciences.

When we survey the immense amount of original work which His accomplished we can well say that "prodigious" was his energy and his application and untiring was his zeal. When we remember that all this was accomplished along with the active performance of the duties of a professor of anatomy in a great school of medicine, we can only wonder how it was done. His was a clear and explicit lecturer, a draughtsman of the highest ability, and marvellously beautiful were the pictures which he built up before his audience in the lecture theatre. All the drawings—and they were legion—for his various papers and monographs were drawn by his own hand either directly or by means of his embryograph. Early he saw the value of photography to the anatomist and histologist and a large photographic department formed part of the outfit of his laboratory.

Many are the anatomists who studied under him. In our own country we may mention Symington and Gemmill and across the pond Mall, Clark, Flint, and MacCallum. Endowed with a charming personality and a manner at once suave and inviting His attracted round him groups of young investigators eager to work under him. He was always ready to help the beginner and to guide him by his wise counsels. For several years and on many occasions it was the writer's privilege to see much of His and to learn a great deal from him. Perhaps this may prove an excuse for trying to write something on a subject not my own in memory of one who "im Wort und Bild" has left an indelible impress on embryology and morphology and by his researches broadened their foundation, extended their domain, and by so doing has left behind a record of imperishable work and many, many friends and pupils to mourn their loss.

THE

GERMICIDAL EFFECT OF SEPTIC TANKS AND BACTERIAL FILTERS, AND THE BACTERIOLOGY OF SEA-WATER AND OF SHELL-FISH.

SECOND NOTICE.[1]

IN our first notice of Dr. A. C. Houston's report to the Royal Commission on Sewage Disposal we dealt with the bacteriology of the upper and lower Thames, of the London sludge and effluent, and of the waters of the Barrow Deep. In this notice we shall touch briefly upon the remaining subjects treated of in the report. A detailed and exhaustive notice would make too much claim upon our space and therefore an indication of the contents of the work and of the conclusions deduced from the experiments will probably be most acceptable to our readers.

The Inoculation of Sewage with the Bacillus Pyocyaneus and the Subsequent Isolation of that Organism from the Sewage Effluent of Certain Biological Processes.

It is one of the commonest fallacies of the present day to assume that in the septic tank and bacterial filter a panacea has been found for all the evils with which sewage is associated. If, therefore, it is alleged, all our sewage can be subjected to one or other of such processes all will be well. This is a very common attitude on the part of those who seek to bring into operation the provisions of the Rivers Pollution Acts with respect to estuaries. But it is now many years—indeed, in the early days of the Exeter process—since experimental work raised the suspicion that this view was utopian and suggested that immunity from water-borne disease was not to be sought for in this direction. Those who still cling to these old beliefs will do well to refer to Dr. Houston's recent investigations in this direction. The cultures used in these experiments were those of the bacillus pyocyaneus and it is as well to point out that this organism has at times been found in sewage to which it has not been intentionally added. But this fact does not, as Dr. Houston observes, seriously invalidate the instructive results of his experiments. Dealing first with a continuous filter it was found that this organism when added to the sewage in enormous numbers appeared in the effluent within ten minutes of the starting of the experiments and that the virulent bacillus pyocyaneus was isolated from samples of the effluent obtained five hours afterwards. Dr. Houston is apparently afraid that erroneous conclusions may be drawn from these experiments and he therefore hastens to add the inferences which he draws—i.e., "that a continuous filter, although capable of yielding very good results chemically and, relatively speaking, good results bacteriologically, cannot be trusted in the case of the discharge of the effluent into a drinking-water stream to remove the element of potential danger to health." We do not quite follow Dr. Houston as to the precise nature of the relatively good bacteriological results. Subsequent experiments with the same filter gave somewhat similar results and they showed that the organism in question could be detected in the filter up to the tenth day. When experiments were made with a septic tank and contact beds it was found that the bacillus pyocyaneus had no difficulty in passing through the septic tank and that this organism appeared in the septic-tank liquor within two and a half hours from the starting of the experiment and that it appeared in the effluent from the contact beds directly such effluent was drawn off. The fact of its speedy appearance in the effluent of the septic tank tends to show that, in this instance at least, the sewage did not remain in the tank for anything approaching the time which each particle is supposed to take in passing through, and it would seem likely that the organisms found in the effluent had "streamed" directly through the tank. This rapid appearance of organisms in the effluent from biological processes of sewage treatment is a disturbing feature of such methods, and although Dr. Houston tells us that in no instance was there any indication of multiplication it does not appear, so far as we are able to judge by the records, that there was any material reduction.

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[1] The first notice was published in THE LANCET of May 7th, 1904 p. 1299.

It would have been instructive had some experiments been carried out with regard to the reduction in organisms brought about by processes of chemical precipitation, and doubtless the Royal Commission is proposing to do some work in this direction. Moreover, it is desirable in the interest of streams used for drinking water or for shell-fish culture that the effect of sand filtration in the case of the effluents from biological processes should be tried or that some other method of bringing about a relatively sterile effluent should be discovered. Land treatment is not practicable in all places and what certain municipal authorities will wish to know from the Royal Commission is how, assuming suitable land to be not procurable, they may most economically set to work to produce an effluent in which the number of organisms present in the original sewage has been very materially reduced. The Royal Commission will forgive us if we suggest that in our opinion future work might be directed to this end. At present we seem to be some distance from the desired goal.

The Bacteriology of Unpolluted Sea Water.

The Royal Commission has performed a valuable service in promoting a series of experiments in connexion with this subject. Hitherto but little has been known as to whether or not organisms the presence of which have been held to condemn water and shell-fish were really natural inhabitants of both, and it is this absence of knowledge which has placed a powerful weapon in the hands of the opponents of what may be termed unscientific bacteriology. In so far, however, as surface samples are concerned Dr. Houston's experiments have greatly cleared the air. The samples of water examined in his laboratory were procured for him by the well-known bacteriologist, Dr. M. H. Gordon, from the west coast of Scotland during July, 1903, and it is a matter of very considerable interest to find that 34 out of the 35 samples of water examined yielded negative results *quâ* bacilli coli, even when dealing with 100 cubic centimetres of the water. The remaining sample yielded a positive result with 10 cubic centimetres, but not with one cubic centimetre and Dr. Houston must have been very gratified to learn subsequently from Dr. Gordon that this sample was the only one which was collected at all near the shore.

As regards the bacillus enteritidis sporogenes none of the samples yielded a positive result with 10 cubic centimetres of the water. These experiments certainly go very far to show that neither bacilli coli nor bacilli enteritidis are to be found in any numbers at the surface of the ocean in places removed from land, and this notwithstanding the fact that, as Dr. J. W. H. Eyre has recently shown, birds and fishes, which were procured for him through Dr. H. T. Bulstrode's intervention from localities remote from land, were found to contain bacilli coli in abundance. But as Dr. Houston has pointed out in connexion with the bacteriology of the sea water in the Barrow Deep it is likely that organisms voided at or near the surface gradually sink to the bottom and, as he thinks, there undergo destruction. Clearly, however, to complete the research it is desirable that samples of water from near the sea bottom should be examined as also should samples of sand and mud taken from the bottom itself. This is the more important seeing that the shell-fish to which attention was mainly directed in the report before us have practically no alternative but to remain on the bottom. This criticism, however, in no way detracts from the excellent work done by Dr. Houston in the case of surface samples.

But having got these results Dr. Houston was evidently tempted to set up a standard in view, as he points out, of the range of difference between 100,000 bacilli coli per cubic centimetre in sewage and no bacillus coli-like microbes of any sort in 100 cubic centimetres of unpolluted sea water. But he adds that at the present time the attempt to lay down *absolute* standards is not justifiable. Before this can be done further study must be made. Moreover, the assumption that the bacillus coli is directly injurious "seems unwise, if not unwarrantable, in the present state of our knowledge," and he thinks that the only fair attitude to assume is that the bacillus coli is an *indirect* index of potential danger to health. In his view although it may be convenient to measure the degree of danger by the numerical abundance of bacilli coli nevertheless "neither the epidemiologist nor the chemist, nor even the bacteriologist can place a 'disease value' on any given pollution." Dr. Houston then devotes a considerable space to the discussion of these numerical standards and he sums up his conclusions in a series of propositions. Of these the one which has most bearing upon the subject of this article and upon administrative measures generally is the following: "That in all but obvious cases of contamination *degrees* of pollution need to be measured by the bacteriologist *who should interpret his results in the light of local observations and epidemiological considerations.*"

The Bacteriological Examination of Samples of Water and of Oysters obtained from the Helford and Penrhyn Rivers in Cornwall.

Dr. Houston selected these two estuaries for detailed examination because the Helford river is one of the purest estuaries to be found in England, whereas the waters of the Penrhyn river have ample opportunities at places of becoming specifically polluted. We cannot, we fear, follow Dr. Houston's work with regard to these two estuaries in detail. It is like all his work—eminently thorough in character and cautious in inferences. Dr. Bulstrode regarded the Helford river upon general topographical grounds as one of the very purest in the country and Dr. Houston from his own observations is practically in agreement with him upon this point. Dr. Houston also agrees that the Penrhyn river is an undesirable place in which to fatten oysters for the market. The first three samples of the Helford river which were taken at different parts of its course yielded no bacillus coli-like microbes in ten cubic centimetres of any of the samples and the bacillus enteritidis test also yielded negative results. These preliminary negative results were, as Dr. Houston remarks, in *complete agreement* with the *topographical features* of the Helford river. But samples taken later in the year were not equally satisfactory and it was found that in one experiment eight out of 25 samples—i.e., 32 per cent.—contained bacilli coli or bacillus coli-like microbes in one cubic centimetre of the water but not in 0·1 cubic centimetre. Whatever may be the meaning of these variations—whether, for instance, there may be some seasonal law at work or whether in this latter case there had been some recent pollution as from a yacht or from some bacillus coli bearing fish or animal other than man—they suggest repeated examinations of a water before a definite conclusion can be arrived at. They also indicate how great may be the injustice done, whether to the public or to the fishing industry, by hasty generalisations from those assuming that the bacteriology of water and of shell-fish has reached a final stage in which dogmatic statements can be made concerning an isolated sample of water or of shell-fish.

As regards the presence and number of bacilli coli in estuarial waters at different points we have already discussed the interesting conclusions arrived at by Dr. Houston as the result of his work in the Thames estuary, results which we agree with him are most instructive and hopeful. But with his customary love of fairness Dr. Houston furnishes on

p. 310 of his report a passage from a recent report made to the Massachusetts State board of health by Mr. H. W. Clark and Mr. Stephen Gage. This passage, which we reproduce, has about it a suggestion that bacilli coli may in their voyage down a river actually increase rather than decrease. Indeed, it is possible that bacilli coli obtained from places some distance from a sewer outfall may be merely the offspring of those which left the sewer, and this would appear to be the more likely in estuaries such as the Thames, where the sewage liberated on one tide oscillates up and down the river for days until parts of this "sewage zone," as it has been called, are gradually displaced seawards by the fresh water coming down from the upper valley of the Thames. If, as is obviously conceivable, bacilli coli undergo multiplication in presence of certain flora which may promote their reproduction, it is equally conceivable, although we are aware that certain experimental work points to the opposite conclusion, that the enteric fever organism also may again, under certain and unknown conditions, multiply. If this be so, do those organisms which multiply outside their natural habitat retain their pathogenicity? The Massachusetts passage is as follows: "In a table following it will be noticed that of the samples of clams taken at known distances from a sewer outlet, the greatest percentage giving positive tests were collected one-half to three-quarters of a mile from this outlet. The water samples collected from one-eighth of a mile to one and five-eighths miles from the sewer outlet gave a greater percentage of positive tests for B. coli. Those collected at a distance of one-fourth to one-half a mile also gave a greater percentage of positive tests for B. coli than did the samples collected nearer the outlet."

The Bacteriology of the Oyster.

Although within the last ten years or so a considerable amount of work has been done in the direction of ascertaining the flora of the oyster it cannot be said that such work has proceeded altogether upon scientific lines. The essential basis for any legitimate inferences has not been determined, and without such a basis all deductions from the discovery of bacillus coli, bacillus coli-like organisms, or bacillus enteritidis sporogenes are practically valueless. It has not hitherto been conclusively determined whether or not these organisms are to be found in oysters procured from localities altogether remote from pollution by sewage of human origin. Here, again, the Royal Commission through Dr. Houston has thrown very considerable light on the problem. Dr. Houston's researches render it very doubtful whether oysters procured from positions remote from land influences do as a matter of fact contain bacilli coli or bacillus coli-like organisms. His experiments thus far point to a negative conclusion as regards what may be termed uncontaminated deep-sea oysters, but there would appear to be some question whether the absence of these organisms may not be a question of season and not a constant feature. Having regard to the seasonal behaviour of certain diseases which are known to be associated with micro-organisms it is desirable to be cautious in drawing inferences and it will be interesting to see the result of Dr. Houston's further researches in this direction.

But for the moment the most instructive result of the investigations upon the bacteriology of the oyster is that bacilli coli or bacillus coli-like organisms were found in practically all the oysters which were examined and which had been procured from even the purest layings around the English littoral. The fact that these organisms have not been constantly found in the past is apparently to be accounted for by the varying distribution of the organisms in the body of the oyster. If, for, instance, a pipette be taken and thrust more or less at random into the body of the oyster the amount of oyster substance and fluid withdrawn may be found devoid of either of the organisms in question. It would appear that in this manner are to be explained some of the negative results which were obtained in 1896 with oysters which were procured by Dr. Bulstrode from as near as possible to sewer outfalls but which were regarded by the bacteriologist to whom they were sent as wholesome molluscs. But Dr. Houston, appreciating the possible fallacy of this method, adopted the plan of examining the whole contents of the shells, and still further to guard against error he worked also with a *mixture* of ten oysters. His result shows, in his own words, "that B. coli or coli-like microbes can not only be practically always isolated from a *mixture* of ten oysters derived from layings which, judged from the topographical point of view, would be considered either above suspicion or at least reasonably secure from pollution, but also that such microbes can usually be isolated from each *individual*, or at all events from a great majority of the ten oysters experimentally tested."

Another very instructive point brought out by Dr. Houston's experiments is that the oysters almost invariably contain a much greater number of organisms per cubic centimetre of substance or liquor than is the case with the water collected above the oyster layings. Oysters examined from various sources differed materially as to the number which they contained of organisms which responded to all the tests to which bacilli coli isolated from the human intestines respond. For example, of oysters procured from West Mersea only 20 per cent. yielded what are called typical bacilli coli, a fact which shows how very misleading a test based solely upon typical bacilli coli is likely to prove. If the oysters which furnished the 20 per cent. had been by chance omitted from the oysters collected it is conceivable that an absolutely negative result might have been procured. But in the next ten oysters taken from the same source all ten contained typical bacilli coli. Again, in the case of ten oysters taken from the estuary of the Crouch *all* proved negative *quâ* typical bacilli coli, whereas in the case of a second batch from the same source no fewer than nine of the ten oysters contained typical bacilli coli.

In summing up the results obtained with regard to what are certainly some of the layings most remote from the risks of pollution which exist in England Dr. Houston adds: "To suggest, therefore, that the oysters from these layings are impure in the sense that they are a source of danger to

to accept what to some bacteriologists must be the logical outcome of his researches. He maintains, therefore, a somewhat agnostic attitude and while not affirming that the conclusions of the topographist are to be regarded as final he hesitates to make such a sweeping condemnation as would, we gather, be made by some bacteriologists—if they maintained a consistent attitude—upon the results obtained. Dr. Houston's attitude is with respect to this question of oysters somewhat similar to that which he adopted with regard to the water of the Thames in the neighbourhood of the intakes of the London drinking water. He is uncertain as to what value to attach to the testimony of *experience* and here he will find many sympathisers among those who approach the subject not exclusively from a bacteriological standpoint.

It will be said by some that the general outcome of Dr. Houston's elaborate research is disappointing, but from a purely scientific point of view, as also from an administrative standpoint, the results are, we think, eminently satisfactory. Dr. Houston has shown that the dimensions of this problem are such that at present dogmatic assertions cannot with justice to either side be reasonably made as the result of bacteriological examination alone, and in the interest of health it is surely an enormous advance to be delivered from a dogma for which there is no sufficient foundation We are quite sure that no bacteriologist would wish to jeopardise the public health or even an industry upon which many lives depend without being satisfied that the basis of his action was beyond dispute. We ourselves regard Dr Houston's work as most valuable and if, as it were, it sets up a standard of excellence which other workers in the same field strive to attain a very material advance in the science of bacteriology will have been made. That there is *still much to* be learnt as regards the bacteriology of shell-fish before dogmatic statements from the examination of one sample can be made is clear from the Massachusetts report already referred to. In this report it is stated that "the ability to demonstrate clearly the presence of a specific sewage organism such as B. coli is an invaluable aid in determining the question of purity or pollution." The fact that the presence of this bacillus *in large numbers* is an *aid* in doubtful cases may, we think, be conceded, even although the Massachusetts report adds that *in many samples from polluted sources bacillus coli has not been found in either shell, water, or intestine* (the italics are ours).

To sum up the situation it would, we think, be difficult to join issue with the recent report of the Royal Commission on Sewage Disposal when it says in Section 94: "Although we consider that the bacteriological examination either of sea water or shell fish, even if carried out in a quantitative as well as a qualitative manner, cannot at present be recommended as a matter of routine for the purpose of distinguishing unsafe foreshores, layings, ponds, &c., the result so far obtained shows great promise that by further inquiries a way will be discovered by which the elements of danger may be defined with much greater accuracy than is at present possible and it is in our opinion most important that researches in this direction should be continued."

We thoroughly agree with this recommendation which we hope will be followed by the Rivers Board, the creation of which the Commissioners advised in their third report, but we trust that the first act of the Rivers Board will be to close those layings, ponds, and pits which are *obviously* liable to pollution and the existence and surroundings of which have been well known since Dr. Bulstrode made his report to the Local Government Board so far back as 1896.

THE BRITISH MEDICAL ASSOCIATION AND MEDICAL DEFENCE.

A MEETING of the South-West (Wandsworth) division of the British Medical Association was held at the headquarters of the 4th V.B. East Surrey Regiment, St. John's-hill, Clapham Junction, London, S.W., on May 12th, to consider the scheme of medical defence as prepared by the medical defence committee of the Association. Dr. M. G. **BIGGS** presided and the number of members of the British Medical Association belonging to the division who attended the meeting and went to the poll upon the important question submitted to them was under 30.

Dr. **BIGGS** commenced the proceedings with a brief speech, recapitulating the situation and pointing out that there were two questions before them, which should be taken separately: (1) Is it desirable for the British Medical Association to take up medical defence? and (2) Is the scheme which has been prepared to that end by the medical defence committee of the Association a sound one? He decided to rule out of order the discussion of the scheme until the first question had been settled and voted upon and only divisional members would be allowed to vote.

Mr. G. **WALKER** (Wimbledon) then proposed that the British Medical Association should take up the scheme of medical defence, expressing himself strongly upon the advisability of gaining the experience and coöperation of the existing societies for medical defence.

Dr. S. **VERDON ROE** seconded the proposal.

Dr. A. G. **BATEMAN**, secretary of the Medical Defence Union, then addressed the meeting by the invitation of Dr. Biggs. He said:—

I am here by your courtesy, not to discuss the scheme, because I have nothing to do with that, but to explain the attitude which the Medical Defence Union has taken up in reference to this matter. The position has been made perfectly clear to our members and also, I think, to a great number of the profession who are members of the British Medical Association, because we issued a circular on March 3rd which was sent out to all our members and which was published in the *British Medical Journal* and commented upon in THE LANCET. The Medical Defence Union exists as a company limited by guarantee and could not in any circumstances merge or amalgamate itself into any other company or society but must exist as a separate entity, unless wound up voluntarily or compulsorily under the Companies Acts. The circular suggested "that to wind up and liquidate a financially sound and successful company, which has done for 19 years, and is steadily doing excellent and valuable work, not only for its members but also for the medical profession generally, would be a waste of the funds of the subscribers, involving, as it would, large expenditure and a needless sacrifice of the best interests of its members." This point has been much criticised. We have been asked in what way our expenditure would be involved. This is the way. In a society like ours of a medico-legal character we are occasionally served with writs on behalf of our members. Supposing the writ came into the office to day and we commenced to wind up to-morrow we should have to retain the funds in the hands of the liquidator to carry through the whole of the expenses in connexion with that case until its finish. Now, as I have personal experience it takes some time from the issue of a writ to the conclusion of the case. In this last fortnight we concluded a case the writ for which had been issued two years previously. The circular also said "that the union includes numerous practitioners who are not members of the British Medical Association who if the Medical Defence Union were wound up would either be cut off from defence and protection or would have to regain the protection now afforded them by becoming members of the British Medical Association and of its medical defence department at a cost of 35s. per annum," instead of 10s. per annum. I would ask you to remember in reference to our point of view that even in Wandsworth division there were 200 practitioners in this area of whom only six belong to the British Medical Association according to the last returns. The reason given for the new departure of the British Medical Association is that there should be one organisation only for medical defence, instead of, as at present, two or more. This, the council of the union desired in its circular to point out, would not necessarily follow even if the scheme were carried out, as it would not prevent members of the [illegible] present scheme from again forming [illegible] Association. The council has receiv[illegible]nbers in all parts of the country, not only endorsing everything it had said and done, but stating that if the council did wind up the union they would form a new Medical Defence Union, and that rather than give up their membership of the union they would give up their membership of the British Medical Association. I am not here in antagonism to the British Medical Association. I have been a member of the British Medical Association for many years and have served [illegible] All the members of our council are [illegible] Association and many of the members [illegible] n of the council and the committee of the British Medical Association. Therefore, the line which we take up is not antagonistic to the British Medical Association itself but is antagonistic to a scheme which if carried through would make a monopoly of medical defence. We think that healthy competition is better.

Sir **VICTOR HORSLEY**, speaking also by invitation, said:—

Dr. Bateman has referred to the circular of the Medical Defence Union, my connexion with whic [illegible] the utmost pleasure an[illegible] scheme and many of Dr. [illegible] scheme and not to the w[illegible] I should like to have the opportunity of dealing with the circular of the Medical Defence Union because in many respects I consider it to be misleading. Dr. Bateman said that the council of the Medical Defence Union was opposed to monopoly and in a letter to the *British Medical Journal* I saw a reference to American trusts and unions—the Medical [illegible] (D[illegible] BATEMAN: But not a monopoly)—t[illegible] hope, is also a union of men who help [illegible] ord association is a congeries of *soci*[illegible] proposal to extend the principle of mutual defence throughout the whole profession is, I think, a political mistake on the part of any one body carrying that work out. We mean by a monopoly, using the word in a bad sense, that a particular body of men are going to try to gather into their grasp trade in one direction and that they alone shall make a profit out of it. The use of the word monopoly in this connexion is wholly unjustifiable. What has been proposed for the British Medical Association is a union of as many members of the profession as we can possibly get together to help each other. If that be a monopoly then I am proud to be a monopolist. The council of the Medical Defence Union seems to think that the medical practitioner of this country is made for the union. When I was president of the union it was my feeling that the union was made for the practitioner and that is my attitude now. The council of the Medical Defence Union, in speaking of this matter in its general sense in its circular, said that it felt that it ought to keep the union in existence. Why? Surely it could be only in the interests of the general practitioner throughout the country; it could not be in anybody else's interests. Well, then, let us approach this subject not from the point of view of the preservation of existing machinery. Let us discuss the way in which we can extend the principles of medical defence to the largest number of the profession. I submit that it is a mistake to keep a small organisation going. There is no question of the helpfulness of competition. But surely we are not competing against each other as medical men, to defend ourselves against each other: we want to defend ourselves against the public. We can only do that by having a combination, the very combination to which, as I said before, exception was taken in the columns of the *British Medical Journal* and taken by a man who is a combinationist. The only other question that comes under consideration on the general matter, it seems to me, is this: Have the defence societies considered the subject from the point of view of the requirements of the practitioners of the country at large? I do not think that they have yet. If there is better machinery in the market surely it is best for us to put the old machinery on the scrap heap and to take the new machinery. I am looking at it from a cold-blooded point of view no doubt, but these questions are to be regarded from the cold-blooded point of view and not from that of sentiment. When we were getting the British Medical Association reorganised we were told on all hands that we were ruining the Association. What is the result? We have this year a larger balance of profit in the Association than heretofore. As regards finance, it is quite obvious that if you have got an organisation with an annual turn-over of over £40,000 that that is, *per se*, a much stronger thing than an organisation with a turn-over of £3000 or £4000. Surely that must be obvious to everyone. I would therefore suggest to you that if you want to get machinery of the greatest power the wisest thing for you to do is to take the British Medical Association and to make that your machine and to organise it for the purpose of medical defence.

After some remarks from Dr. **ALLAN**, Dr. **BIGGS** invited Dr. Hugh Woods, secretary of the London and Counties Medical Protection Society, Limited, to address the meeting; but Dr. **WOODS** said that it had been decided that his association would do nothing until the scheme was before them. Personally, he was in favour of the British Medical Association taking on medical defence.

Dr. G. A. **HERON** said:—

I have no wish to repeat Sir Victor Horsley's words but so far as this matter goes he and I think practically alike. Too much emphasis has been laid on the fact that if the British Medical Association takes up medical defence the Medical Defence Union will not give it assistance. Dr. Bateman then said that it would take years to train the British Medical Association for the work of medical defence. (Dr. BATEMAN: Quite right). Well, I venture to suggest that medical defence is very well understood even outside the ranks of the Medical Defence Union. There is another society, for instance, in existence which has not done badly in this matter, and we are quite sure that from among the branches of the British Medical Association we can get an ample supply of men perfectly competent to carry on medical defence on behalf of the British Medical Association quite as well as it is carried on now by the Medical Defence Union or by the London and Counties Medical Protection Society which although they have done such good work are really a source of weakness to each other. The most important argument in favour of medical defence being taken up by the British Medical Association is that we should have all our interests, so far as we can have it so, under one roof governed by men who are of ourselves,

up in as many [illegible]
suggested. If we medical
of the evil which has been
done to our profession by want of union, cannot come together on this subject of medical defence and show that we mean to stand by one another the sooner we give up medical defence altogether the better.

Dr. MAJOR GREENWOOD said :—

We want to be sure that in getting a medical defence society we get one which will do the best for the profession. It is possible the scheme of the British Medical Association might be better than other schemes, but we must have a reasonable
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de by Sir
Would it
ctitioner is
al Association? That was Dr. Bateman's point, I think. It seems to me that in such a situation you have a type of monopoly which we as a nation have always condemned. With regard to one of the defence

if we were to wind up and to join in a scheme we must at once, without any right or reason as far as dentists are concerned, say to the dentists you must go and found a medical defence association for yourselves. Again, Sir Victor Horsley spoke of a turn-over of £40 000 a year compared with one of £3000 or £4000 a year. But taking the Medical Defence Union and the London and Counties Medical Protection
d be more than £4000
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medical defence. The
y mind does not come
iple the question as to
what would be better for the profession if we could have it I agree with the motion that medical defence should be conducted by the British Medical Association.

Dr. E. A. MILLER said :—

Sir Victor Horsley referred to destroying the worst machinery, but if we do form a defence branch of the British Medical Association it is very much a question whether we shall destroy the already existing machinery. Dr. Heron has referred to the existence of two defence societies and has indicated that any advantage to one is a disadvantage to the other. His argument, brought forward in support of our forming a third association, is a most powerful argument against doing so.

After a few words from Dr. Richards pointing out that the British Medical Association had been only recently remodelled and that further development in its work had better be delayed Dr. BIGGS put the motion, when the voting was: in favour, 16; against, 7.

Dr. BIGGS having declared the motion carried called upon Sir Victor Horsley to give his opinion upon the scheme of the British Medical Association for medical defence.

Sir VICTOR HORSLEY said :—

As a former President of the Medical Defence Union I feel

the reactionary party of the Association, resolutions to alter the memorandum of association in order to carry on the individual defence of members and in order that we might extend our powers of collective defence. These resolutions have never been put into force and they are now inadequate in form on account of the reform of the constitution. The scheme which you are asked to support by the committee provides as a first item that the Association shall go forward with these proposals to alter the memorandum and to make it possible for us to defend members of

vited to merge themselves in the Association and the committee had every reason to hope that the sense of patriotism which the profession at large enjoyed would induce the existing societies to do that. Nothing, I think, has caused the members of the medical defence committee of the British Medical Association more pain than to find that that paragraph of their scheme has been overlooked. If the two societies were not willing to come

it is brought into a larger mechanism and asked to do a larger work

Years ago I endeavoured to get the subscription raised to 30*s.* I did so because I knew from a study of the balance sheet that if we had a subscription of 30*s.* the Association would have taken up the defence of all its members. It is true that the present working of defence societies shows an expenditure coming out at nearly 10*s.* per head, but I am sure in my own mind that this is an unnecessary expenditure and if in the British Medical Association we had available profits amounting to 5*s.* per head that would be enough to do the work. I think 10*s.* is an outside sum, but it would make the members of existing societies no worse off than before. If they joined our scheme their work, their interests, would be watched over by the same men for the same money. The only

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Dr. E. R. FOTHERGILL said :—

I move that no scheme submitted by the British Medical
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ns. I think the fault of the
prepared the defence scheme
think a few of the members
sociation taking up defence
ies have been ignored. And
complaint. We have had a
to decline. I think it is the
hould initiate no business at
us members in their various
divisions. There has been no attempt in the preparation of this scheme to consult those who have had experience. It is a one-man scheme, with all deference to the one man who is very capable.

Sir VICTOR HORSLEY said :—

The President of the Medical Defence Union was chosen as a member of the committee because of his office; the treasurer of the London and Counties Medical Protection Society was chosen because he was treasurer of that society. Finally, both secretaries were officially invited to come and help the committee.

Dr. BATEMAN said :—

Dr. Hugh Woods and myself were simply asked to attend to give evidence. We had nothing to do with the scheme.

Dr. WOODS said :—

My society was fully represented on that committee; we do not complain in any way.

Dr. Miller said:—

I have pleasure in seconding Dr. Fothergill's motion. We are anticipating if we say let the British Medical Association take up medical defence and then take in the Medical Defence Union and the Medical Protection Society. Their consent to come in should be got first.

A discussion here arose as to the accounts of the British Medical Association, the subject being considered germane to the motion because it was probable that if the Association had more money they would not find it necessary to raise the subscription.

Dr. Shaw and Mr. J. S. Whitaker having spoken,

Dr. Bateman continued in answer to Sir Victor Horsley. He said:—

I am very sorry to be in opposition to Sir Victor Horsley because I have worked with him as secretary of the Medical Defence Union and on various committees and I think I may safely say this is the first time I have ever been in opposition. The scheme is practically dead but not being yet dead one must say something about it. We have 6800 members of the union and over 1600 are not members of the British Medical Association. If we had all our members present at the meeting who are members of the British Medical Association and the 1600 who are not members of the Association turned up as well, as they have a perfect right to do, it would be absolutely impossible for us to get the necessary three quarters majority in favour of winding up, even if we wished it, And we have felt all along, and still feel, that to desert those 1600 members and also those of the union who dissent from this scheme would be a scandalous injustice to those men. It was felt necessary at once to save the time of the British Medical Association by issuing that circular. That is why the council did it. We could not call our members together but we sent a copy to every member. And with the exception of one member we have not had a dissentient from it. Therefore I think we may take it that the view of the council was also the view of the members. Those who think that the union is divided on this point I would invite to read the hundreds of letters, if they have time, in which the action of the council has been confirmed. We intend to bring this up at our annual meeting on May 26th. Any members of the union who object to it could propose a vote of want of confidence but I do not think such a vote of want of confidence would be passed.

Dr. Heron said:—

I think it is an unfortunate thing that anyone should have so misstated the fact as to say that this scheme submitted to you is the scheme of one man. It is a scheme drawn up by two members of the British Medical Association at the request of the committee appointed for the purpose of considering medical defence and these two members did their best to form a scheme which they thought might suit the circumstances of the Association as they now exist, not as they may exist in the future. That is quite another question. Because two members of the council of the Medical Defence Union who were members of the committee withdrew their consent from this scheme and published a minority scheme it is assumed that the Medical Defence Union is justified in opposing the scheme. I think this is a most deplorable and unfair attitude. The London and Counties Medical Protection Society came to the conclusion at its annual meeting that its best plan was to wait until it was officially communicated with by the British Medical Association and then to give the scheme submitted to it by the British Medical Association its best and, if possible, its favourable consideration. Surely, Sir, that is a much more charitable attitude. The reason why six members of the representative committee should be elected by the council of the British Medical Association is that the Association is going to be asked to be responsible for a considerable sum of money under this scheme and therefore it is not unreasonable. With regard to the appointment of the executive it was thought a reasonable thing that the men who would have control of the medical defence department in the British Medical Association should elect the officers with whom they would have to work and as the members of the medical defence committee would all be more or less experts in medical defence surely they would be the best judges of the sort of men they wanted to fill the various offices under them. Those who have gone into the accounts must be aware that we have got in round numbers available £6000; that is the whole surplus which we have just now. The membership of the British Medical Association is 19,000, scattered all over the British Empire—in the Antipodes, in India, in Canada. A man in the most outlandish part of the British Empire who is a member of our Association has as much right to be defended as a man in London. It is proposed that money should come out of the 25s. subscription to meet the expenses of the enormous scheme of medical defence that would be necessary. I do not see that it is possible; I do not believe you will get half a dozen sane men to undertake the management of such an affair as this with only £6000 behind them. The expenses would be enormous and I doubt whether you could work at all if you included the whole 19,000 members of the British Medical Association. You say limit it to the number of men in the United Kingdom—14 000. It costs 9s. per head to run the business of the London and Counties Medical Protection Society and 9s. to run the business of the Medical Defence Union. I differ from Sir Victor Horsley in this matter. I do not believe that, at first at all events, you will be able to bring the expenses of the British Medical Association in the matter of medical defence to a less figure than that which is now required by the two societies, which is practically the same, 9s. per head. I do not believe that you will be able to run it at less money at first though you will by-and-by. I do not see how we are to know with certainty what medical defence is going to cost the Association at the outset. So I contend that you must start with a subscription of 10s. or some other sum to set the machinery of ordinary medical defence going within the British Medical Association. Those who choose to take medical defence on those terms can get it; those who do not choose can stay out. A good deal has been said to-day about the man who is not a member of the British Medical Association. I venture to say that I have no sympathy with him; he ought to be; and if he does not choose to come into a scheme of this sort let him stay out. Also, what we have heard about a rump being formed of the existing members of the Association for defence if the British Medical Association takes this matter up. We have heard a great deal about there going to be another medical defence union. When the British Medical Association takes up medical defence and goes seriously for it the end of that rump will be no less disastrous than that of the other rump which we have read about in the seventeenth century. I hope this meeting will endorse not the details of the scheme perhaps but the principle of the scheme—namely, that medical defence should be supplied for the present in connexion with the British Medical Association until such time as the movement for medical defence is able to run alone and to pay its way.

Dr. Biggs then put the motion when seven voted for it and ten against.

Dr. Biggs then put a motion in favour of the scheme as it stood and two voted for it.

Sir Victor Horsley having suggested that a motion approving the principle of the scheme would be in order,

Dr. L. S. McManus proposed "that we adopt the principle of the scheme, thus reserving to ourselves the right to criticise its provisions." On Dr. Biggs's suggestion the words were added "and that the matter be referred to the committee of the division."

Dr. H. Evans seconded the motion and ten having voted in its favour Dr. Biggs declared it carried.

Dr. Biggs then proposed a vote of thanks to those who had come from a distance to address the meeting and this was carried by acclamation, as also was a vote of thanks to Colonel Martin for the use of the room.

ANNUAL DINNER OF THE EPIDEMIOLOGICAL SOCIETY OF LONDON.

The fifty-fourth anniversary of the foundation of this society was celebrated by an eminently successful dinner which took place at the Grand Hotel, London, on May 12th, under the chairmanship of the President, Dr. B. A. Whitelegge, C.B., chief inspector of factories. There was a numerous attendance and the guests included two very distinguished foreign representatives of sanitary administration—namely, Privy Councillor Dr. Moritz Pistor of the Ministry of the Interior of the Kingdom of Prussia and M. Henri Monod of the Ministry of the Interior of France.

After the usual loyal toasts "The House of Commons" was proposed by Mr. Balfour-Browne, K.C., and responded to by Dr. C. F. Hutchinson, M.P., who in the course of an amusing speech referred to the recently-formed medical party in the House of Commons. It was hoped that this party would form the nucleus of what in the future would prove a much larger party and that it would have before it an increasing sphere of usefulness in focussing and furthering in the House measures which concerned the public health or the welfare of the medical profession. The medical profession was but poorly represented in the House of Commons in comparison with the legal profession. The medical party would, Dr. Hutchinson felt sure, be always glad to receive the advice and assistance of such societies as the Epidemiological Society and he trusted that the society would tender such advice when it appeared to be desirable.

Sir William S. Church, Bart., President of the Royal College of Physicians of London, proposed the toast of the "Naval and Military Medical Services," and in the unavoidable absence of Sir Henry F. Norbury, K.C.B., Colonel J. Lane Notter, R.A.M.C., responded for both services.

In proposing "The Epidemiological Society" the President touched briefly upon the foundation and the development of the society and stated that of the many founders who took part in the initiation of the society in 1850 there was but one survivor, Sir John Simon, K.C.B., F.R.S. The President had at the beginning of the dinner sent to Sir John Simon a telegram of greeting from the society and he had just received a courteous acknowledgment. The society was, the President added, in an eminently flourishing condition and the last volume of the Transactions had been so highly appreciated that it was out of print almost as soon as it was published. Most of the foreign contributions which the society had recently received were due to the interest taken in its affairs by its former President, the late Professor W. H. Corfield.

Mr. Shirley F. Murphy proposed the toast of "The Visitors," with which the names of Dr. Moritz Pistor and M. Henri Monod were coupled.

Dr. Pistor, speaking in excellent English, expressed the great pleasure which it afforded him to have an opportunity of thanking the members of the society for their kindness in inviting him to deliver an address at the forthcoming meeting. The invitation arose out of his friendship with the late Professor Corfield, a friendship which he had enjoyed since the International Congress of 1891. Decades ago Englishmen appreciated the power of the axiom laid down by the late Professor E. A. Parkes that "Prevention is better than cure," and England had demonstrated to the world what the State derived from the theory and practice of sanitary science.

M. MONOD, who spoke with great fluency in English, said that he felt his honorary membership of the Epidemiological Society to be not only a personal distinction but also a tangible sign of the society's interest in the improvement of public health in France. He then gave an historical and general outline of recent legislation on the subject of public health in France. A few years ago, he said, the French had practically no laws for the preservation of health; there was no law either as to the notification of infectious diseases or prescribi [illegible] the case of such diseases or [illegible] existing law for the protection [illegible] of Feb. 15th, 1902, and came into force last year. Of course, some time must elapse before it was fully understood and generally accepted by the people, a condition which was essential to the good working of such a law. In Germany both vaccination and revaccination had been made obligatory and the French legislature, recognising that by this means small-pox could be kept in almost complete abeyance, had provided that the whole population should be vaccinated in the first year of life and revaccinated in the eleventh and twenty-first year. Proceeding to describe his own share in the preparation and enactment of these laws M. Monod said that more than 20 years ago, when he was prefect of the department of Calvados in Normandy, two of his friends persuaded him to accompany them on a visit to the First International Health Exhibition which took place in London in 1883. By what he saw there he was convinced of the social importance of public hygiene and did all that he could to encourage the movement in its favour which was beginning in France. He wrote a book to explain to his countrymen what was being done in England, he was placed at the head of the service that was created in consequence of the movement, and then had to prepare the law of which he had been speaking. At the last international congress of hygiene held in Brussels he had proposed the formation of an international public health office, the business of which would be the collection and distribution of sanitary information. That proposal was officially presented by France and by Italy to the Sanitary International Conference which met in Paris at the Ministry of Foreign Affairs at the end of last year. Nearly all the nations that were represented on that occasion signified their approval of the project and he hoped that his hearers would assist in creating a public opinion which would encourage the British Government to give its consent which had hitherto been withheld. Against cholera and plague there was only a single international convention which must govern the relations of France with all countries, whether or not they observe sound sanitary measures at home. It was impossible for the French to discriminate with regard to the shipping of different countries, but if there was such an international office or bureau of hygiene which would give all countries accurate information as to measures taken in each, then France or any other country might properly make its regulations less stringent towards progressive countries than towards those that pay little attention to public hygiene.

The toast of "The Chairman" was proposed by Dr. EDWARD C. SEATON and an appreciative reply from Dr. WHITELEGGE brought the meeting to a close.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary Comitia was held on May 12th, Sir WILLIAM S. CHURCH, Bart., K.C.B., the President, being in the chair.

The PRESIDENT announced that he had appointed Sir R. Douglas Powell and Dr. A. Newsholme delegates to represent the College at the forthcoming congress of the Sanitary Institute at Glasgow; also that he had nominated Dr. H. B. Donkin and Dr. Francis Warner to act on the committee to inquire into the physical disability of recruits, in the place of Dr. G. V. Poore and Dr. J. J. Pringle who had resigned.

The following Members elected to the Fellowship at the last meeting were admitted as Fellows: Dr. Bertram Louis Abrahams, Dr. Thomas Robert Bradshaw, Dr. William Cecil Bosanquet, Dr. John Francis Harpin Broadbent, Dr. Edmund Henry Colbeck, Dr. William John Gow, Dr. Arthur John Hall, Dr. Arthur Carlyle Latham, and Dr. Charles Arthur Mercier.

A report was received from Sir Lauder Brunton, the representative of the College at the International Congress on School Hygiene at Nuremberg. The subjects discussed were of great interest and importance and the Congress itself, under the presidency of His Royal Highness Prince Ludwig Ferdinand of Bavaria, was a great success. It had been arranged that the next Congress should be held in London in the year 1907.

A report was received from the committee of management, dated May 4th, 1904, recommending that the West Ham Municipal Technical Institute should be added to the list of institutions recognised by the Examining Board in England for instruction in chemistry, physics, and practical chemistry. This was adopted.

The regulations for the first year's study and first examination of the Conjoint Board, revised by the committee of management in accordance with the reports of July 22nd, 1903, and March 22nd, 1904, of the Special Conjoint Committee, were discussed and adopted. The revised regulations apply to candidates who commence their professional study on or after June 1st, 1904.

THE ROYAL SOCIETY CONVERSAZIONE.

THE exhibits presented to view at the conversazione of the Royal Society which was held on May 13th were more uniformly interesting than usual. No particular section of science was more strikingly illustrated than another, while all branches were represented. There was no brilliant discovery to illustrate as was the case last year when Sir William Crookes demonstrated the properties of radium and, indeed, some astonishment was expressed that in view of the remarkable developments which the study of radio-active compounds has opened up only one small exhibit illustrating this property was shown.

The most striking example, perhaps, of electric phenomena was afforded by the apparatus exhibited by Dr. J. A. Fleming, F.R.S., illustrating the conduct of stationary electric waves on spiral wires. The apparatus consists of a long spiral of fine wire to one end of which is applied a very rapid electric vibration produced by the discharge of a Leyden jar. These vibrations create an electric wave which travels along the spiral at the rate of about 1500 miles per second. This wave is reflected on the far end and returns again, establishing on the helix stationary electric waves in the same way as stationary aerial waves are produced in an organ pipe. The waves are made evident by the existence of points of maximum and minimum electric force called loops and nodes which are rendered visible by the use of a series of vacuum tubes which glow when held near the loops but not if placed near the nodes. By this means it is possible to measure the length of the electric waves. The practical interest of this experiment is that applications of this kind have been utilised for measuring wave lengths in wireless telegraphy. The experiments also prove that the specific inductive capacity of glass diminishes rapidly with an increase in the frequency of the electric force. The officials of the National Physical Laboratory explained a very interesting exhibit situated in the secretary's room. It consisted of a microphone-buzzer which gives a nearly pure note of 2000 volts per second. Vibrations are started in a steel rod placed close to a polarised electro-magnet which cause ripples in the microphone current and these in turn give an alternating current in the electro-magnet which by attracting the rod maintains it in steady vibration. The exhibit included an apparatus used to investigate the distribution of temperature in the field coils of electrical machinery and an apparatus also for rapid electric thermometry. Mr. H. Jackson had a very beautiful exhibit illustrating some new phosphorescent materials. The examples shown were compounds of zinc, strontium, aluminium, and calcium which were prepared in order to show varying degrees of response to such exciting influences as violet and ultra-violet light, electric discharge, heat, and friction. It was shown that by varying the constitution of the compounds, as by increasing or diminishing their basic or acid character, the length of time during which the phosphorescent glow continues can be increased or lessened considerably. Further the property of glowing when the substance is heated can be made to persist apparently indefinitely. The effects were very beautiful. Dr. A. Scott exhibited some beautiful specimens of methyl and other related compounds of sulphur, selenium, and tellurium. The compounds served to show very clearly the close relationships of these three elements although methods employed in their preparation reveal notable differences in their behaviour with the same reagent. Considerable interest was taken in the new secondary battery designed for automobiles by Mr. Edison. In this battery the positive plate contains finely divided iron as the active material, while the negative plate has peroxide of nickel. The plates are immersed in a 20 per cent. solution of potash. A spring valve at the top is used for adding distilled water from time to time and this is the only attention required beyond electrical charging. The output is about from 13 to 14 watt hours per pound weight of cell, which is an enormous advance over the old lead accumulator. Close by Mr. Edison's exhibit Mr. Sherrard Cowper-Coles illustrated the interesting action that occurs between metals at a temperature many hundreds of degrees below their melting point. Thus iron, copper, aluminium, cobalt, and the rarer metals can be coated with zinc by placing them in zinc dust and heating them to a temperature of 200° or 300° below the melting point of zinc. The process is being used for hardening the surface of aluminium and copper alloys and for giving reflectors a hard and untarnishable surface. Professor H. B. Dixon, F.R.S., and Mr. G. W. A. Forster, B.Sc., exhibited an ingenious apparatus for determining the ignition point of gases. A vertical cylinder of Jena glass is employed, through which a current of oxygen is slowly passed upwards. The cylinder is heated electrically by a spiral of platinum wire and a thermo-couple is suspended in the cylinder, just below which is brought the orifice of a thin Jena glass tube through which the combustible gas is passed at a low pressure. The thermo-couple is gradually heated by radiation from the walls until the gas ignites. Dr. A. E. Wright exhibited his apparatus and explained the methods employed for measuring in the case of human blood its content in agglutinating substances, bactericidal substances, red blood corpuscles, albuminous substances, calcium salts, and salts generally. This exhibit excited considerable interest. Of the methods referred to some are employed, as our readers know, in connexion with the study of the changes produced in the blood when inoculated for typhoid, staphylococcic, and tuberculous infection; others are employed in connexion with the determination of the efficiency of the kidney and with the study of the conditions of blood which are associated with hæmorrhage, serous effusion, and intravascular coagulation. The apparatus employed consists in each case of ungraduated or, as the case may be, graduated capillary tubes which serve (*a*) for making progressive dilutions of the blood or of the reagent or bacterial culture which is added to the blood; and (*b*) for storing for the purpose of observation the series of mixtures of blood and reagent or blood and culture which are to be examined. The method by which progressive dilutions are made in uncalibrated tubes involves the employment of an air-bubble index. Where graduated tubes are appropriate these are graduated by the aid of an "automatic mercury pipette" or by a device involving the employment of alternate and equal volumes of water and mercury. Close by Dr. Alan B. Green exhibited some very interesting photographs illustrative of induced radio-activity of bacteria. Small masses of bacterial growth were exposed to the rays of ten milligrammes of radium bromide. In a large number of instances such masses when removed from the influence of the radium and placed between two thin sheets of inactive glass were capable of so affecting the sensitised film of a photographic plate with which they were brought into contact that on development in the ordinary way the plate showed a dark area corresponding to the shape of the bacterial mass. The photo-actinic rays proceeding from the bacteria which had been exposed to radium were capable of affecting a photographic plate through a double layer of lead foil. Professor Karl Pearson exhibited a series of photographs of English skulls illustrating normal and abnormal types from 1600 to 1850. There were two series, numbering upwards of 500 altogether, which were taken from old plague pits or graveyards in the City. The crania have been measured during the last five years at University College and the photographs are to illustrate forthcoming memoirs in *Biometrika*.

A very attractive and interesting exhibit was presented by Professor W. A. Herdman, F.R.S., illustrative of the pearl oyster fisheries of Ceylon. Samples of pearl oysters in various stages of growth were shown as were photographs and diagrams illustrating the methods employed on the pearl grounds. Specimens were also exhibited showing the structure of the pearl oyster and the position of the pearls in the body; there were shown also specimens of the cestode parasites which give rise to pearl formation and microscopic preparations illustrating the structure of the pearls. The recent investigations of the Ceylon pearl fisheries formed the subject of many beautiful illustrations by means of the electric lantern. Mr. Francis Fox exhibited some splendid stereoscopic views of the interior of the Simplon tunnel which is in course of construction through the Alps, its total length being 12¼ miles. It is interesting to point out that in this stupendous work the cutter known as the Brandt hydraulic drill is used, by means of which not only is rapid progress made but no dust is produced and thus, it is stated, miners' phthisis is avoided. The same gentleman gave a very interesting demonstration by means of the electric lantern in which photographic slides were used illustrative of the operations at the Simplon tunnel and the Victoria Falls and Gorge of the river Zambesi and the proposed bridge. Considerable interest was centred in the demonstration given by the Hon. C. A. Parsons of the auxetophone, an instrument which considerably accentuates the reproductions of the phonograph. The auxetophone is described as an air-operated valve which replaces the usual reproducing diaphragm of the phonograph. Selections of music, both vocal and instrumental, were reproduced in this apparatus and the results were very impressive.

The President, Sir William Huggins, O.M., K.C.B., D.C.L., received the guests, of whom there were a large number, including many members of the medical and legal professions and several well-known representatives of literature and art.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on May 12th, Mr. JOHN TWEEDY, the President, being in the chair.

Mr. Edward Ward, professor of surgery, Yorkshire College, Leeds, was introduced and after signing the by-laws was admitted a Fellow of the College. Mr. Marmaduke Stephen Mayou was introduced and the President handed to him the Jacksonian prize for the past year together with a document declaratory of the award. Dr. Thomas Rupert Hampden Bucknall was introduced and the President handed to him the John Hunter medal in bronze and a cheque for £50, the collegial triennial prize for 1901–03, together with a document declaratory of the award.

Diplomas of Membership were issued to 98 successful candidates.

Mr. A. Pearce Gould, M.B. Lond., F.R.C.S. Eng., was re-elected, and Mr. Arthur Quarry Silcock, M.D. Lond., F.R.C.S. Eng., was elected a member of the Court of Examiners.

The President reported that as Mr. Bernard Pitts was prevented by illness from taking part in the final examination for the licence in dental surgery he had appointed Sir H. G. Howse assessor to the Board of Examiners in dental surgery during that examination.

A report was received from the committee of management recommending the institution of a diploma in tropical medicine and was referred to a committee of the Council to consider and to report.

A report was received from the finance committee stating that the arrangements had been completed for the redemption of the land tax on the premises of the College with the exception of one house let on lease.

On the recommendation of the committee it was resolved that St. Paul's Eye and Ear Hospital, Liverpool, should be added to the list of ophthalmic hospitals recognised by the Examining Board in England.

A long letter was received from Dr. Clement Dukes of Rugby, delegate from the College to the International Congress of School Hygiene which was held at Nuremberg in April last and of which several notices have appeared in our columns.[1] In his comments on the work of the Congress Dr. Dukes expressed some of his own views as follows: (1) The teachers can instruct the elder girls before they leave school in some of the duties of motherhood and the importance of breast feeding to the mother as well as to the child; (2) the elder boys and girls should be taught the virtues of purity of life and the consequences of impurity to themselves and their children, and thus aid not only in the diminution of syphilis but in the restoration of the birth-rate to its legitimate place and thus remove connubial dishonour; (3) every child at school should be influenced on the alcohol question by teaching the virtue of temperance in the adult and of total abstinence for the child; (4) the child should be taught that tuberculosis is more a house disease than an infectious disease and that it can be exterminated by fresh air in the home, however small, and in the schoolroom and by cleanly habits; and (5) the elder children in all schools should be taught the meaning of vaccination: what it has done in the past and of what it is capable. The Congress is to be held in London in 1907.

The best thanks of the Council were given to Dr. Dukes for attending the Congress as the delegate of the College.

A letter was read from Mr. F. W. Collingwood addressed to the President, forwarding statistics relating to the examinations for admission to the Navy, Army, and Indian Medical Services, showing that candidates holding the L.R.C.P. Lond. and M.R.C.S. Eng. were: (1) 22·6 per cent. more successful than candidates drawn from all other sources; (2) 28 per cent more successful than the candidates holding degrees and diplomas from Scotch and Irish universities and colleges; (3) 23·5 per cent. more successful than the Scotch and Irish graduates; (4) 15 8 cent. more successful than the Edinburgh graduates; and (5) 34·3 per cent more successful than the Dublin graduates.

The PRESIDENT stated that he had written to thank Mr. Collingwood for his letter.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8689 births and 4705 deaths were registered during the week ending May 14th The annual rate of mortality in these towns, which had been 16 0, 16·3, and 14·9 per 1000 in the three preceding weeks, rose again last week to 16·1 per 1000. In London the death-rate was 16·3 per 1000, while it averaged 16·0 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 6 0 in Smethwick, 7·9 in Barrow-in-Furness, 9·6 in Hornsey, 10·2 in Willesden and in Hastings, 10·3 in East Ham, and 10·5 in Handsworth (Staffs.); while the highest rates were 19·5 in Derby, 19·8 in Coventry, 21·3 in Manchester, 22 0 in Birmingham and in Newcastle upon Tyne, 22 3 in Rotherham, 23·8 in Burnley, and 24 0 in Warrington. The 4705 deaths in these towns last week, included 525 which were referred to the principal infectious diseases, against 556, 527, and 514 in the three preceding weeks; of these 525 deaths 193 resulted from whooping-cough, 181 from measles, 58 from diphtheria, 39 from diarrhœa, 30 from scarlet fever, 18 from "fever" (principally enteric), and six from small-pox. No death from any of these diseases was registered last week in Leyton, Hastings, Southampton, Great Yarmouth, Devonport, West Bromwich, King's Norton, Grimsby, Barrow-in-Furness, or Tynemouth; among the other towns the highest [illegible] infectious diseases were re[illegible] Wallasey, Warrington, Man[illegible]on-Tees, and Rhondda. The greatest proportional mortality from measles occurred in Hornsey, West Ham, Brighton, Manchester, Huddersfield, Leeds, Hull and Rhondda; from scarlet fever in Northampton; from diphtheria in Bristol and Hanley; from whooping-cough in Hornsey, Burton-on-Trent, Handsworth (Staffs.), Birmingham, Coventry, Wallasey, Warrington, Bolton, Bury, Blackburn, Stockton-on-Tees, and Newport (Mon.). The mortality from "fever" and from diarrhœa showed no marked excess in any of the large towns. Of the six fatal cases of small-pox registered in these towns last week one each belonged to Leicester, Nottingham, Derby, Sheffield, South Shields, and Gateshead. The number of small-pox patients under treatment in the Metropolitan Asylums hospitals, which had been 123, 104, and 88 on the three preceding Saturdays, had risen again to 99 on Saturday last, May 14th; 26 new cases were admitted during the week, against 23, 12, and 14 in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital at the end of the week was 1600, against 1543, 1541, and 1590 at the end of the three preceding weeks; 239 new cases were admitted during the week, against 210, 185, and 242 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 254, 224, and 193 in the three preceding weeks, rose again last week to 231, and were five in excess of the number, in the corresponding period of last year. The causes of 47 or 1·0 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bolton, Salford, Bradford, Leeds, Cardiff, and 50 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Manchester, Huddersfield, Sheffield, Rotherham, and Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 21·0, 20·0, and 18·0 per 1000 in the three preceding weeks, further declined to 17 9 per 1000 during the week ending May 14th, but was 1·8 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 13 0 in Leith and 13·5 in Greenock, to 20 0 in Perth and 20·1 in Dundee. The 592 deaths in these towns included 28 which were referred to whooping-cough, 17 to measles, 15 to diarrhœa, four to scarlet fever, four to diphtheria, four to "fever," and three to small-pox. In all, 75 deaths resulted from the principal infectious diseases last week, against 79, 71, and 64 in the three preceding weeks. These 75 deaths were equal to an annual rate of 2 3 per 1000, which was 0 5 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 29, 22, and 25 in the three preceding weeks, rose again last week to 28, of which 11 were registered in Glasgow, eight in Aberdeen, four in Dundee, and three in Edinburgh. The deaths from measles, which had been 26, 19, and 10 in the three preceding weeks, increased to 17 last week and included nine in Glasgow, four in Greenock, and two in Edinburgh. The fatal cases of diarrhœa, which had been 11, 13, and nine in the three preceding weeks, rose again last week to 15, of which nine occurred in Glasgow and three in Dundee. The deaths from scarlet fever, which had been four, three, and four in the three preceding weeks, were again four last week, and were all registered in Glasgow. The fatal cases of diphtheria, which had been seven and three in the two preceding weeks, increased last week to four, of which three were recorded in Glasgow. The deaths referred to different forms of "fever," which had been four in each of the two preceding weeks, were again four last week, and included two in Edinburgh. The three fatal cases of small-pox corresponded with the number in each of the four preceding weeks, and were all registered in Glasgow. The deaths in these towns from diseases of the respiratory organs, which had been 115, 121, and 100 in the three preceding weeks, further declined last week to 90, and were slightly below the number in the corresponding period of last year. The causes of 21, or nearly 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 23 3 20 8, and 23 1 per 1000 in the three preceding weeks declined again to 21·6 per 1000 during the week ending May 14th. During the past four weeks the death-rate has averaged 22 2 per

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[1] THE LANCET, April 9th (p. 1011), 16th (pp. 1072 and 1086), and 23rd (p. 1156), 1904.

1000, the rates during the same period being 15·7 in London and 17·8 in Edinburgh. The 157 deaths of persons belonging to Dublin registered during the week under notice showed a decline of 11 from the number in the preceding week and included 17 which were referred to the principal infectious diseases, against ten, eight, and 18 in the three preceding weeks; of these, ten resulted from whooping-cough, three from "fever," two from measles, one from scarlet fever, and one from diphtheria, but not any from small-pox or diarrhœa. These 17 deaths were equal to an annual rate of 2·3 per 1000, the death-rates last week from the principal infectious diseases being 2·0 in London and 1·3 in Edinburgh. The fatal cases of whooping cough, which had been five, three, and 11 in the three preceding weeks, declined again last week to ten. The deaths from "fever," which had been one and two in the two preceding weeks, further rose last week to three. The fatal cases of measles, which had been three, two, and four in the three preceding weeks, declined again last week to two. The 157 deaths in Dublin last week included 26 of children under one year of age and 47 of persons aged 60 years and upwards; the deaths of infants showed a marked decline, while those of elderly persons were considerably in excess of the number in the preceding week. One death from violence was registered, and 53, or more than a third, of the deaths occurred in public institutions. The causes of eight, or more than 5 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Fleet Surgeon Standish Thomas O'Grady has been promoted to the rank of Deputy Inspector-General of Hospitals and Fleets in His Majesty's Fleet (dated Feb. 18th, 1904). Staff Surgeon Charles Marsh Beadnell has been promoted to the rank of Fleet Surgeon in His Majesty's Fleet (dated May 13th, 1904).

The undermentioned Surgeons have been promoted to the rank of Staff Surgeon in His Majesty's Fleet:—Alworth Edward Merewether, Walter Scott Harcourt Sequeira, John Charles Groscort Reed and William Elmes Mathew (dated May 13th, 1904).

Surgeon J. D. S. Milln has been appointed to Haslar Hospital.

ROYAL ARMY MEDICAL CORPS.

The undermentioned Lieutenants are confirmed in that rank:—F. C. Lambert, B. G. Patch, T. J. Wright, and A. C. Osburn.

Colonel (temporary Surgeon-General) W. F. Stevenson, C.B., is continued on the Active List as a Supernumerary to the Establishment, under the provisions of Article 473, Royal Warrant of Oct. 26th, 1900.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant A. A. MacKeith to be Surgeon-Captain (dated April 28th, 1904). Surgeon-Captain J. M. H. Martin to be Surgeon-Major (dated May 4th, 1904).

IMPERIAL YEOMANRY.

Fifeshire and Forfarshire: Surgeon-Captain T. F. Dewar to be Surgeon-Major (dated May 14th, 1904).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 2nd Durham (Seaham): Surgeon-Lieutenant J. C. French resigns his commission (dated May 14th, 1904).

Rifle: 4th Volunteer Battalion the Royal Fusiliers (City of London Regiment): Brigade-Surgeon-Lieutenant-Colonel W. D. Waterhouse is borne as Supernumerary whilst holding the appointment of Senior Medical Officer of the 2nd London Volunteer Infantry Brigade (dated May 14th, 1904). 2nd Volunteer Battalion the Prince Albert's (Somersetshire Light Infantry): Surgeon-Lieutenant J. G. Bain to be Surgeon-Captain (dated May 14th, 1904). 5th (Perthshire Highland) Volunteer Battalion the Black Watch (Royal Highlanders): Surgeon-Lieutenant-Colonel J. Mackay resigns his commission and is granted the honorary rank of Surgeon-Colonel with permission to wear the prescribed uniform (dated May 14th, 1904).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The Woolwich Companies: The resignation of Lieutenant E. B. Dowsett is cancelled. 2nd London Bearer Company: Lieutenant E. C. Montgomery-Smith to be Captain (dated May 14th, 1904).

THE WILTS AND DORSET BEARER COMPANY.

The King has approved of the Wilts and Dorset Bearer Company, R.A.M.C. (Volunteers), being formed into an independent unit.

THE WAR IN THE FAR EAST.

The manufacture of bandages is proceeding very actively in Moscow where three machines have arrived from Berlin equal to turning out 5000 bandages per day. There are 600 workers in the Red Cross workrooms in Moscow. The current of subscriptions grows in volume. At present special attention is paid to the needs of the steamer and barge hospitals.

RUSSIAN RED CROSS EXHIBITS FOR PARIS.

In the Russian section of the Paris International Exhibition, opening in the month of October next, there will be a large show of material in aid of the wounded, including a hospital tent of the Russian Red Cross Society in full working order.

THE RED CROSS IN WAR.

On Tuesday, May 17th, some interesting experiments were conducted at Bisley with inventions tending to minimise the inevitable sufferings undergone in warfare. The most striking perhaps was the First Aid Ivel motor which affords protection for two surgeons and the driver while passing through a fire zone to visit the wounded. The motor is also fitted with a large steel shield under shelter of which a bearer party can walk in safety. Another exhibit was a water cart with appliances for rapidly boiling water in large quantities, thus minimising the risks of enteric infection.

A GUIDE TO COMPANY TRAINING.

Under the title of "The Infantry Vade Mecum" Captain R. Temperley, 3rd Volunteer Battalion Northumberland Fusiliers, has reissued his compilation from official publications dealing with field training, the routine duty in camps, and other matters of interest to all ranks of infantry. The "Camp Hints" are brief but excellent though in directing that a needle and worsted should be drawn through a blister it would have been better if the author had given a word of caution against the use of dyed or soiled worsted. Non-military readers may gain many useful hints from a perusal of this little book which also throws light on the movements of troops at manœuvres, a matter of great mystery to the uninitiated. The Infantry Vade Mecum is published by Messrs. M. S. Dodds, Newcastle-on-Tyne, price 6*d.*

Correspondence.

"Audi alteram partem."

KING EDWARD'S HOSPITAL FUND FOR LONDON.

To the Editors of THE LANCET.

SIRS,—I inclose a letter from Sir John Aird generously offering to increase his annual subscription to this Fund by 100 guineas a year, this sum to be specially appropriated to the endowment in order to raise the fixed annual income of the Fund from investments and other sources to £50,000 a year. May I venture to appeal through your columns to others who may be willing to follow his example?

I am, Sirs, yours faithfully,
HUGH C. SMITH,
Chairman of the Executive Committee.

May 11th, 1904.

[INCLOSURE.]

14, Hyde Park-terrace, W.,
May 9th, 1904

DEAR MR. HUGH SMITH,—In reference to your letter about the King Edward's Hospital Fund for London in the *Times* of March 28th last, since the meeting on March 8th at Marlborough House, when His Royal Highness the Prince of Wales, President of the Fund, made the announcement that an anonymous donor was willing to give a sum —estimated to produce £4600 a year—if others would give the further necessary sum of double that amount by the end of this year in order to raise the annual income of the Fun [illegible] ts and other permanent sources to £50,000 a year, I [illegible] fund could in part be raised by annual su [illegible]

JOHN AIRD.

THE MEDICAL OFFICERS OF THE MACCLESFIELD BURIAL SOCIETY.

To the Editors of THE LANCET.

[illegible] No. 1 General Burial Society and its two medical officers who have recently resigned. This society contains 6406 members and the remuneration paid is £250 per annum for medical attendance and an [illegible] a local chemist for dis[illegible] per head per annum is a [illegible] is grossly inadequate. The payments to the medical officers are based on the proportion of sick notes received by them, each note remaining valid for the current three months. This payment is made not on the number of members entitled to medical benefit, but each medical officer is paid according to the number of sick notes received by him from the members requiring medical attendance.

In consequence of the resignation of the society's two medical officers an attempt is being made by advertisements extensively circulated in the lay press to fill the vacancy thus caused. We are most anxious that intending applicants should be made acquainted with these facts as we feel confident that no medical practitioner would accept the position which extensive experience has shown to be unremunerative and which is in direct opposition to the strongly expressed opinion of the whole medical profession in the town.

We are, Sirs, yours faithfully,

JOHN L. RUSHTON, SENR.,	ROBERT PROUDFOOT,
JAS. BRIERLEY HUGHES,	JOHN BRIERLEY HUGHES,
JOHN SOMERVILLE,	C. A. NEWBALD,
C. A. BRADLEY,	JOSEPH WESTMORLAND,
W. H. CLARKE,	J. LATHAM RUSHTON.
C. AVERILL,	L. T. FRASER,
W. H. TOWNSEND STORRS,	A. M. CLARK.
J. HEDLEY MARSH,	

Macclesfield, May 17th, 1904.

THE SO-CALLED PANCREATIC REACTION IN THE URINE.

To the Editors of THE LANCET.

SIRS,—The fact that Dr. C. E. Ham and Dr. J. B. Cleland have obtained crystals from normal urine and distilled water is in itself conclusive evidence that their technique is at fault. The source of fallacy that they apparently have not guarded against is the difference in solubility in hot and cold water of lead chloride. For while water at 0° C. only takes up 0·8 part, boiling water dissolves 4 parts. Even a few degrees difference in the temperature of the urine during neutralisation and that of the room in which it is finally left to stand will give rise to the presence of lead salt crystals such as they have met with. The undue concentration of the urine to which they refer would also facilitate the separation in crystalline form of the lead chloride held in solution by the warm urine, so that, as they remark, "the presence or absence of these crystals depends on the concentration of the liquid." Another point which has possibly contributed to their failure successfully to carry out the test is faulty filtration after neutralisation. Unless great care is taken in this process a considerable quantity of lead salts is liable to be carried through in the first part of the filtrate, especially with some samples of lead carbonate.

A little practice with pancreatic cases will demonstrate to your correspondents that the lead salt crystals they have met with are quite distinct both in behaviour and appearance from the crystals I have described in cases of pancreatic disease and that they are in no sense identical. In writing the description of the process for my Arris and Gale lecture I did not enter into these details as they are facts with which anyone having even an elementary knowledge of chemistry must be well acquainted, but I think that my directions are sufficiently explicit, provided that they are intelligently and carefully carried out.

My own experience since the publication of my lecture, and various communications I have received from other observers have only served to strengthen my conviction, that, in competent hands, the test is a useful aid to diagnosis when the results are considered in conjunction with the signs and symptoms found at the bedside, as is the case with all clinical pathological investigations. In my lecture it is distinctly stated that the theory concerning fat necrosis and glycerine excretion was only a working hypothesis on which the initial experiments were based and, whatever the doubts of Dr. Ham and Dr. Cleland may be as to its scientific basis, it has proved a useful starting point for a series of most interesting investigations.

I am, Sirs, yours faithfully,

Beaumont-street, W., May 16th, 1904. P. J. CAMMIDGE.

To the Editors of THE LANCET.

SIRS,—With reference to the letter concerning Dr. P. J. Cammidge's test in THE LANCET of May 14th, p. 1378, I should like to be permitted to mention that I have been surprised to get also positive results in cases (chiefly surgical) where no pancreatic lesion was suspected. In the last case in which the test was applied—a case of chronic bronchitis and dilated heart, with ascites—there was no indication of abnormality in the pancreas post mortem. Though limited to the experience of few cases the news that the test answers with a simple solu-[illegible]

I am, Sirs, yours faithfully,
O. C. GRUNER, M.B. Lond.

Pathological Laboratory, Leeds General Infirmary,
May 17th, 1904.

SUPPURATIVE OTITIS.

To the Editors of THE LANCET.

SIRS,—The every-day neglect of one of the most distressing diseases of childhood, suppurative otitis, is still a reproach to a scientific and humane profession. I attribute this neglect to the common impression that the disease is generally incurable—a belief engendered by numerous failures with faulty methods of treatment. There has also arisen a well-founded distrust of the radical operation so called, attended as that operation is with grave risks to life and hearing. In these circumstances I think the results already attained by my methods of intrameatal treatment are worthy of the attention of medical men. I have now performed otectomy on more than 50 occasions. This is an operation I have found useful in obstinate cases and roughly consists in the removal of remains of the membrana tympani together with other diseased tissues in the middle ear and attic. It is admittedly a bold proceeding and one to be justified by results. I will briefly summarise them. The operation has not occasioned any serious disturbance in any of my cases. The temperature remains near the normal. Only one case has complained of severe pain, while all the children operated on have seemed to be wonderfully free from pain after operation. I have had two cases of facial paralysis that soon cleared up but no case of permanent facial disfigurement. With regard to hearing, there has been distinct improvement in more than half the cases; in one still under treatment there has been so far a decided decrease in auditory power. With regard to the main result aimed at—namely, disinfection of the ear—otectomy has proved of great assistance.

I must emphasise the point that the ears operated on were in a very bad condition. Many of them had been for months under skilled treatment but they were when seen by me in a most offensive condition. The usual treatment had been thoroughly tried, in many cases by well known specialists, and had conspicuously failed. These ears are now sweet with the exception of one recently operated on and in most of them the discharge has quite ceased. A number of recent cases are now under treatment and are doing well. The conclusion I have arrived at is this, that otectomy renders possible the disinfection of a suppurating ear and gives rise to little pain or other disturbance. It opens a new and important chapter in aural surgery and I invite the attention of medical men to a method that places the treatment of otorrhœa on a more satisfactory basis.

> " Do ye hear the children weeping, oh, my brothers?
> Ere the sorrow comes with years;
> They are leaning their young heads against their mothers,
> And *that* cannot stop their tears."

I am, Sirs, yours faithfully,
F. FAULDER WHITE.

Birmingham, May 10th, 1904.

NEURO-RETINITIS IN CHLOROSIS.

To the Editors of THE LANCET.

SIRS,—In his article on Neuro-Retinitis in Chlorosis published in THE LANCET of May 14th, p. 1345, Mr. J. Jameson Evans makes me responsible for the suggestion "that thrombosis of the cavernous sinus is the primary cause of the neuro-retinitis." As no reference is given I cannot say upon what this statement is founded but I must decline to accept it as an accurate interpretation of what I have written on the subject of optic neuritis in chlorosis. It is true I have advanced various arguments in support of the view that thrombus formation in one or more of the intracranial veins or sinuses is the probable cause of this condition but I have expressly disclaimed the proposition that to produce such a result the thrombus must needs occupy the cavernous sinus. In an article published in 1902[1] I wrote: "...... It is not necessary to assume that to produce optic neuritis a thrombus must be situated so as mechanically to interfere with the venous return from the eyeballs. A thrombus once formed is for all practical purposes a tumour in the sense that it is a 'foreign body' or 'adventitious product' within the skull. And whatever conflict of opinion may yet exist regarding the manner in which cerebral tumours cause optic neuritis it is certain neither the size nor the position of the tumour is the determining factor. A thrombus in this respect doubtless behaves in the fashion set by other forms of 'tumour.'" This is an entirely different suggestion from the one with which I am credited in Mr. Evans's article and I shall be obliged if you will permit me to correct the mistake through the medium of your columns.

I am, Sirs, yours faithfully,
Harley-street, W., May 16th, 1904. C. O. HAWTHORNE.

THE OLD HARDSHIP OF LONDON MEDICAL STUDENTS.

To the Editors of THE LANCET.

SIRS,—Your annotation in THE LANCET of May 7th, p. 1293, on the Old Hardship of London Medical Students reminds me of my own case, and I shall be gratified if you will express your opinion as to whether I am justified or not in thinking myself hardly treated in these circumstances.

I am an M.R.C.S., L.R.C.P.; I qualified in 1892. I am an undergraduate of the University of London. Owing to circumstances I was unable to present myself for my final M.B., but was obliged to start practice in the country immediately I qualified. A few years ago I came here and in October, 1900, I went up for my M.B. I was referred in medicine only, not being weak in any other subject. I went up again in October, 1902, and was then referred in surgery only. I went up again in April, 1903, and was again referred in surgery only; on both these occasions I was not "weak" in the other subjects. Last October I again went up and was ploughed in midwifery only. Now I certainly do not know less of that subject than I did on the previous occasions as I had gone over the subject again, besides having had further clinical experience, and yet although on two occasions running I have thoroughly satisfied the examiners of my knowledge I am now told I am so ignorant that for that only I must be refused my degree.

You know, Sirs, the great expense and trouble that it is for a man in practice to go up for such a long examination. Surely there should be some appeal. I wrote to the medical dean and received a kind and sympathetic reply and he forwarded my letter to the registrar, but the registrar wrote saying it was very easy for a candidate to pass by a narrow margin on one occasion and to fail on the next, which was hardly *apropos*, as if I had passed by a narrow margin I should have been marked "weak." Apologising for troubling you, I am, Sirs, yours faithfully,

May 7th, 1904. HARD LINES.

THE INSTITUTE OF MEDICAL SCIENCES AND UNIVERSITY COLLEGE.

To the Editors of THE LANCET.

SIRS,—A letter from Mr. T. Bailey Saunders to the *Times* of May 19th expresses very clearly the confusion which the gift of Sir Donald Currie to University College Hospital appears to have created and to which reference was made in your columns.[1] The writer points out that he does not understand the continued existence of University College, London, after its incorporation with the University of London. He also finds in the proposed continuance of the teaching of the subjects of preliminary and intermediate medical study at University College either an apparent opposition to the essential principle of an institute of medical sciences or an indication that concentration is to take place in more than one centre, or that the institute, if created is to have its site in Gower-street. Mr. Bailey Saunders was, it will be remembered, the secretary of the commission which ultimately led to the change of the University of London to its present condition. If it is not clear to him whether it is proposed that the institute of medical Sciences should compete with what will become an integral part of the University or whether there has been a misunderstanding about the institute, and that it is merely to be a change of title that is contemplated, I think some enlightenment should be vouchsafed. It is a new and not very welcome idea that after all that has been written on this subject we may one day be greeted with the announcement of the opening in Gower-street of an "Institute of Medical Sciences, vice University College, resigned." The subject is one which needs elucidation.

I am, Sirs, yours faithfully,
F.R.C.P.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The New Water-supply Scheme for Calcutta.—The Plague Epidemic and its Huge Mortality.—Septic Tank Installations in Bengal.

MUNICIPAL Calcutta is just now engrossed with the great scheme for an increased supply of drinking water put forward by its new engineer. According to the Act a constant service has to be installed throughout the city during the next two years but up to the present only the northern part of the town has been so supplied. It is found that the consumption under the constant supply equals about 24 gallons per head daily and the existing mains bringing the filtered water from Fulta by gravitation only supply about 20 gallons per head per day for the whole city. Already there is a cry for more water and it is stated by the native commissioners that the people of Calcutta are accustomed to use more water than the inhabitants of Europe and consequently require more. The question is how to obtain it, and the proposals put forward are (1) to construct a fresh main from Fulta, costing 21½ lakhs of rupees and giving an additional 12,000,000 gallons of water daily; or (2) to pump water into the two existing mains at 15 foot pressure so that 6,000 000 gallons extra could be obtained at an outlay of about one lakh and an annual cost of about half a lakh. The difference of expense is not so great as at first sight appears but the smaller scheme seems to find the more favour. It is a short-sighted policy and one which Calcutta will suffer for at no distant date. Apart from this increased supply the engineer proposes a scheme to obtain the necessary pressure in the distributing mains throughout the city by gravitation instead of by pumping. The proposal involves a capital outlay of no less than 33½ lakhs of rupees and consists in the construction of a steel reservoir capable of holding 5,000 000 gallons raised to a height of 85 feet at the floor. This is to be put up at the north of the town. It will be 265 feet square and 13 feet deep, covered with a galvanised iron roof, and supported by steel joists, beams, columns, and masonry. Two new trunk mains will be required as far as the centre of the city and it is calculated that a terminal head of fully 40 feet at the southern extremity of the town will be secured. The existing scheme for the constant supply will cost about 20 lakhs, but by the gravitation scheme three pumping stations in the town costing about £6000 annually will be done away with and the valuable sites can be disposed of. There can be no question that the gravitation scheme proposed is better than the one already sanctioned and the ultimate cost to the ratepayers will probably not be any greater. In a sanitary point of view the chief question is the amount of supply. It is here that the commissioners seem to have adopted a short-sighted policy. An allowance of 25 gallons per head daily must be calculated for, and as Calcutta is rapidly growing and neighbouring suburban municipalities are supplied from Calcutta also the existing mains from the waterworks will prove insufficient even with the assistance of pumping. An additional main from the waterworks at Fulta with additional filter beds and sedimentation tanks will have to be constructed. There is no question fortunately as to the quality of the water, but the position at present is that Calcutta has to face a probable expenditure of about 60 lakhs of rupees in order to secure a sufficient and well-distributed supply.

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[1] Brit. Med. Jour., Feb. 8th.

[1] THE LANCET, March 26th, 1904, p. 880.

Plague throughout India during the past fortnight has shown a very large death roll, nearly 100,000 deaths having been recorded. The total for the past week is 46,812. The Punjab returned 26,961 deaths, as against 19,322 a fortnight ago, but this is the only increase. The United Provinces had [illegible] residency 5128, [illegible]. Central India, [illegible] ainst 1336; the [illegible]; Bombay city 706, as against 1065; Calcutta 500, as against 574; and Karachi 294, as against 293. It will be seen, therefore, that an almost general decline has commenced. Later returns show more favourable figures in both Calcutta and Bombay and in each city the outbreak has been less severe than in former years.

The Government of Bengal has appointed a committee to consider various points concerning the large number of septic tanks recently installed in the mills on the banks of the river Hoogly, more especially as to the distance from the intakes of the Calcutta and Howrah supplies at which the effluents should be permitted to be discharged without further treatment, and also upon a standard of purity for the effluents. It is desired to know the amount of work which can be done by a septic tank under different conditions, the quantities of water required, and the efficacy of the effluent as a liquid manure. The committee will report on the working of the existing tank installations in Bengal and on the means which should be adopted to render the system efficient and free from objection. The Sanitary Board for Bengal having been consulted refers to three methods for dealing with the effluent: (1) by turning it on to the land; (2) by using it as a feeder water for boilers; and (3) by drainage into the river after filtration through sand. A satisfactory solution to these questions will undoubtedly give a very great impetus to the more general adoption of the bacterial treatment of sewage in this part of India.

April 29th.

Society for the State Registration of Trained Nurses.—The annual meeting of the supporters of this society was held on May 13th at 20, Hanover-square, London, W., when Miss Louisa Stevenson presided. The annual report, a lengthy document which was read by the honorary secretary, stated that 469 applications for membership of the society from matrons and certificated nurses had been accepted during the year. It was decided that ladies and gentlemen not connected with nursing should be eligible for election as associates of the society and that the annual subscription for such associates should be 5*s*. On the motion of Mr. H. J. Tennant, M.P., seconded by Lady Helen Munro-Ferguson, a proposal approving the Bill for the Registration of Nurses introduced into the House of Commons by Dr. R. Farquharson, M.P., and urging that it is desirable, in the public interest, that a select committee should be appointed to inquire into the whole nursing question, was adopted.

THE FRENCH MUNICIPAL ELECTIONS AND THE NEW PUBLIC HEALTH ACT.

(From a Special Correspondent.)

The municipal elections held throughout France are now concluded. As usual the candidates have made loud professions of their devotion to public interests but, and this is quite contrary to the usual practice, they will on this occasion be called upon to fulfil these promises, at least in one of the most important departments of public administration. It is not the electors who will require the elected to carry out their promises. This they might have done on any or on all previous occasions, nevertheless there has been continued and gross neglect of urgent public interests. So much is this the case that the central Government has been compelled to interfere and now a new law renders obligatory what was formerly optional. To the municipalities appertains the duty of taking the necessary measures for the preservation of public health—notably in matters relating to water-supply and drainage. These and other kindred matters have been shamefully neglected or else exploited for party purposes. Instead of seeking to do what was best in the circumstances it sufficed that one party should advocate a particular scheme for the other party to attack and to denounce the scheme. Then when, after perhaps many years of wrangling, a scheme is finally adopted it may after all not be applied. The opposition may come into office before it can be realised. Then, of course, the new municipal council will not trouble itself to carry out a scheme which its members have constantly denounced as bad. Or, what is perhaps even worse, the scheme may be actually and to a large extent carried out before the council is defeated and the rival party comes into office. It is then too late for the new administration to prevent the adoption and the application of the scheme. The contracts have been signed, the works have been commenced, and there is no possibility of receding. The scheme is therefore continued, but a thousand and one petty obstacles arise because the responsible authority has no interest in the success of the undertaking. On the contrary, it has always declared that it could not be a success. This, briefly, is the history of more than one of the largest towns of France, especially in regard to general drainage and sewerage schemes. Now, however, there is legitimate ground to hope that this sort of obstruction will not continue. Much of it is due to the optional character of the schemes for sanitary reform. These might or might not be carried out, and while an element of doubt was allowed to subsist it left the door open for contentions.

To-day the new law on public health is in force. The municipal functionaries now in office are the first which have been elected since this Act has become law. Therefore we are face to face with a new departure in the history of of sanitation. Sanitary works may be rendered obligatory. The municipalities are no longer merely called upon, or invited or expected, to prepare schemes for drainage or water-supply; they can be positively ordered to see to these matters and that without any further waste of time. Article 9 of the Act says:—

> When du [illegible] f deaths in a
> commune h [illegible] the prefect
> must instr [illegible] proceed itself
> or by the [illegible] to hold an
> investigatio [illegible]

The important words in this clause are somewhat freely translated into "must instruct." The French text is: "*Le préfet est tenu de charger*"—literally, "The prefect is beholden or held to charge the departmental council," &c. Still, and however this may be, there can be no doubt as to the obligatory character of this clause. Of course but for the context this clause would not amount to anything. To investigate and to report is but too often a convenient way of shelving the whole matter. But Clause 9 goes on elaborately to explain that if the investigation shows that there is a necessity to undertake public works the prefect must call upon the commune in question to act. If the commune nevertheless does not move in the matter the departmental council of hygiene is invited to deliberate on the question and the mayor of the commune concerned is obliged to appear and to explain why nothing has been done. But there may be a conflict of opinion. The county or departmental council of hygiene may hold one opinion; the local authority, the borough or the urban district council as we should say, that is the commune, as the local unit of administration is called in France, may hold quite a different view of the situation. In that case the prefect must transmit both opinions to the Minister of the Interior who, if he thinks fit, will submit the points at issue to the Consultative Committee of Public Hygiene of France. This latter body then holds an inquiry and the conclusions of this inquiry have to be posted and rendered public to the inhabitants of the commune in question.

The experience acquired in the past has, however, fully demonstrated that with an unwilling municipality all such investigations, whether official or otherwise, all exhortations and denunciations, are of little or no use. There are elderly people, especially among the peasant class and rural populations, who cannot see why the younger generation should have better water and better drainage than they had. There are others who are more anxious to keep down taxation than to improve the sanitation of their commune and thus a majority in favour of doing nothing not infrequently governs the municipal elections. In large towns it is the rivalry of schemes combined with the rivalry of political parties which more frequently retards the application of important sanitary measures. What then is to be done when the highest technical authority in France has pronounced its opinion and nevertheless the local authorities continue to remain obdurate? The Act says that the prefect must summon the commune to proceed. If within a month of this summons the commune has not pledged itself to act accordingly or if in three months' time some steps have not been taken towards the execution of these works a decree of the President of the Republic is issued by the Council of State ordering the execution of the works and determining under what conditions they shall be done. The question of the payment is not absolutely settled by Article 9 of the Act. It states that the commune cannot be compelled to pay for the cost of the sanitary works except a law is enacted to that effect. The Council General will decide, in accordance with Article 46 of the law of August 10th, 1871, to what extent the department should share in the expenses. Indeed, a previous article of the Act foresees sanitary undertakings in which several districts may be interested and provides for their uniting to constitute a joint board for the carrying out of the works.

Article 9, it will be seen, applies especially to large drainage schemes and similar undertakings, the very sort of public works which are so often postponed for the reasons given above. As for water-supply, this is dealt with separately in Article 10 of the new law. Here the question of the necessity of such a supply and the place from which it can be obtained is complicated by the proprietary rights of the people who may be living on the gathering grounds; therefore the new law says that the decree declaring that appropriation of a water source is "of public utility" shall determine, when this is necessary, that certain lands shall be bought, and further, that a certain protected zone shall be established so as to prevent the contamination of the water. On this protected zone it shall be forbidden to utilise any human manure or to dig wells unless a special authorisation to that effect has been obtained from the prefect. The proprietors who are thus prevented from making free use of their own land will receive some compensation. Small sources of potable water which do not yield more than two litres per second may be declared "of public utility" by a simple decree of the prefect. Thus for small villages a land owner can be expropriated and a public water-supply secured without the cumbersome and expensive process of referring the whole matter to the central authorities. The compensation given is the same as in other cases where private property is taken for public purposes.

The Act also enlarges and more clearly defines the powers of the authorities in dealing with insanitary houses and areas. The mayor and municipality must issue by-laws in regard to the construction of dwellings and the sanitary services. If the commune neglects to do this, then such by-laws are to be imposed on the commune by a decree of the prefect; so we have here again the representative of the central Government armed with the necessary powers to compel the local authorities to do their duty. Further in cases of urgency, such as the outbreak of an epidemic, the prefect may order the immediate execution of such public works as are of recognised necessity. The rights to compensation and other difficulties are reserved. They will be discussed afterwards; the first thing is to get the work done and not to endanger the health of the population while lawyers quibble over technicalities. The urgency which justifies such summary proceedings must be declared and recognised by a decree issued by the mayor and, in default of the mayor, by the prefect. Here, again, we have a useful proviso, for it often happens that a mayor would not care to vex, and perhaps to injure, the business prospects of his electors by publicly declaring that an epidemic had broken out in the town or the locality. This is especially the case in holiday and health resorts. The local interest then clashes with the general and national interest and therefore it is necessary that the prefect, who represents the wider interest, should have the power to counteract any manifestation of selfishness displayed by the representatives of local interest. Again, and without going to such lengths as this, it is very useful for the elected local authorities to be able to explain to their recalcitrant and unappreciative electors that in undertaking sanitary works they were forced to act and that the prefect would interfere if they attempted to postpone the public works which the health authorities had declared to be necessary.

The intervention of the prefect is sanctioned when the local authorities wilfully fail to accomplish their duty or else in cases of urgency. It is, however, not easy to define what constitutes urgency. In a Ministerial circular to the prefects explaining this law the opinion of Professor Cornil is quoted. Writing on behalf of the Consultative Committee of Public Hygiene of France Professor Cornil says that urgency arises "when an epidemic of unusual gravity breaks out, when there is some imminent danger to public health; when, as occurs in certain cases, the powers of the mayor do not suffice to cope with the gravity of the situation; when it is necessary to take at once certain measures which, according to the ordinary procedure, would entail formalities occasioning a long delay." The Ministerial circular very wisely explains that it is not necessary to wait till the danger is widespread. The gravity of the potentialities must be considered; the facility with which the disease in question may extend constitutes the danger and it is not necessary to wait till it has spread to take the precautionary and sanitary measures.

Thus it will be seen that the new Public Health Act of France gives the representatives of the central Government—that is to say, the prefects—the power to compel the local authorities to take necessary sanitary measures. Apart from many other matters of less difficulty, at least from the financial point of view, such as the notification of infectious diseases, vaccination, disinfection, the control of lodging-houses, &c., the Act, it will be seen, deals with the three most expensive problems. These are: first, general schemes of drainage; secondly, water supply; and thirdly, insanitary areas, slum property, and unwholesome dwellings. All these three questions involve a large outlay and interference with private property. Therefore they invariably occasion much contention and bring about a great clash of interests. It requires a strong hand to deal with such conflicting elements and very often the local authorities, who are elected by the very persons whose private interests are at stake, do not possess this indispensable determination and strength. Therefore the occasional intervention of the prefect should prove of great advantage. The prefect at least should be absolutely immune from the effects of local pressure His appointment depends on the Minister and not on the local voters. On the other hand the local voter has just exercised once again his right to vote. Will the new municipal councils, strengthened by the new Public Health Act and stirred on by the prefects who now possess greater powers to interfere, be able to proceed more rapidly than in the past? The delays and postponements which have occurred constitute a national scandal, notably in such towns as Toulon and Havre, where the permanent presence of typhoid fever and the virulence of the cholera epidemics have failed to act as a warning. For years the necessity of a general drainage scheme for these towns has been discussed but no such scheme has been carried out Thousands of lives would certainly have been saved if proper sewers had been laid in the streets and the houses had been suitably drained. Scheme after scheme has been brought forward and fought over by the rival parties and now they rest in their respective pigeon-holes The abominations prevailing during the cholera epidemics subsist to-day. It is to be hoped that the new law and the new municipalities will at last put an end to so disastrous a state of affairs.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Reply of the University to Antivivisectionists.

SOME time ago a memorial was sent to the council of the University by a number of persons—of whom I understand the majority were non-resident in Birmingham or even in the Midlands—asking that if vivisection were to be practised in the University permission should be withheld for experiments requiring a certificate exempting partially or entirely from the use of anæsthetics. To this memorial a reply has now been sent by Alderman Beale, the Vice-Chancellor of the University, in which he states that the council of the University recognises the anxiety of the memorialists for the welfare and humane treatment of animals, a feeling cordially shared by every member of both council and senate. They would point out that the certificate permitting a test to be made without an anæsthetic is intended for inoculation or feeding experiments, where the administration of an anæsthetic is wholly superfluous or impossible, and in any case would subject the animal to much more discomfort than the trivial puncture or scratch itself. The certificate is not used for other experiments. With the exception of these inoculation and feeding experiments, permission to retain the animal alive after an operation is rarely asked for and is only permitted when a granted for a particular experime is issued the operator must sati object of the research is important and that there is a sufficient prospect that valuable information may result from it. The medical faculty has reported that so far no such special certificate has been applied for, nor will any be applied for unless the Faculty itself has come to the conclusion that in the particular case the object in view is of great importance. The council accepts this assurance and having received a report upon the whole matter from the senate is of opinion that it is not necessary to impose any other conditions than the very stringent regulations laid down in the Act of Parliament and most fully carried out.

University Appointments, &c.

Dr. P. H. Pye-Smith, F.R.S., Vice-Chancellor of the University of London, has consented to deliver the address at the opening meeting of the faculty of medicine which will take place on the evening of Oct. 3rd. Dr. W. A. Potts has been appointed assistant lecturer in pharmacology, and Dr. R. M. Simon examiner for the Russell memorial prize for this year. The first Ingleby lecture for this year was delivered last week by Dr. O. J. Cullingworth. The lecturer devoted the first portion of his discourse to an account of the life of Dr. Clement Ingleby, in whose memory the lectureship and two scholarships were founded, after which he turned to the subject proper of his two lectures—viz., a plea for early exploration of the abdomen in suspected cases of cancer of the ovary.

Health of Birmingham: Fresh Case of Small-pox.

When the last patient was discharged from the small pox hospital on March 31st it was hoped that the city might remain free from that trouble for some time to come. At the same time it was pointed out that with Leicester and other foci of disease in the neighbourhood, and with the coming in of warmer weather leading to a greater circulation of the tramp population along the roads, it was highly probable that further cases might occur. As a matter of fact one has occurred, for a week ago a case was discovered in the person of a man who had been residing for some time previously at South Shields but had come to Birmingham to work about a week before his illness became obvious. As soon as his condition was diagnosed he was removed to the small-pox hospital and all the persons with whom he had been in contact were placed under observation. The city has lately been suffering from an unusually severe epidemic of whooping-cough and that disease is still very prevalent, the numbers of deaths registered from it in two recent weeks having been 34 and 21 respectively. There are about 200 scarlet fever patients in hospital.

Ear and Throat Hospital.

The fifty-ninth annual meeting of the supporters of this charity has recently been held under the presidency of Alderman J. H. Lloyd. The annual report stated that the total ordinary income of the hospital for the year amounted to £2225 and the ordinary expenditure to £2323, leaving an adverse balance of £98, notwithstanding that the in-patient department was closed for several months whilst building operations were in progress. The number of in-patients treated during the eight months that the wards were open was 781, as compared with 1191 during the previous 12 months, the daily average being 23, as compared with 24 in the previous year. The number of out-patients was 7872, as against 8122. Of the in patients 25 were admitted free, eight very urgent cases obtained some tickets after their admission, and 95 other cases were also treated, although unable to obtain the full number of tickets. The cases admitted from places beyond Birmingham and the suburbs were 281 in number, or 35 9 per cent., being 114 less than last year. Of the new out-patients 1295 cases were admitted from places beyond Birmingham and its suburbs, being 27 2 per cent., and 100 less than last year. The committee reported with regret that the donations to the hospital extension fund amounted only to £2015 towards the £6000 asked for, and to meet in part this deficiency the committee authorised the trustees to realise the corporation of Birmingham gas and water annuities. The hospital bank account was now overdrawn to the extent of £2198 and the committee begged for donations to enable it to reduce the amount and so to save the heavy charges and the interest thereon. The alterations and extensions were now complete and had fully realised the expectations of the committee in enabling the work of the hospital to be carried on in a more efficient manner.

Hanley Health Report for 1903.

Mr John Clare, medical officer of health, in his report for 1903 states that the area of the borough is 1768 acres and the population 63,166. The birth rate for the year was 34 8 per 1000, as compared with 35 1 for the previous year. The death rate was 16 4 but if the deaths of inhabitants of the borough in the workhouse, isolation hospital, and North Staffordshire Infirmary were included the death-rate was 19 per 1000. With the exception of December the death-rate was very low, but even including that month it was still below the average of the past ten years—viz, 19 6 per 1000. The zymotic death-rate was 2 3, or, including deaths in the isolation hospital, 3 per 1000. The deaths of children under one year of age to 1000 births were 170. This heavy infantile mortality is greatly to be deplored but so long as mothers work in the different manufactories instead of looking after their young infants there will be little amendment in this direction. The outbreak of small-pox which took place in the autumn of 1902 continued throughout 1903 up to October when the last case was notified. The cases that occurred up to July were dealt with by "quarantining" them but this plan was then abandoned as being extremely expensive and of very little use, besides entailing a large amount of harassing and arduous work on the sanitary officials. An empty house belonging to the corporation was fitted up where the inmates of infected households could be moved while their houses and clothes were being disinfected. They were then revaccinated and allowed to follow their employment, a close watch being kept on all who had been in contact with small-pox. No case occurred amongst them as it was found possible to revaccinate them all. A great deal of revaccination was done but Mr. Olare found it very difficult to impress upon the adult portion of the community the danger that they ran, the effects of primary vaccination having in a very great measure passed away. A lesson teaching how expensive and dangerous were vagrants to the community had been afforded and it was desirable that some steps should be taken to prevent them spreading disease. Amongst them revaccination should be compulsory. 472 cases of diphtheria were recorded. The principal causes of the spread of this disease were the contact of children in the schools and the neighbours visiting infected houses. There were 44 deaths in the borough and 32 in the hospital from it.

May 16th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Milk Standard.

AT the Oldham police-court on May 12th a case occurred which illustrates the difficulty of fixing a satisfactory milk standard. The difficulty is caused in great part by cows declining to give milk of uniform quality. The magistrate's clerk said that in this case the difference between the standard and the analysis return was very small. "Farmers had protested against the order because the quality of milk varied so much according to the feeding, the weather, or whether the cow was in good, bad, or indifferent health." The milk from two cows in equally good health and condition, with the same feeding and surroundings, may also differ considerably in quality and that constantly. The defendant said the milk had deteriorated because he had been unable to buy food and he had given up selling milk—not apparently any too soon In these circumstances the case was withdrawn. It almost seems as if the small cow-keeper will be unable to maintain his position.

"*Herbal Treatment.*"

An inquest was held about ten days ago at Moston, a suburb of Manchester, which shows the strong hold that irregular treatment has on the minds of a certain class of Lancashire people. In this case, however, there was in addition neglect amounting to cruelty. A girl, aged 15 years, a worker in a mill, had been ailing for eight months. She had unfortunately a stepmother who was often advised by a neighbour to call in a medical man, but she was met with the reply that the girl was lazy and her illness a pretence. No medical man was called in and the girl died. Now comes the characteristic feature of the case. The father told the coroner that he did not send for a medical man as he thought his daughter was only suffering from indigestion. It seems that, like many of these people, he had an old book, "a medicine-book which he had bought 20 years ago." He said it had been his custom to treat ailments from prescriptions in this book and he gave his daughter "a decoction of herbs" for six weeks. "He did not know what the properties of the herbs were." Dr. McLean stated in evidence that the girl had been badly nourished and had died from peritonitis, that she must have been in great pain for months, and that proper medical treatment, though it might not have saved her life, would have prolonged it and would have alleviated her sufferings. The coroner spoke strongly of the conduct of the father and stepmother and the jury, who returned a verdict of death from natural causes, asked that they should be censured. It is difficult in such cases as these (which are far too frequent, not so much among the very poor as among those a little above them in the social scale, who may have had all the advantages of a board school education) to know how the various factors that cause such pitiful suffering are proportioned. Ignorant self-conceit, penurious dislike to paying even the smallest fees, suspicion, evidently strong in the stepmother, that this poor girl was malingering, and credulous trust in the prescriptions of the old medicine-book all had a share. The only satisfactory point in this case is that a Lancashire jury of the same class as the father and the stepmother agreed that they deserved censure.

River Purification.

At the last monthly meeting of the Mersey and Irwell Joint Committee an estimate of the expenditure for the year ending March 31st, 1905, was presented. The total is a net sum of £4524, which will be raised by calls upon the local authorities.

Moss Side to be Prosecuted.

At the same meeting Moss Side, a suburb which may be said to be in Manchester, though not of it, came under animadversion and legal proceedings are to be taken against the urban council. For the chief inspector found on a visit on April 19th about one-third of the whole volume of tank effluent passing directly to the Mersey through a hole cut in the ground communicating with the drains underneath. This hole was filled with paving stones, which, of course, provided a very effective way of not treating the sewage.

Sir Henry Roscoe's Report.

In Sir Henry Roscoe's report on the sewage effluents from the works of local authorities it is stated that of 41 samples 22 were good, eight were fair, two were unsatisfactory, and nine were bad. The Bolton corporation was to be informed that the effluent from its Rhodes farm was unsatisfactory. The purification of our rivers is a terribly slow process and we are paying heavily in money as well as in other ways for our own carelessness and for the neglect of our predecessors.

Mid-Cheshire Hospital Scheme.

The Cheshire county council has applied for the sanction of the Local Government Board to borrow £14,500 for the erection of an infectious diseases hospital to serve the districts of the Northwich rural and the Northwich, Winsford, and Middlewich urban councils. The district has a population of 54,735 and the hospital will accommodate 16 scarlet fever and ten typhoid fever patients. Eight other beds will be provided in an observation block. There will also be accommodation for a staff of 15 persons. The total cost is "estimated" at £14,235.

Ophthalmia in a Derbyshire Village.

The village of Staveley in Derbyshire is reported to be suffering from an epidemic of acute ophthalmia. The county medical officer reports that fully 200 children and their parents have been attacked within the past two months. The rural authorities have given notice that "unless medical attention be immediately sought by those affected a loss of eyesight will surely result."

May 17th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Bridgend Workhouse.

AN extension of the Bridgend workhouse has been frequently urged upon the board of guardians during the past ten years, not only by the medical officer (Mr. Wyndham Randall) but also by the Poor-law inspector of the Local Government Board. The latter official reported to the guardians in 1902 that on going through the house on one occasion he had found in the sick wards 38 patients in 31 beds and that there were no women's receiving ward, no suitable lying-in ward, and no proper vagrant wards. As recently as March last it was reported that there were not enough beds to accommodate all the inmates, so that one man had to sit up all night and another slept on a bench, and it was suggested that beds should be put up in the dining rooms. Plans for the provision of a new infirmary, casual wards, a porter's lodge, and other minor buildings were prepared some time ago and have been approved by the Local Government Board, but on several occasions the guardians have refused to carry out the work although the total estimated cost of £13,500 would only involve an annual expenditure for 30 years of a rate equal to ½*d*. in the pound. The opposition to the scheme has at length been overcome and on May 14th it was decided by 42 votes to 20 to apply to the Local Government Board for sanction to borrow the sum named.

Proposed Reduction of the Salary of a Medical Officer of Health.

Allusion was made in THE LANCET of Jan. 23rd, p. 261, to the extraordinary proposal of the Aberavon town council to reduce the salary of the medical officer of health (Dr. J. Arnallt Jones) by including in the amount—£50 per annum—all fees to which he is entitled under the Infectious Disease (Notification) Acts. The assumption that the Local Government Board would not consent to this proposal has been borne out and it is to be hoped that the Board will not sanction the alternative proposal of the council to appoint a medical officer of health at the reduced salary of £25 per annum. Some years ago the sanitary committee of the Cornwall county council recommended that the minimum yearly remuneration of district medical officers of health in the county should be upon this basis—a preliminary fee of £10 for each district, with an additional £5 for every 1000 of population and an additional £2 for each 10,000 acres after the first 10,000. The population of Aberavon is about 8,000 and the area is 2211 acres, so that upon the Cornwall basis the minimum salary should be £50 per annum.

Cardiff Seamen's Hospital.

The new building which is to take the place of the hulk *Hamadryad* is now completed and only requires furnishing to be ready for occupation. There is accommodation for 60 patients. Of the £30,000 which the building has cost the late Marquis of Bute gave £20,000. A portion of this sum was given during his lifetime and the remainder was bequeathed. His trustees were directed upon the completion of the hospital to arrange that the sick received in the hospital should be served by sisters of some Roman Catholic religious order if such arrangements could be made. The question of giving effect to this clause in the will of the late marquis has been before the hospital committee more than once. In June of last year the trustees were informed that provision would be made for Roman Catholic patients having nurses of their own faith and Roman Catholic priests would be given the same free access to patients in the new hospital as they are now given in the *Hamadryad* hospital ship. The trustees do not appear to consider that this would sufficiently carry out the wishes of the testator which they believe were that the indoor administration of the hospital should be intrusted to some Roman Catholic sisterhood competent to provide duly qualified nurses. When this view was placed before the committee on May 12th it was pointed out that the general public had subscribed to the building fund of the hospital on the understanding that it was to be administered on unsectarian lines and one member of the committee said that they might just as well close the wards as place them exclusively in charge of Roman Catholic nurses. Ultimately three members of the committee were deputed to confer with the trustees and it is confidently believed that a solution of the difficulty will be arrived at.

Medical and Surgical Degrees for the University of Wales.

It is proposed by the court of the University of Wales to apply for a supplemental charter for the creation of affiliated colleges. This is the outcome of an appeal from the Swansea Technical College to have the right to present candidates for degrees at the University. At the court held at Holyhead on May 13th Sir Isambard Owen, the senior deputy chancellor, moved that there should be contained in the supplemental charter power to grant degrees in medicine and surgery. In a communication supporting this suggestion Sir John Williams said it was not fair to students that they should be obliged to go elsewhere for a degree in medicine nor was it fair to the University, for it is deprived of the credit which would accrue to it from a distinguished roll of medical graduates. The proposal was unanimously adopted by the court.

The Prevention of Tuberculosis.

The annual meeting of the Gloucester, Somerset, and Wilts branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis was held at the Council House, Bristol, on May 13th under the presidency of Sir John Dickson Poynder, M.P. The chairman stated that the funds at their disposal had permitted the executive committee to extend operations in connexion with the Winsley Sanatorium. The original block of the building was practically completed and the second block which would enable them to take the full number of 60 patients was well in hand. Dr. L. A. Weatherly (chairman of the executive committee) said that £16,660 had been already received for the building and £2275 per annum for the maintenance fund. £6256 had still to be collected. The Bristol city council has now the right of nomination for 20 beds, having recently increased its subscription. All the beds of the sanatorium with the exception of five are now allotted to public bodies or private individuals. The institution will not be opened for the admission of patients until the end of November when the whole building will be completed.

May 16th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Glasgow and District Branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis.

THE third annual meeting of this branch was held on May 12th in the Religious Institution rooms, Glasgow, when the Hon. the Lord Provost (Sir John Ure Primrose) presided. The council submitted the annual report on the procedure adopted for the year preceding March 31st last, in which it was stated that there have been a gradual and decided extension and development of the various methods by which the prevention, suppression, and treatment of consumption in the city and district can be successfully attained. The council reported especially on the distribution of pamphlets and literature and the holding of public meetings in the various districts of the city as a means of educating the public on the subject. With the view of arousing the interest of the members of the various benefit and friendly societies in the city and district in the proposed sanatorium at Lanark Dr. Alfred P. Hillier, secretary of the National Association, London, at the request of the council delivered an address at the annual public meeting held in November last on the Advantages of Sanatorium Treatment to Benefit and Friendly Societies. The lecturer dwelt on the position of friendly and benefit societies in Germany towards sanatoriums and discussed how far these societies in Great Britain might advantageously follow their example. The council was well satisfied with the success of that meeting. In connexion with the treatment of advanced cases the council regrets that meantime it is quite unable to undertake this part of the work. It has, however, been in conference with the subcommittee of the town council on tuberculosis and has suggested that the latter body might experimentally, at least, provide some hospital accommodation for such cases. This matter is still under consideration. With regard to sanatorium treatment, it was stated that plans had been adopted and approved by the county council for the erection of a pavilion and five double sleeping chalets. These are now in course of erection at Bellefield, Lanark, by Messrs. Speirs and Co., contractors, and will provide accommodation for 30 male patients as early, it is hoped, as June. It is expected that additional accommodation will be provided at no very distant date. Special reference was made to the valuable aid rendered by the editor and staff of the *Glasgow Evening News* in establishing and working up the "People's Fund," now exceeding £7400, also to the handsome donation of £5000 by the corporation of Glasgow towards the erection of the sanatorium. Graceful reference was also made to the practical interest taken by Lady Ure Primrose who two days before had invited and entertained to afternoon tea in the Royal Institute of Fine Arts those interested in the movement with the view of considering what part should be taken by the ladies of the city in the crusade against consumption. The council records with regret the death during the past year of Sir John Muir, Bart., and Mr. William Quarrier, two of the honorary vice-presidents of the branch. By the death of Mr. Quarrier, who was the pioneer in the adoption of sanatorium treatment for consumptives in Scotland, the branch has lost much valuable help.

Opening of Lanfine Home for Consumptives at Broomhill, Glasgow.

On May 14th the Duchess of Montrose opened the Lanfine Home for Consumptives. Sir James King, Bart., who opened the proceedings, said the new Home for Consumptives was an institution built by the generous bequest of an Ayrshire lady, Miss Martha Brown. It was noteworthy that this gift was the indirect result of the influence and advice of a lady whose name would ever be honoured at Broomhill, Miss Beatrice Clugston, who some 25 years ago had interested Miss Brown in the Broomhill Home. Together with Miss Clugston Miss Brown had formulated a scheme much like that now being carried out and at her death left to the institution the sum of £21,000 Of that sum £1000 went to aid outside pensioners, £5000 to erect the consumptive home, and the remaining £15 000 towards its annual endowment. The annual interest on the money left would be quite insufficient to provide for the maintenance of the new institution, for there would be a deficit of £500 per annum. As the ordinary revenue of Broomhill was during the past year £700 short of the expenditure it followed that £1200 more per annum would be required. Her Grace the Duchess of Montrose in formally declaring the home open, said she considered it an honour and a privilege to be in some way associated with such an institution as the Lanfine Home. Miss Clugston was the source of inspiration for the home and with Miss Brown had conferred permanent benefits on humanity.

Aberdeen Royal Infirmary: Limited Accommodation for Patients.

The directors have issued the following circular to medical practitioners, public officials, and others, drawing attention to the limited accommodation at the hospital: "Owing to the limited accommodation in the infirmary (especially in the surgical side), the board of directors hereby intimate to all medical practitioners and others that before sending patients to the hospital it is necessary to communicate with the medical superintendent of the infirmary, with the view of ascertaining if accommodation be available. At the same time there should be forwarded a short statement as to the nature and urgency of each case for information. If the services of any particular physician or surgeon are desired this should be mentioned in the application, when every endeavour will be made to meet the wishes of the applicant. Intimation of the date at which the patient can be admitted will be forwarded as soon as possible after the application has been received. Cases of accident are admitted at once."

Appointments.

Dr. John Innes has been unanimously recommended by the cleansing committee of the Aberdeen town council as medical officer to the cleansing and carting staff of the corporation.—Dr. J. Reid of Portsoy has been appointed in succession to Dr. W. L. Stewart certifying surgeon under the Factory and Workshop Act for the district of Portsoy, which includes Portsoy burgh and the civil parish of Fordyce.

Inverness Northern Infirmary: Annual Meeting.

The annual meeting of the managers of the Northern Infirmary was held in the council chamber, Inverness, on May 4th. Provost Arthur D. Ross presided and there was a good attendance. Mr. Duncan Shaw, W.S., honorary secretary, submitted the annual report of the house committee, and Mr. C. Marshall Brown, honorary treasurer, read the annual financial statement. The report of the house committee stated that the number of patients during the past year was about the average. Two outbreaks of scarlet fever, which became epidemic, had largely increased the number of patients in the fever wards. The number of patients at the first outbreak was as many as 47 and at the second outbreak they numbered 97. Great credit was due to the officials for the arrangements which made it possible to treat such a large number of patients. The financial statement showed that the ordinary income for the year amounted to £3986 13*s* 3*d*. and the expenditure to £5356 13*s*. 1*d*., leaving a deficiency of £1369 19*s*. 10*d*., which had been met by applying legacies received during the year amounting to £809 19*s*. 7*d*. and the withdrawing of £560 from capital account. There was a further withdrawal of £439 to meet expenditure, the net result of the withdrawals being that the accumulated funds of the institution had been reduced by £1000 during the year. A strong appeal was made for increased public support in aid of the institution which was doing such valuable work. Provost Ross moved the adoption of the reports. He referred to the fact that out of 130 cases in the scarlet fever epidemic not a single death directly resulted from the fever. He mentioned that the cost per patient in the infirmary during the year was less than for some years past and this showed that economy was being used in the management of the work of the infirmary. In conclusion Provost Ross moved the reappointment of Mr. Duncan Shaw as honorary secretary and of Mr C. Marshall Brown as honorary treasurer and that a vote of thanks should be given to them for their services during the past year. Ex-Provost Macbean seconded the motion which was cordially adopted.

May 17th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

National Children's Hospital, Dublin.

THE annual meeting of the supporters of the National Children's Hospital, Dublin, was held on May 13th in the hospital premises, Harcourt-street. Sir Charles Cameron, C B., presided and there was a large attendance. Sir Lambert H. Ormsby, President of the Royal College of Surgeons in Ireland and surgeon to the institution, said that the three great objects of the hospital were: (1) the medical and surgical treatment of sick children, (2) the diffusion of knowledge among students regarding diseases of children, and (3) the training of nurses in the diseases peculiar to children.

The late Patrick Joseph Hayes, M.D. R.U.I., F.R.C.S. Edin.

The lamented death of Dr. P. J. Hayes took place on May 11th at Idrone-terrace, Blackrock. He filled for a quarter of a century the position of surgeon to the Mater Misericordiæ Hospital, Dublin, was widely known, and was in the enjoyment of a large practice. He was a Medical Fellow of the Royal University which conferred on him the degree of doctor of medicine *hon. causâ* and ever since the establishment of that University he had been one of its examiners in surgery. Dr. Hayes was consulting surgeon to St. Patrick's College, Maynooth, and to several other important institutions in Ireland. For many years he was well known as professor of surgery to the Catholic University and his memory will be long cherished by hundreds of medical men now scattered over Ireland, England, and the colonies. Some two years ago when his health began to fail he retired from practice and changed his residence from 18, Merrion square to Blackrock. He has left a widow and family to mourn their loss.

County Tipperary Lunatic Asylum.

At a meeting of the committee of the County Tipperary Asylum, held at Clonmel on May 10th, the salaries of Mr. B. G. Harvey and his assistant, Dr. P. Heffernan, were voluntarily increased by £100 and £50 respectively as a recognition of their efficient work by which the cost of maintenance of the institution had been reduced by about £2000 a year.

Rainfall in April.

In the month of April in the north of Ireland the rainfall was 3 20 inches, rain falling on 29 days, an amount distinctly above the average (2·51 inches). The total amount of rainfall for this year is, so far, 12·76 inches, which is over the average (11 72 inches).

Medical Benevolent Fund Society.

At the annual meeting of the Belfast and County Antrim branch of this society held in the Medical Institute, Belfast, on May 13th, it was reported that a sum of £147 8*s*. 11*d*. had been remitted to the central authority in Dublin, being £12 13*s*. 6*d*. less than the previous year. A larger number of country subscribers are on the roll this year but in Belfast there are 15 subscribers fewer and the amount is less by £6 5*s* 6*d*. than that of last year. Marked attention was drawn by the various speakers to the want of success of the society in Belfast where, it was said, 45 members of the profession do not subscribe. A vote of thanks was passed to the retiring President (Sir W. Whitla) for his services to the society and Dr. J. Nelson was appointed President.

Small-pox in Limavady Union.

The small-pox patients are all doing favourably and there are no fresh cases, a circumstance attributed by Dr. J. W. Watson, the medical officer of the workhouse, to the effect of revaccination. The guardians of Limavady have decided as an alternative to receiving into the workhouse destitute members of families of those bread-winners who had been or might be removed to the hospital as small-pox patients that these families should be given such temporary relief in their own homes as might be suited to the requirements of each case.

May 17th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Surgical Treatment of a Wound of the Heart.

AT the meeting of the Society of Surgery which was held on April 27th M. Richet read an account of an operation performed for wound of the heart. The left ventricle had been perforated by a revolver bullet eight millimetres in diameter which had also grazed the greater curvature of the stomach, the upper border of the spleen, and the lower border of the left lung. The patient, a man, aged 34 years, was taken into hospital 15 minutes after the accident. He was at once given injections of caffeine and of artificial serum and the operation was begun in one and a half hours after the accident. The wound of entrance was in the fifth interspace and there was pneumothorax. A large flap was made from the whole thickness of the thoracic wall and the two wounds in the heart and those in the pericardium had been sutured with catgut, when the heart ceased to beat despite direct massage of the organ being employed M. Richet reminded the meeting that his first similar case had been successful and that he had shown the patient before the society in perfect health.

The Treatment of Urinary Incontinence by Lumbar Puncture.

At the meeting of the Hospitals Medical Society held on April 29th M. Babinski and M. Boisseau showed two patients who had suffered from incontinence of urine and had been cured by lumbar puncture. The first patient was a young woman, aged 17 years, who ever since the age of seven years had suffered from nocturnal incontinence. Lumbar puncture was performed and 15 cubic centimetres of cerebro-spinal fluid were drawn off, the patient having no incontinence for the eight following days. From the ninth to the thirteenth day she had incontinence twice. A second puncture was then made and on the fifth and seventh day after this operation the patient had incontinence, but since that date, two months ago, she had had none. The second patient was syphilitic and for two years had suffered from spasmodic paraplegia and incontinence both of fæces and urine. The incontinence was not due to overfilling of the viscera but to paralysis of the sphincters. Lumbar puncture was performed and 15 cubic centimetres of fluid were withdrawn and the incontinence disappeared. The patient could pass the water voluntarily and felt both the need of passing water and the passage of the urine, which had never been the case previously. M. Babinski and M. Boisseau had seen two other cases of the same kind. The one was a child, 14 years old, who had suffered from incontinence both by night and day for six weeks. Belladonna had been tried without result but after lumbar puncture the diurnal incontinence disappeared altogether, but the nocturnal incontinence reappeared two months after the operation for one month, but only every four nights or so, and finally disappeared altogether 15 days after lumbar puncture had been performed for the second time. The other patient had suffered from paraplegia for a year and had had nocturnal incontinence for one month. After one lumbar puncture this incontinence disappeared and had not reappeared for a fortnight. Finally, a patient suffering from ataxia who had had incontinence for four years received no benefit from lumbar puncture, although three years previously the incontinence had ceased for 15 days after a lumbar puncture made for the purpose of a cytological examination. Without pretending to explain the mode of action of this treatment M. Babinski and M. Boisseau considered that it was a good method of treatment for a very troublesome affection and that it was quite worth while to make further researches into the matter.

May 17th.

Obituary.

M. DUCLAUX

OUR Paris Correspondent writes:—"I have already announced to your readers the news of the death of M. Duclaux but it is only fitting that they should receive some further information as to the career of one whose name is universally known. The late director of the Pasteur Institute was a brilliant journalist as well as a professor and a notable fighter as well as a laboratory worker. All his life he was an indefatigable worker He began as a mathematician in 1859, when he was doubtful whether to enter the École Polytechnique or the École Normale Superieur, but by 1862 he had become a physicist and chemist. In 1875 he took up the study of bio chemistry and made researches by the side of his old master Pasteur at the dawn of the discoveries which were about to revolutionise medicine. About the same time he also studied meteorology at the Agricultural Institute and in 1883 published a treatise on Biological Chemistry, being from this date an intimate fellow worker with Pasteur. His book entitled 'Ferments et Maladies,' which appeared at about this time, is really a glorification of bacteriology and its prospects. Duclaux well foresaw the day when infectious diseases would practically cease their ravages and would not take toll of humanity by even a tenth part of what they did then. He worked indefatigably at every branch of microbiology, he taught at the Sorbonne, organised conferences in Paris and the provinces, founded the Annals of the Pasteur Institute in 1889, and kept alight the sacred fire among the students of microbiology. At the death of Pasteur Duclaux was chosen to carry on his work and then in 1896 it was that he published his magnificent work, 'Pasteur: the Story of a Genius.' Duclaux's next work was to attempt to codify in the work which was to extend to seven volumes all that was known about microbiology. Only the first four volumes have appeared but they comprise a veritable mine of facts concerning all that was known of the subject between 1899 and 1902. In the volume dealing with diastases he brings out his special knowledge of, and theories on, bio-chemistry. He insists on the fact that there are diastases of hydration and of dehydration, just as there are of oxidation and reduction, and it is well known to day what an important part the soluble ferments play as regards vital equilibrium. The latest works of Duclaux deal with social hygiene and with the relations of domestic hygiene and economy with chemistry. Duclaux belonged to the race of chemists who become medical men in imitation of the master whose toils have been the guiding star for their labours and it is fitting that regretful homage should be paid to the passing of one whose scientific work has been so valuable."

Medical News.

UNIVERSITY OF CAMBRIDGE.—The degree of Doctor of Science *honoris causâ* is to be conferred on Gustav Retzius, Emeritus Professor of Anatomy in the University of Stockholm, and Wilhelm Waldeyer, Professor of Anatomy in the University of Berlin. Mr. W. J. Sell, F.R.S., and Mr. H. J. H. Fenton, F.R.S., are to be appointed University Lecturers in Chemistry. At the congregation on May 12th the following degrees were conferred:—

Doctor of Medicine A. E. Carver, Clare.
Bachelor of Medicine B. Hudson, Clare, E. A. Ellis, Downing; and C. B. Goulden, non-collegiate
Bachelor of Surgery W. M. Mollison, King's, B. Hudson, Clare; E. M. Brown, Pembroke; W. V. Naish, Emmanuel, and C. B. Goulden, non collegiate.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE.—At the Convocation held on April 30th the following degrees and diploma were conferred:—

D [illegible]

D [illegible]

B [illegible]

L D S, William John Phillips, B Sc, Mary Raw, Frederick William Ritson, Constance Charlotte Robertson, John Malcolm Shaw, and Fred Stoker, College of Medicine, Newcastle-upon-Tyne, Otho Boyle Travers, Guy's Hospital, and William Frank Wilson and Hermann Wolfe, College of Medicine, Newcastle-upon Tyne

[illegible]

The Heath Scholarship founded in accordance with the will of the late Professor G. Y Heath has been awarded by the Professor of Surgery in the University of Durham to Mr. W. G. Richardson, M.B Durh., F R.C.S. Eng, of Newcastle-upon-Tyne, for his essay on "The Development and Anatomy of the Prostate Gland, together with an account of its injuries and diseases and their surgical treatment." This scholarship is awarded every second year and is of the value of £200. A further grant from the scholarship funds to the extent of £50 was awarded to Mr. Richardson to assist in the reproduction of the drawings which accompanied the essay and in the mounting satisfactorily of 70 wet specimens.

Royal Colleges of Physicians and Surgeons of Edinburgh and Faculty of Physicians and Surgeons of Glasgow.—The following candidates having passed the requisite examinations of the Conjoint Board were admitted Diplomates in Public Health :—

Arthur Morton Barford, M.R.C.S. Eng., L.R.C.P. Lond., London; Arthur Murray Wood, M B., Ch.B., Leith; John Christopher Thomson, M.D., Edinburgh; Margaret Merry Smith, M.B., Ch.B., Edinburgh; Chiranjiva Bharadwaja, L.R.C.P. & S.E., Edinburgh; Thomas Frederick Hillyer Blake, L.R.C.P. & S.E., Bournemouth: William Inglis Dunn, M.B., Ch.B., Edinburgh; Andrew Grant, M.B., Ch.B., Fortrose; James Leslie Marjoribanks, M.B., C.M., Edinburgh; James Andrew Hislop, L.R.C.P. & S.E., Glasgow; John Hally Meikle, M.B., C.M., Edinburgh; David Melville, M.D., Cape Colony; and William Alexander Reid, L.R.C.P. & S.E., Edinburgh.

At the same sederunt the following candidates passed the first examination in public health :—

Herbert De Carle Woodcock, L.R.C.P. & S.E., Leeds; Alfred Robert Maclurkin, M.B., Ch.B., Natal; Richard Staward, F.R C.S.E., Glasgow; Alexander Fraser Jack, L.R.C.P. & S.E., Glasgow; and James Allison, M B., C.M., Cambuslang.

David Dryburgh Gold, M.B., C.M., Markinch, passed the second examination in public health.

University of Oxford: Examinations for the Degrees of B.M. and B.Ch.—The Board of the Faculty of Medicine gives notice that in the subjects of human anatomy, human physiology, pathology, medicine, surgery, and midwifery in the examinations for the degrees of B.M. and B.Ch. the written part of the examination shall consist of one paper of six questions, only five of which may be answered, and that in the subject of forensic medicine and public health (the first examination in which, under the new statute, will take place in Trinity term, 1905) the written part of the examination shall consist of a paper of six questions, of which three shall be allotted to each division of the subject. The Board of the Faculty of Medicine also gives notice that the regulations as to certificates to be produced by candidates before admission to the second examination for the degrees of B.M. and B.Ch. (Examination Statutes, pp. 192–94) have been struck out and replaced by the following regulations which will first come into effect in Trinity term, 1905. Candidates for the several parts of the examinations for the degrees of B.M. and B.Ch. are required, at the time of entering their names with the secretary to the boards of faculties, to produce to him certificates showing that they have attended courses on, and have had practical experience in, the following subjects:—1. Human anatomy. 2. Practical histology and practical physiology. 3. Practical pathology. 4. Post-mortem clerk. 5 (*a*) Hospital practice, surgery; (*b*) hospital practice, medicine. 6. Mental disease. 7. Infectious disease. 8. Vaccination. 9. Attendance on labours. 10. Hospital practice. Forms for these certificates can be obtained from the secretary to the boards of faculties, from whom also detailed information as to the necessary requirements for a certificate can be had on application.—Dr. J. A. Ormerod has been nominated by the Vice-Chancellor and Proctors as examiner in medicine, *pro hac vice*, for the final examination for the Degree of Bachelor of Medicine, in place of Dr. Frederick T. Roberts, who has been granted leave of absence. Dr. J. F. Payne, who had been appointed, is unable to serve.

City of London Hospital for Diseases of the Chest.—The Lord Mayor presided on May 13th at the festival dinner held at the Hotel Cecil, Strand, London, in aid of the funds of the City of London Hospital for Diseases of the Chest. This hospital, which was originally founded in Liverpool-street more than 50 years ago, is now situated in the heart of the east end at Victoria Park; it contains 164 beds, more than 20 of which are unfortunately closed for want of funds. The secretary of the hospital, Mr. H. T. D. Ryder, announced in the course of the evening that the subscription list amounted to over £3000. After the Lord Mayor had proposed the usual loyal toasts, which were enthusiastically received by those present, Alderman and Sheriff Sir John Knill in a sympathetic speech submitted the toast of "The Medical Staff," which received an ample acknowledgment from Dr. G. A. Heron, one of the physicians to the hospital. The Lord Mayor next gave the toast of "Prosperity to the City of London Hospital for Diseases of the Chest." He made an earnest appeal on behalf of the institution and showed how during the past year 848 in-patients had been admitted into the hospital, whilst the attendances in the out-patient department for the same period of time reached the total of 63,079. Before concluding the Lord Mayor referred to the want of increased and proper accommodation for the nursing staff, a matter which had been frequently brought to the notice of the committee of management by the medical staff of the hospital and the council of King Edward's Hospital Fund for London. Sir William S. Church was intrusted with the task of proposing the toast of "The Committee and Executive Staff," which was responded to by Alderman Sir G. W. Truscott. The secretary, Mr. Ryder, was the recipient of many congratulations on the success attending the dinner.

Bristol Lunatic Asylum, Stapleton.—The visiting committee of the Bristol Lunatic Asylum in its report for 1903 states that on Dec. 31st, 1903, there were 838 patients in the asylum (386 males and 452 females). The highest number of patients resident at one time was 879. The committee adds that the condition of patients has been satisfactory and expresses its appreciation of the manner in which the medical superintendent (Dr. H. A. Benham) and the staff generally have performed their duties during the past year.

Literary Intelligence. — Messrs. Baillière, Tindall, and Cox announce for publication this week a translation by Dr. Thomas Johnstone of Professor Kraepelin's classic work on "Clinical Psychiatry," hitherto attainable to students of mental diseases in the German language only. The same firm announce a new work on "Organic Nervous Diseases" by Professor M. Allen Starr. The new text-book will contain 26 coloured plates besides 275 drawings in black. Messrs. Baillière, Tindall, and Cox also announce a ninth edition of Dr. H. Macnaughton-Jones's manual on "Diseases of Women" and a second edition revised and enlarged of Dr. Baruch's work on the "Principles and Practice of Hydrotherapy."

Presentations to Medical Practitioners.—At the George and Railway Hotel, Bristol, on May 8th, after the distribution of prizes and medallions to the successful candidates of the St. John Ambulance class of the Great Western Railway employés, Mr. H. F. Devis, L.R.C.P. Lond., M.R.C.S. Eng, was presented with a marble clock as a mark of appreciation of his services as honorary lecturer.—At a supper given by the Newton Abbot (Devon) division of the St. John Ambulance Association on May 11th the chairman, Mr. R. H. Grimbly, M.R.C.S. Eng., L.S.A, on behalf of the members, presented Mr. F. W. S. Stone, L.R.C.P. Lond., M.R.C.S. Eng., L.D.S. R C.S. Eng., with a case of pipes as a mark of respect and esteem on the occasion of his leaving the district.

Central Midwives Board.—A meeting of this Board was held at 6, Suffolk-street, London, S.W., on April 28th and adjourned to May 11th, when Dr. F. H. Champneys was re-elected chairman of the Board for the ensuing year and Mr. J. H. Johnstone, M.P., was re-elected honorary treasurer for the same period. Letters were read from the secretary of the Rotunda Hospital, Dublin, the general secretary of the Royal Academy of Medicine in Ireland, the Master of the Coombe Hospital, Dublin, and Professor J. W. Byers, physician to the Incorporated Belfast Maternity Hospital, asking the Board to reconsider its decision as to an alteration of its rules so as to allow pupil midwives trained in the chartered maternity hospitals of Ireland to be placed on the same footing as candidates for the examination of the Board producing the certificates prescribed by Forms III. and IV. in the schedule to the rules of the Board. It was resolved to reconsider the rules, so far as regarded the application contained in the letters, but a motion for replacing the certificates of personal attendance upon 20 cases by certificates of the master or senior medical officer of a hospital or institution where midwives are trained was lost. The further consideration of the matter was then adjourned to May 26th. After consideration of applications for certificates the names of 1037 women were passed under Section 2 of the Act and ordered for entry on the roll. The following shows the separate numbers of the various qualifications at present appearing on the roll: Royal College of Physicians of Ireland, 1; Obstetrical Society of London, 1213; Rotunda Hospital, 55; Coombe Hospital, 23; Queen Charlotte's Hospital, 73; Liverpool Lying-in Hospital, 20; British Lying-in Hospital, 3; Glasgow Maternity Hospital, 39; St. Mary's Hospital, Manchester, 78; Manchester Maternity Hospital, 1; City of London Lying-in Hospital, 7; Royal Maternity Hospital, Edinburgh, 6; Salvation Army Maternity Hospital, 4; National Maternity Hospital, Dublin, 1; women in *bonâ-fide* practice, July, 1901, 2928; total enrolled, 4452. It was decided to appoint, if necessary, an inspector to visit and to report on institutions applying for recognition of certificates or approval as training schools and the consideration of the scheme of examinations to be instituted by the Board was also proceeded with.

Medical Magistrate.—Dr. David Arthur Davies has been made a justice of the peace for the borough of Swansea.

The Welsh Medical Dinner.—The Welsh Medical Dinner will be held at Prince's Restaurant, Piccadilly, London, on Wednesday next, May 25th, at 7 o'clock, under the presidency of Sir John Williams, Bart., M.D. Communications should be made to the honorary secretaries, Dr. T. P. Beddoes and Dr. William Lloyd, at 63, Wimpole-street, London, W.

Devon and Exeter Dental Hospital.—The annual meeting of the subscribers to this institution was held at the Guildhall, Exeter, on May 13th, under the presidency of Prebendary J. G. Dangar, D.D. The annual report stated that during 1903 the patients numbered 4017. The financial statement showed a favourable balance of £21. The committee is anxious to have a new building so as to bring the hospital fully up to modern requirements and it has already received £1500 towards the building fund.

Fernley Observatory, Southport.—In his report for 1903 Mr. Joseph Baxendell, the director, gives in the usual convenient tabular form the condensed results of an immense number of instrumental readings. The general conclusion is "an unusually stormy, wet, and sunless year." The total rainfall was 39·52 inches, or 5·91 inches above the average, the year being the wettest since 1886. The heaviest fall of rain in any one "rainfall day"—i.e., 24 hours ending at 9 A.M. next day—was 1·78 inches on Sept. 10th, and a lithographed copy of the tracing taken for this period by Halliwell's recording rain gauge is inserted as a frontispiece to the report. From the paragraph dealing with the work of the astronomical observatory it appears that the general public are permitted to visit the observatory on any "starlight Monday and Wednesday evening" between Sept 1st and April 15th.

Yeovil Sewage Works.—A Local Government Board inquiry was held at Yeovil on May 10th into an application by the town council to borrow £8500 for additional expenses incurred in the completion of the sewage works. It was stated that the works had cost £31,206, which was over £8000 in excess of the sum originally sanctioned. As some necessary particulars were not available the inspector adjourned the inquiry *sine die*. In a report presented to the town council by the medical officer of health on the recent breakdown of the septic system of sewage disposal it was stated that the difficulty was a temporary one, due to the mechanical choking of the grit chamber with road refuse and trade refuse, such as hair and wool from the skin-dressing yards. He advocated the exclusion of this trade refuse from the sewers and its disposal at the factories where it was produced.

Volunteer Ambulance School of Instruction.—The annual banquet of the staff and members of the school took place at the Trocadéro Restaurant, London on May 12th, Brigade Surgeon Lieutenant-Colonel P. B. Giles, V.D., senior medical officer, being in the chair. The official guests were Surgeon General Sir William Taylor, K.C.B., Director-General of the Army Medical Service; Colonel A. T. Sloggett, C.M.G., Principal Medical Officer, Home District; Surgeon-General Don; Lieutenant Colonel E. M. Wilson, C.B., C.M.G., D.S.O.; Lieutenant-Colonel G. Robinson, commanding the Royal Army Medical Corps depôt at Aldershot; Mr. Jonathan Hutchinson, F.R.S.; and Dr. J. Galloway, a member of the Army Medical Advisory Board. The chairman was supported by Brigade Surgeon-Lieutenant-Colonel Andrew Clark, chairman of the Volunteer Medical Association, Brigade-Surgeon-Lieutenant-Colonel G. S. Elliston, Brigade Surgeon-Lieutenant-Colonel J. Adams, Brigade Surgeon-Lieutenant-Colonel Waterhouse, and many others. The toast of the evening, "The School," was ably proposed by the Director-General who laid great stress on the success of the staff, especially as regards the advanced or nursing class, the knowledge gained therein being of great use in the treatment of wounded after transfer to hospital. Brigade-Surgeon Lieutenant-Colonel Giles, in responding, thanked the commanding officers of the various metropolitan corps who had placed their headquarters at his disposal; he also thanked Major Maclure, the president, for his present of a handsome challenge shield which he had devoted to the nursing class. The year had been a successful one and the staff of the school was justly proud of the large class inspected by the Director-General. His thanks were due to the officers and non-commissioned officers' instructors for the *esprit de corps* which they had shown. Nearly 600 medical officers had passed through the school. Referring to the Royal [illegible] which would shortly be published, [illegible] Giles said that he had told the [illegible] Volunteers that increased allowances for medical officers were necessary when attending camp. Mr. Hutchinson and Dr. Galloway returned thanks for the guests. The toast of "The Royal Army Medical Corps" was proposed by Brigade-Surgeon-Lieutenant-Colonel Elliston and suitably acknowledged by Colonel Sloggett. The attendance was a good one and excellent arrangements were made by Surgeon-Captain E. M. Callender, the mess president.

Parliamentary Intelligence.

HOUSE OF LORDS.

Monday, May 16th.

A Revaccination Bill.

The Duke of Northumberland presented a Bill, which was read a first time, to provide for the revaccination of children after the age of 12 years.

HOUSE OF COMMONS.

Wednesday, May 11th.

Arsenical Poisoning.

Sir Cuthbert Quilter asked the President of the Local Government Board whether the conference between representatives of the Government departments concerned had yet taken place and whether he was in a position to announce what course he proposed to adopt to [illegible] f the Royal Commission on [illegible] the protection of the public [illegible] in beer and the fixing of a [illegible] Some preliminary questions [illegible] conference could take place. [illegible] I hope to arrive at a decision upon them very shortly.

Corporal Punishment.

[illegible] nt of the Local Government [illegible] nts inflicted on children who [illegible] and protection in Poor-law [illegible] y in the St. Giles's Receiving Home in January last who was returned to the Westminster Union [illegible] orporal punishment. [illegible] the case of a girl and [illegible] instrument shall be [illegible] case may require. The rules are, I think, sufficient usually to prevent [illegible] a case of excessive punishment is [illegible] o deal with any officer in fault in the [illegible] cumstances may be necessary. I may [illegible] ruises, &c., in the first case referred to [illegible] to have been caused by punishment [illegible] at all.

Thursday, May 12th.

The Lunacy Commission.

An interesting debate on the Lunacy Commission took place on the vote of £15 259 for that body.

Sir John Batty Tuke initiated the discussion by making an elaborate speech on the subject. He said he desired to draw attention to the inadequate constitution of the English Lunacy Commission and to certain defects in action consequent upon this inadequacy. In order to guard himself he wished to say in the first place that he did not desire to attack individuals. He believed that the various members of the Commission were eminent and hard-working men and that any imperfection in work followed entirely on the paucity of their numbers.

What was the constitution of the Commission? It was presided over by an unpaid chairman and there were four unpaid commissioners. There were three medical and three legal commissioners paid at the rate of £1500 per annum. The duties of the unpaid commissioners were confined entirely to the office. The main duty of the paid commissioners was to visit and to report on 114,000 registered lunatics in England and Wales. In order to develop his argument he trusted he might be allowed to compare the condition of things in Scotland. In Scotland there were one unpaid chairman, two medical commissioners at £1200 per annum, two deputy commissioners at £600, and two unpaid legal commissioners. The duty of this board was to supervise the interests of 14,500 registered insane persons. Thus, in England three medical commissioners supervised 114,000 patients, whereas in Scotland four medical commissioners supervised 14,500. Putting it otherwise, in England there was one commissioner to 38,000 lunatics; in Scotland one commissioner to 3622; thus the supervising power in Scotland was ten times more than in England. He might be told that there was another supervising body in England—the Chancery Visitors in Lunacy. But they did not come into the equation in any way whatever. Their duties were confined to looking after the interests of wards in Chancery and had nothing to do with the discipline or management of lunatic asylums as a whole. They might be put out of count. With these figures they were forced to one of two conclusions: either that Scotland was ridiculously overmanned or that England was seriously undermanned. He was going to say scandalously undermanned, and, on the whole, he felt justified in using that expression. He hoped that he would be permitted to adduce the result of 40 years' experience to show that Scotland was in lunacy matters not overmanned, and he would adduce four reasons gained from personal experience to support his opinion. First as to the character of the supervision. In Scotland each lunatic resident in an asylum was visited twice in each year by a medical commissioner who performed his duty thoroughly. In England there was only one visitation except in private asylums. He was going to say leisurely were it not that that expression might lead to misconception; but the fact was that twice in each year in Scotland each patient had an opportunity of laying his case before the Commissioner who attended to it carefully and gave it real consideration. In the second place, he wished to adduce the fact that no action at law had for 40 years come before the Scottish courts either under the Lunacy Acts or under the common law. Thirdly, they never experienced lunacy scares in Scotland. They had no scandals and outbursts of popular feeling or adverse press comments. Fourthly, he was warranted in the assertion that there was as much public confidence in asylums and their administration in Scotland as there was in general infirmaries and hospitals, and that was saying a good deal. All the conditions engendered a feeling of confidence between the Board of Lunacy and the asylum authorities. Commissioners would act at once should occasion arise. They would take steps to abate any scandal, but in his long experience he had never known of any serious case demanding intervention. And further, there was a confidence established between the commissioners and the asylum authorities on the one hand and the public on the other. In all these circumstances they were able to work elastically under a much milder law than existed in England; and this in its turn worked beneficially for the insane, for, after all, he thought it would not be gainsaid that their benefit was, or should be, the first object of legislation. The lunatic was not made for the law but the law for the lunatic. Now, on the face of it, he thought it would be generally admitted that it was physically impossible for the same kind and quality of supervision to be carried out in England as in Scotland. Was it possible for a commissioner, however competent, distinguished, and hard-working, to overcome ten times the amount of work done by his brother across the Tweed and to get equally good results? It was curious and interesting to note the fact that this numerical inadequacy of the English Commission was getting worse and worse. He did not propose to go back into the history of the dark ages, say the eighteenth century when humanitarian feeling had not been aroused, as shown by the state of our prisons, by the condition of our madhouses, and by the cruel administration of the criminal law. Public feeling was aroused at the end of the century by the great Frenchman Pinel, and by a sturdy Quaker of York whose name he had the honour to bear although he could not prove any close relationship. Partly as a result of their action, in 1832 five physicians and two barristers were appointed as a sort of Commission and these numbers were increased in 1842 to seven physicians and four barristers. Still things did not work satisfactorily and on the suggestion of Lord Ashley, subsequently Earl of Shaftesbury, a Royal Commission was appointed on the recommendation of which the present Board of Commissioners in Lunacy was established in 1845. He was quite content to support his argument from that date. Under that Act the Commission was established exactly on the lines on which it existed at the present day. In 1842 there was reason to believe, although accurate statistics were not available, that the number of lunatics in England and Wales was 25 000. Accurate statistics were only arrived at in 1859, when 37 000 lunatics were on the register. In 1870 there were 54,000 and in 1903, 114,000. Thus, medical commissioners had to do four times the amount of work at the present day that they had to perform at the date of the establishment of the Commission. This stagnation must, he thought, appear extraordinary to the House, which he could not help thinking would be anxious to increase the number. Now he would be reminded, of course, that besides three medical commissioners there were three legal commissioners. He admitted to the full that legal commissioners were absolutely necessary on the Commission. They could not be dispensed with as representing the law and the public. In the board room their presence was of the utmost importance. But what was their chief duty? It was to visit asylums along with the medical commissioner. The legal commissioner and medical commissioner hunted in couples, the legal commissioner knowing nothing more of medicine or of lunacy or of asylum administration than Policeman X. What was the theory of this visitation? It was a remnant of old tradition, the idea being that during visits to an asylum some points of law might arise which could only be settled by the legal commissioner. He challenged the commission to adduce a single case within, let him say, the last 40 years, in which such an emergency had arisen. Any irregularity could be detected by the medical commissioner and be reported and considered in the board room. As a matter of fact, the legal commissioner only stood by. Patients were not presented individually but *en masse*. He wrote a report and, in fact, performed the work of a clerk. He had heard it suggested that the legal commissioner superintended the action of the medical commissioner, but this, he need hardly say, was a ridiculous assertion. The former was useless for inspection purposes, he was an anachronism, and reminded him of the old story of the new commandant at Potsdam, who, on going his rounds, found a sentry in a curiously out-of-the-way position. He asked what was the object of this sentry. No one could answer him till the files of the orderly room were looked out and it was found that some 50 years before a Royal [illegible] tree which she desired to be taken care of an [illegible] The Princess and the tree were both dead b[illegible] He (Sir John) was convinced of the uselessness of these officers by his Scottish experience. There the legal commissioners confined themselves to the board-room and the inspection was carried out by one visiting medical commissioner. He might be told that the inspection of a legal commissioner gave confidence to the public. He had no hesitation in saying that there was not one in 10,000, perhaps not in 100,000, of the public that knew of his existence. As he had said, the legal commissioner was an absolutely necessary component part of the Commission in the board room but he was utterly useless in respect of inspection. He would ask the House to consider whether the performance of such duties as he had stated demanded the existence of three officers costing £4500 per annum. Surely one or two standing counsel at £500 a year each, or, as in Scotland, without salary, would be sufficient, and he was assured that in Scotland there was no shirking of work, no perfunctory performance of duties of those unpaid officials. Now he believed, in fact he knew, that an office undermanned to the extent that this was must work in wooden fashion. It must work bureaucratically, using the term in its worst sense. There was no sympathy, no elasticity; and, moreover, it worked under a hard law, and notwithstanding the rigidity of law and administration it did not command the same public confidence as the Commission in Scotland. The first step to obtain public confidence was to establish thorough supervision. That could be done by breaking England and Wales up into some four or five different districts, with a resident commissioner or commissioners in each. He would not say that they had better commissioners in Scotland, although they had men of great distinction on the Board. The success of their Commission was not dependent merely on the relative numerical superiority but on the fact that Scotland was a small country, where practically everybody knew everybody. If England were broken up into four or five districts with resident commissioners in each, these commissioners would, by the mere force of propinquity, know the character of each institution under their jurisdiction and obtain information as to the extent of unregistered and illegal establishments. As an illustration of what might be, and was going on, in [illegible] ould adduce the case of a man with no [illegible] prosecuted early this year for maintai[illegible] He had continued doing this for 13 [illegible] had seven patients all of whom were in a most miserable condition. This was not a single case. This could not have occurred in Scotland or in any district with a limited area. We are all deploring for humanitarian and economic reasons the rapid increase of lunacy in Great Britain. The rate ran up by thousands a year and had more than doubled in 30 years. In England, in the decade ending 1903, the annual average increase had been 2414. Whilst admitting that causes other than that which he was about to adduce had been in action, the reason to which he was about to draw attention for the increase of lunacy was the main one. We were manufacturing chronic lunacy day [illegible] asylums and the fault did not lie at the door of the [illegible] institutions, than whom no more earnes[illegible] existed. This was inevitable under the pr[illegible] and his argument was that we could not hope for any relaxation in this respect until public confidence was established, and the first step in this direction was the one he [illegible] indicated. It was not his intention to deliver a lecture on the [illegible] diseases comprised under the generic t[illegible] point out that medical men were prec[illegible] adequately during the two critical [illegible] beginning and the end of each case. [illegible] and efficiently amongst the moneyed classes and it would not be difficult to prove that as a consequence in these classes there [illegible] symptom[illegible] had to wait till the case was so pronounced as to warrant [illegible] thus losing the most valuable time during which the disease was most readily amenable to treatment. If of every 100 cases presenting themselves they excluded 20 as incurable, as *opprobria medicinæ*, of the 80 left 60 per cent. were amenable to treatment and that without asylum treatment. Inspectors could only adduce a concrete case in support of this assertion. An institution for the treatment of incipient cases of insanity had been established by the Glasgow county council and he found by its report that between 1890 and 1903 70 per cent. of cases treated were discharged cured. A proportion of cases of acute alcoholism—in itself a ripe cause of insanity—had been treated, but over and above a large number of incipient cases of insanity were treated to a satisfactory conclusion without being sent to an asylum. The London County Council was of the same mind. So convinced was that body of the necessity of such treatment that it promoted a Bill, introduced in another place last year, for the establishment of houses for this class of patient. The County Council sought for powers exercised in Scotland and not in England. In Scotland they were prepared for the increase of such establishments in consequence of general confidence in the Lunacy Board, but he doubted whether they were in England. He would allude very shortly to the other stage of the disease. A patient sent to an asylum was placed under the best conditions for recovery, but on his being discharged recovered he was in many cases utterly neglected. No term of convalescence was allowed, no after-care was possible except such as was afforded by one association in London, and accordingly [illegible] the asylum's recovery-rate of, say, 40 per [illegible] reduced to something like 25. Until they [illegible] dementia in the way he had explained the number of lunatics must increase and no material change could be brought about until confidence was established. The first means to that end was an efficient Lunacy Commission. They would go on

a committee was established very material and important changes
would be recommende
certain reasons which
but he had one more.
come over the general
medical profession, an
The department of tl
disease had advanced along with the advance in general medicine. As regards insanity it was difficult to express what this change was tersely, but in semi-tecl

He was no enthusiast. He spoke with deliberation from very long experience and he knew that he would be supported by the great mass of his profession. He had no eloquence to depend on in ad-
van of facts and figures. Again
he consider carefully the posi-
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to
cul
respect of a disease which a
which if not arrested consigned
spoken under a deep sense of
private Member of the House
one in it was so intimately acqu
done as he had done he felt that he would have failed in his duty to the public.

Sir MICHAEL FOSTER followed, associating himself warmly with the efforts of Sir John Batty Tuke to obtain an improvement in the lunacy laws. He considered that the urgent necessity for a large increase of the Commissioners in Lunacy was beyond doubt. Whether there should be an increase in the number of head commissioners or in
a matter of detail but
medical commissioners.
y Laws were introduced
t the case of a person of
unsound mind was a hopeless one and their main purpose was to protect the lunatic from ill-treatment, to protect the public against the lunatic, and to prevent a sane man from being taken for a

not facilitate the application of science to lunacy especially in the early stages. Great changes were needed. Besides an increase in the number of commissioners there was one very great change needed and
of insanity in the early
not be brought adequately
of two medical men and

nervous system, and mere
g to the advertisement of
the present system. There should be some inquiry into the whole matter.

He considered that the
he thought that a Royal
form of inquiry than a
d in the House of Lords
arry out the beneficent
h allowed cases on the
ivate person and treated
there for six months, the period during which successful treatment was possible. It was very important that insanity should be considered as a disease and studied as such and that the wretched
of its members was a discredit
. There ought to be special
ecial pathological institutions,
ld be that there should be a
ne local authority. The local
cal officer to visit the lunatic,
n necessary he should be enabled
hat end. The number of com-

hat was wanted was a decrease in the number of legal commissioners and an increase of medical commissioners.

barbarous state of the law in the old days and there was less and less reluctance to allow patients to enter well-managed modern asylums. But if there was a real increase in the proportion of lunatics

strain and stress such as he had alluded to might send the mind over the precipice. He also contended that there was a very general and well-founded
administered.

of the six visits that

the medical commissioners
reat deal of good had been
The Bill to which he had
law in a way which would
be found to give facilities for preventing the development of this terrible malady and yet providing adequate securities against the machinery being abused for any purpose of oppression. In conclusion he assured the House that all points raised in debate would be properly

reference

o the importance of the Bill he could not give a pledge that it would be reintroduced this session or next.

Sir E. STRACHEY considered the attitude of the Government unsatisfactory and he moved to reduce the vote as a protest.

The amendment was defeated by 216 votes to 126.

FRIDAY, MAY 13TH.

Ether for Manufacturing Purposes.

Mr. GRAY asked the Chancellor of the Exchequer whether his attention had been drawn to the fact that ether from pure spirit should be used in the manufacture of certain articles required by the War Office, that this spirit was subject to a heavy duty and hence if the articles were to be manufactured at a reasonable price methylated ether must be substituted for the pure or the contract sent abroad where manufacturers obtained spirit duty free for manufacturing purposes, and whether in these circumstances he would consider the desirability of permitting the manufacture of such goods in bond under practicable conditions or of allowing the price paid by the War Office for the duty received by the Excise.—The CHANCELLOR of the EXCHEQUER replied: Section 8 of
the F es as the hon.
Memb be allowed the
benefit o the Board of
Inland

MONDAY, MAY 16TH.

Results from Vivisection.

Mr. WEIR asked the Home Se
scientific results had been deri
other animals during the past
think the honourable Member is
me to compress into the form of an answer to a question the scientific results of a year's experimental research. I would refer him to the periodical transactions of the learned societies, to various essays, and to other scattered publications, both past and future, for no doubt some of last year's results have not yet been published.

Disease on the Rand.

replied: I have not been informed of any report of a committee of mine medical men later than that of June 6th, 1903, which has been already published.

TUESDAY, MAY 17TH.

Miners' Phthisis.

Dr. HUTCHINSON asked the Secretary of State for the Colonies whether his attention had been drawn to the observations of Dr. Haldane at an inquest held on a Cornish miner at Bisson to the effect that rock drill was dangerous and should be done by use of the water jet, and, if so, whether he would take steps to make the use of the water jet compulsory in all metalliferous mines in the Transvaal.—Mr.

for the best practical suggestions and devices for dealing with the matter.

Nursing of Sick Poor.

Sir HARRY SAMUEL asked the President of the Local Government

Board whether the Local Government Board had decided to issue a general order consequent upon the recommendations contained in the report of the departmental committee upon the nursing of the sick poor in workhouses; if so, when such order would be issued and, before such issue, for what Parliamentary period would the order be laid upon the table of the House of Commons for its consideration.—Mr. LONG replied: This matter is receiving my attention with a view to the issue of an order as early as possible. It will not be necessary, however, that the order should be laid upon the table of the House prior to its issue.

WEDNESDAY, MAY 18TH.

Amendment of Lunacy Acts.

The ATTORNEY-GENERAL presented a Bill which was read a first time to amend the Lunacy Acts.—Dr. FARQUHARSON asked whether the Attorney-General would give some explanation.—The SPEAKER said that would be out of order.

BOOKS, ETC., RECEIVED.

APPLETON, SIDNEY, 25, Bedford-street, Covent-garden, W.C.

Clinical Lectures and Essays on Abdominal and Other Subjects. By H. D. Rolleston, M.A., M.D. Cantab., F.R.C.P., Physician, St. George's Hospital. Price 5s. net.

BUTTERWORTH AND CO., 12, Bell-yard, Temple Bar, W.C., and **SHAW AND SONS**, 7 and 8, Fetter-lane, E.C.

A Practical Guide for Sanitary Inspectors. Second edition. By Frank Charles Stockman, Associate of the Sanitary Institute; Lecturer to the National Health Society. With an introduction by Henry Kenwood, M.B., L.R.C.P., D.P.H., Professor of Public Health, University College, London. Price 5s. net.

CHURCHILL, J. AND A., 7, Great Marlborough-street, W.

Unconscious Therapeutics; or, The Personality of the Physician. By Alfred T. Schofield, M.D., M.R.C.S., &c., Hon Physician to Friedenheim Hospital, Author of "The Unconscious Mind," "The Force of Mind," &c. Price 5s. net.

A Manual of Midwifery. By Alfred Lewis Galabin, M.A., M.D. [illegible] 'ellow of Trinity College, London, [illegible] to Guy's Hospital, late President [illegible] London. Sixth edition. Price 14s. net.

F. A. DAVIS COMPANY, 1914–1916, Cherry-street, Philadelphia, Pa., U.S.A.

Manual of Materia Medica and Pharmacy. Specially designed for the Use of Practitioners and Medical, Pharmaceutical, Dental, and Veterinary Students. By E. Stanton Muir, Ph.G., V.M.D., Instructor in Comparative Materia Medica and Pharmacy in the University of Pennsylvania. Third edition, revised and enlarged. Price $2 00 net.

A Text-book of Physiology. By Isaac Ott, A.M.; M.D., Professor of Physiology in the Medico Chirurgical College of Philadelphia. Price not stated.

HEINEMANN, WILLIAM, 21, Bedford-street, W.C.

Olive Latham. By E. L. Voynich. *Price 6s.*

HIRSCHWALD, AUGUST, Unter den Linden, 68, Berlin, N.W.

Theorie und Praxis der Augenglaser. Von Dr. E. H. Oppenheimer Augenarzt in Berlin. Price M.5.

HOEPLI, ULRICO, Milan.

Commentarii di Clinica Medica desunti dalla Morfologia del Corpo Umano. Del Prof. Achille De-Giovanni, Direttore della Clinica Medica Generale della Regia Università di Padova. Parte Generale illustrata da Figure e Tavole. Seconda edizione aumentata. Price L.8.

KIMPTON, HENRY, 13, Furnival-street, Holborn, E.C.

A Text-book on the Practice of Medicine. Designed for the Use of Students. By James Magoffin French, M.D., Lecturer on the Theory and Practice of Medicine, Medical College of Ohio. Price 16s. net.

LEWIS, H. K., 136, Gower street, W.C.

The [illegible] and Westcott. Revised by [illegible] and W. Wynn Westcott, M.I [illegible] Price 9s. 6d. net.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, E.C.

Wounds in War: the Mechanism of their Production and their Treatment. By Surgeon General W. F. Stevenson, C B., A.M.S., B.A., M B., M.Ch. Dublin University. *Professor* of Military Surgery, Royal Army Medical College, London. Second edition. Price 15s. net.

RUDEVAL, F. R. DE, 4, Rue Antoine Dubois, Paris.

Précis des Maladies des Enfants. Par le Dr. L. Baumel, Professeur de Clinique des Maladies des Enfants à l'Université de Montpellier. Price Fr. 8.

SAUNDERS, W. B, AND COMPANY, 9, Henrietta street, Covent-garden, W.C.

Treatise on Diseases of the Skin. For the Use of Advanced Students and Practitioners. By Henry W. Stelwagon, M D., Ph.D., Clinical Professor of Dermatology in the Jefferson Medical College and Woman's Medical College, Philadelphia. Third edition. Price 25s. net.

Obstetrics for Nurses. By Joseph B. De Lee, M.D., *Professor* of Obstetrics, North-Western University Medical School. Price 12s. net.

Atlas and Epitome of Operative Gynecology. By Dr. Oskar Schaeffer, Privat-docent of Obstetrics and Gynecology in the University of Heidelberg. Authorised translation from the German with editorial notes and additions. Edited by J. Clarence Webster, M.D. Edin., F.R.C.P.E., F.R.S.E., Professor of Obstetrics and Gynæcology in Rush Medical College, in affiliation with the University of Chicago. Price 13s. net.

Tuberculosis and Acute General Miliary Tuberculosis. By Prof. Dr. G. Cornet of Berlin. Edited, with additions, by Walter B. James, M.D., Professor of the Practice of Medicine in the College of Physicians and Surgeons (Columbia University), New York. Authorised translation from the German, under the editorial supervision of Alfred Stengel, M.D. Price 21s. net.

SCIENTIFIC PRESS, LIMITED, 28 and 29, Southampton-street, Strand, W.C.

A Complete Handbook of Midwifery for Midwives and Nurses. By J. K. Watson, M D. Edin. Price 6s. net.

What We Owe to Experiments on Animals. By Stephen Paget. Price 1s 6d. net.

The Case Against Anti-Vivisection. By Stephen Paget. Price 2s. net.

STEINHEIL, G., 2, Rue Casimir-Delavigne, Paris.

Les Tumeurs Malignes Primitives de l'Intestin Grêle (Jéjuno-Iléon). Par le Dr. P. Lecène, Interne Lauréat des Hôpitaux de Paris, Prix Civiale (1903), Médaille d'Or (1904), Prosecteur à la Faculté. Price not stated.

STUBER, A. (C. KABITZSCH), Würzburg.

Beitrage zur Klinik der Tuberkulose. Herausgegeben von Dr. Ludolph Brauer, a. o. Professor an der Universitat Heidelberg. Band II. Heft 3. Einzelpreis, M.2.50.

SWAN SONNENSCHEIN AND CO, LIMITED, Paternoster square, E C.

The Oxford and Cambridge Year-book. Part I., Oxford. Edited by A W. Holland, sometime Scholar of St. John's College, Oxford. Price 3s. 6d. net.

THOM, ALEXANDER AND CO., LIMITED, 87, 88, and 89, Abbey street, Dublin; and **LONGMANS, GREEN, AND CO.**, 39, Paternoster-row, London, E.C.

The Royal University of Ireland. The Calendar for the year 1904. Price not stated.

VOGEL, F. C. W., Leipsig.

Vorlesungen uber den Bau der Nervösen Zentralorgane des Menschen und der Tiere. Für Aerzte und Studierende. Von Prof. Dr [illegible] ktor des Dr. Senckenbergischen [illegible] Frankfurt am Main. Erster Ba[illegible] des Menschen und der Saugetiere. Siebente, umgearbeitete und vermehrte Auflage. Price M.12.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BENNETT, WILLIAM FREDERICK COCKAYNE, L.R.C.P, L R.C S. Edin., L.F.P.S. Glasg., L.S.A., has been appointed District Medical Officer of Sheffield Union and Public Vaccinator.

BRYDON, JAMES, M.D Edin., has been appointed Police Surgeon to the Borough of Hawick.

CARLYON, FREDERICK HAROLD, M.D., C.M. Edin. (formerly of Truro, Cornwall), has been appointed Medical Officer to the South Africa Constabulary at Johannesburg.

CLARKE, J. JACKSON, M.B. Lond., F.R.C.S., has been appointed Surgeon to the City Orthopædic Hospital.

COWBURN, A. D., M.R.C.S., L.R.C.P. Lond., Barrister, has be appointed Medical Officer of Health to the Honourable Societ of the Inner and Middle Temples.

HAYES, J. R., M.D., M.Ch. R.U.I., has been appointed Medical Officer the County Kerry Fever Hospital.

HILL, PHILIP E., M.R.C S., L.S A., has been appointed Medical Offic to the Post Office, Crickhowell.

HODGE, G, M.B., C.M. Glasg., has been appointed Assistant Physicia to the Dumfries and Galloway Royal Infirmary.

HUGHES, HUGH LEWIS, L.R.C.P. & S. Edin., L.F.P.S. Glasg, has bee appointed Medical Officer to the Post Office, Dowlais.

JOHNSTON, J., M.D. Edin., L.S.A., has been appointed Medical Offic to the Casual Wards, Bolton Union.

MCKELLAR, GEORGE, M.D Edin., has been appointed Medical Offic of the Borough of Hawick.

MOODIE, D., L.R.C.P., L.R.C S. Edin., L F.P.S. Glasg, has bee appointed Certifying Surgeon under the Factory Act for the Cosh District of the county of Durham.

ORR, ROBERT, M.B., Ch.B. Glasg., has been appointed Certifyi Surgeon under the Factory Act for the Ceres District of t county of Fife.

PARSONS, J. HERBERT, B.S., D.Sc., F R.C.S., has been appoint Assistant Ophthalmic Surgeon to University College Hospital

SCHOFIELD, F W, M.B, Ch.B. Vict., has been appointed Ho Surgeon to the Royal Infirmary, Bradford.

SEVILLE, C. F., M.R.C.S., L.S.A., has been appointed Certifyi Surgeon under the Factory Act for the Rothwell District of t county of York.

SNELL, E. H. M.D. Lond., D.P.H., has been appointed Honora Sanitary Officer to the Coventry and Warwickshire Hospital.

WILLIAMS, CHISHOLM, F.R.C.S. Edin., has been appointed Surgeon the City Orthopædic Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERDEEN

BRADFORD narried.

Salary

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn road, W C.—House Surgeon. Salary at rate of £50 per annum, with board

use Surgeon. Salary

PENSARY FOR WOMEN, nonths. Honorarium

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark.—House Surgeon. Salary £80, with board, residence, and washing. *Also Surgeon to* Out patients

GREENOCK INFIRMARY.—Assistant House Surgeon. Salary £40 per annum, with board and residence.

HASTINGS, ST. LEONARDS, AND EAST SUSSEX HOSPITAL, Hastings.—Physician,

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NORTH-WEST

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Medical

washing and attendance.

RADCLIFFE INFIRMARY, Oxford —Honorary Assistant Surgeon and Surgical Registrar.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Salary £80 per annum.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William street, West Strand, W.C.—House Surgeon for six months. Honorarium

WEST SUFFOLK GENERAL HOSPITAL, Bury St. Edmunds.—House Surgeon, unmarried. Salary £100 per annum, with board and lodging.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £120 a year, with board, lodging, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

I, the wife of

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of Lieutenant-

r.

ooke, Weedon,

waite, M.R C S, L R C P. Lond., of a son.

MARRIAGE.

MASINA—PARAKH.—On April 16th, at Bombay, India, Hormasji Manekji Masina, F.R C.S, to Jerbai Burjorjee Ratanji Parakh, B.A.

DEATH

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

"DR." W. S. RICE.

A CORRESPONDENT has forwarded to us a selection of literature emanating from the quack who calls himself "Dr." W. S Rice and who lives at Stonecutter street, London; Adams, N.Y., U S A.; Boston, Mass., U S A, and Toronto, Ont, Canada. Rice of course promises cures in all forms of rupture and at any age, from infancy to men past 90 A personal examination is not necessary but cash must be sent with all orders unless "goods are to be shipped by Express C O D" Like all others of his kidney, he incloses testimonials purporting to come from persons who have been cured by his treatment and he also sends a booklet called "The Man Who Wondered Why." In this work he sets forth his views on the causation of hernia and on its cure by means of his "Lymphol" and truss and here they are. A rupture, it appears, is caused by the weight of the abdominal contents crowding through a break in the abdominal muscles. Supposing that the rupture is put back lymphol must be rubbed on. It penetrates the pores, stimulates the lymphatics calls them into action, and the stimulation of the lymphatics starts an increased secretion of lymph directly upon the calloused ring of the ruptured opening and fills it up with new flesh. In another pamphlet, "How to Cure Rupture," Rice says that lymphol will soften and lubricate the parts involved so that the rupture is safely, easily, and painlessly returned into the abdominal cavity. Rice, of course, is a pernicious quack, but just as the receiver sins equally with thief so are the proprietors of magazines and newspapers who insert Rice's advertisements, and those of the Pointings, McLaughlins, and their congeners, as much to blame morally as the quacks themselves. The quacks lie to the public for gain, the careless newspaper owners afford the quack the opportunities for lying and are paid for the facilities that they offer.

A QUESTION OF FEES

To the Editors of THE LANCET.

SIRS,—I should be glad to know whether magistrates have discretion as to the payment of a medical witness? The circumstances that give rise to the question are, briefly, these. A man with cardiac disease in the workhouse infirmary got upset and took his discharge against my advice When he appeared before the master the master demanded *24 hours' notice. He therefore presently fell into the hands of the* labour master who gave him work to do without first referring to me. After a little the man refused to do any more and became insolent and the labour master promptly had him arrested. The magistrates who saw him at once adjourned the case that I might appear. I did so and gave evidence as above and stated that in my opinion the man was

answer,

I am, Sirs, yours faithfully,

May 15th, 1904. E. C. T.

amounts.—ED. L.

A WORM IN THE EYE

The *St Petersburger Medicinische Wochenschrift* quotes what it calls a unique case reported by Dr Jewoski to the Yurjev Society of Naturalists He said that in February last a boy aged five and a half years was taken to him, who had suffered with eye trouble since September last, but only lately with pain and serious disturbance of vision. An examination revealed the presence of a bluish grey worm in the fore part of the eye just behind the cornea. It was about seven millimetres long and on its removal by an operation the lad's sight was rapidly recovered. Dr von Kennel, professor of zoology, to whom the worm was handed for more particular examination, reported it to be 7 4 millimetres long one millimetre in diameter, almost quite transparent, and in ten segments.

A CRYPTIC ASPECT OF THE CRY OF PAIN.

To the Editors of THE LANCET.

SIRS,—Your annotation (THE LANCET, April 23rd, p 1142) to my inquiry under the above heading should amply demonstrate to those who have good opportunities of observation that there still remains an unexplored work in a most interesting field of inquiry And the survey you make of the cry of pain in its natural habitat among other "expressions of emotion" together with your admission of failure to find any explanation bearing directly upon the point raised, will yet, I hope, bear good psychological fruit in inducing some readers to probe amongst the by-ways of their experience in connexion with suffering for some direct evidences of the effect produced in a sufferer's own psychical life by the auditory impression of his own cry of pain.

The candour of your admission with regard to published observations on this point has a special value for a psychological worker who has come upon a difficult and out-of-the-way aspect of a phenomenon which is in itself so common as the cry of pain. There is in such a subject the danger of struggling and straining in far-off places after evidences which may be as familiar as the light of day to the regular worker in the vicinity of extreme suffering. But this candour is in strict harmony with the spirit in which Darwin himself drew his conclusions in the "expression of the emotions" to which you make reference. Darwin evidently fully appreciated the difficulties of his subject and, far from dogmatising, he scrupulously cleared the ground for other workers. Take, for example, his emphatic warnings against looking at the expression of the emotions from an exclusively communicative standpoint; his insistence that, "on the contrary, every true or inherited movement of expression seems to have had some natural and independent origin. But when once acquired such movements may be voluntarily or consciously employed as a means of communication" (p. 356). Now, of course, the communicative values of the cry of pain may be left entirely unchallenged by the observer who notes the psychical value of the cry by way of the auditory impression made on the sufferer, nor, as far as I can see, need we controvert any view that may be held as to the importance to the sufferer of the sense of muscular effort in producing the cry. It is solely a question of fact.

Direct observation may prove difficult and results not very encouraging. The mere cry of pain can only at best produce an elementary sensation, a sensation which, at all events, has no power of competing with the psychical riches of the simplest articulate syllable of human speech. But *notwithstanding this psychical poverty in comparison* to other uttered sounds I appeal that the cry of pain should be observed and studied in the aspect suggested.

May I, Sirs, make one indication of a line of observation? A sufferer is sinking to a state of mental inertia. He utters a cry, a groan. *This cry or groan is a stimulus; it exerts some influence on* the sufferer's psychical life by way of his hearing. This is entirely beyond question. What remains to be done is to observe and to record this influence as closely as possible. Use the best means at the disposal of modern psychological observation to ascertain the full measure of this influence. *Does the sufferer's cry tend to arrest even for* a moment the oncoming of psychical inertia? Then record the fact and let it stand among the data of science. Cries of pain usher the human consciousness out of the psychical inertia of birth, then, so to speak, leave it for a while, but come again to usher it into the psychical inertia of death. Therefore I again appeal to workers in the vicinity of physical and mental suffering to observe this cryptic aspect of the cry of pain and I am of opinion that they may thus lend a hand in a most important psychological revelation.

I am, Sirs, yours faithfully,

London, May 11th, 1904. PSYCHOLOGUS.

HOLMAN TESTIMONIAL FUND.

THE following further list of contributions has been forwarded to us by the honorary treasurer of this fund, Dr. John H. Galton, Chunam, Sylvan-road, Norwood, S.E., by whom or by the secretary, Mr. W. A. Berridge, Oakfield, Redhill, Surrey, subscriptions will be received:—

	£	*s.*	*d.*		£	*s.*	*d.*
Dr. C. Gibson	1	1	0	Dr. R. B. Wrighton	1	1	0
Mr. T. J. Watts	1	1	0	Mr. George Roe Carter ...	1	1	0
Mr. W. Wallis	0	10	6	Mr. Giles Lockwood L. Hawken	2	2	0
Mr. P. Purnell	1	1	0	Mr. F. Boxall	1	1	0
Dr. Thomas Bridgwater	3	3	0	Sir George H. Philipson...	1	1	0
Dr. J. Ward Cousins ...	1	0	0				

AN ABNORMAL FŒTUS.

Mr. Edward H. Greaves, M.R.C.S. Eng., L.R.C.P. Lond., describes in the *Guy's Hospital Gazette* of May 7th a fœtus having the following measurements. total length, 23¾ inches; circumference of neck, 10 inches; circumference round shoulder, 20 inches; circumference round chest, 16½ inches; and circumference round pelvis at crest, 15½ inches. The fœtus weighed 30 pounds 4 ounces. The patient, a cowman's wife, three years ago gave birth to a child weighing 18 pounds. ' The labour was difficult but natural and not unusually long," says the narrator; "no instruments used or chloroform given and no injury to maternal parts." The child died during delivery. The mother believes herself to have been pregnant exactly 11 months.

THE SCOTCH OATH.

To the Editors of THE LANCET.

SIRS,—The Morecambe coroner is reported to have asked dozens of doctors why they hold their hands up to take the oath—Scotch custom —and they could not tell him. The answer is found in Genesis, chapter 14, verse 22, and sequel.

I am, Sirs, yours faithfully,

JAMES T. T. RAMSAY, L.R.C.P., L.R.C.S. Edin., &c.

Blackburn, May 16th, 1904.

FIRE-WALKING IN THE FIJI ISLANDS.

AT a meeting of the Anthropological Institute held on Feb 23rd the Hon. W. L. Allardyce, C.M.G., delivered an address the subject of which was the Fijians in Peace and War. An abstract of it published in the May number of *Man* gives some details relative to the practice of fire-walking which is performed only on the island of Beqa and by the members of a particular tribe. After a brief notice of the legend which describes how a certain family became possessed in perpetuity of the privilege of immunit[illegible]rom fire, Mr. Allardyce goes on to remark:—

> "The ceremony which is supposed to commemorate this event is conducted as follows: A circular pit is dug, three feet deep and 30 feet across; this is filled with alternate layers of timber and stones. The pile is kindled and burns for about 12 hours when the embers are removed by means of non-combustible vines and the red hot stones are levelled by means of levers made from similar materials. The 12 or 14 members of the privileged tribe come forward and walk round through the oven on the stones. The heat of the latter is considerable. A handkerchief laid on one of the stones was charred and a thermometer suspended over the centre of the oven registered 280 deg. Fahr., when the solder melted. Mr. Allardyce examined the feet of the performers both before and after the ceremony and was convinced that no preparation of any kind was rubbed on them. No signs of burning were discovered, and even the hair on the leg was not singed. The length of time occupied by this part of the ceremony is not more than a minute; the performers walk quite slowly. After this leaves and masawe are thrown on the stones and the latter baked and eaten.
>
> "As a partial explanation of this apparent immunity from fire the lecturer mentioned the fact that the village faces north-west and is consequently sheltered from the prevailing wind (the S E. trade), while it is exposed to the full heat of the sun. The natives are accustomed to walk about barefoot on the rocks when the latter are at such a temperature that an European cannot keep his hand on them, and in this way the soles of the feet become hardened. Doubtless the intense faith of the performers also contributes to their security."

To the foregoing account the editor of *Man* appends the following note:—"As an instance of the amount of heat which the foot, even of an European, will stand, I may mention that I have seen a cadet in the merchant service, who had been accustomed to walk about the deck bare-foot, hold a lighted wax match under his heel with the flame licking the skin until burnt out. He assured me that he felt no inconvenience from the heat and certainly no signs of burning appeared on the skin."

A NEW SPARKLET SYPHON.

AERATORS LIMITED, of Broad street Avenue, E.C., point out with reference to a notice of this syphon in our issue of May 7th that when traces of iron occur in the aerated water they are not derived from the spout but arise from leaving the steel bulb in position after emptying the syphon.

◆

J. A. H. F. will find in THE LANCET of Oct. 14th, 1899, p. 1055, the information he or she desires.

Mr. J. Warburton will find complete information in THE LANCET for the years 1871 and 1872.

G. P. writes:—Can any readers advise me what books I should read for the F.R.C.S. Edin.?

Mrs. Ll.—We do not give medical advice or recommend medical treatment.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden square (9.30 A.M.), Soho square (2 P.M.), Chelsea (2 P.M.).

WEDNESDAY (25th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (26th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), St. Mark's Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Throat, Golden-square (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), (9.30 A.M.), Guy's (1.30 P.M.).

FRI

(2 P.M.)

SATURDAY (28th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES

SOCIETY OF GREAT BRITAIN).—4.30 P.M. Annual Meeting A. G. Brooke: The Clinical

DY OF DISEASE IN CHILDREN e, W.).—5.30 P.M. Cases will be shown by Dr. E Cautley, Mr F. Jaffrey, Mr W. Edmunds, Mr. H Tod, Dr W. Emery, Mr. H. Balme, Mr. A. D. Reid, and Mr. T. Walker. Papers.—Mr. W. W. Cheyne, Dr R. H. W. Welbe, and

of Aneurysm, Death from r. C. R. Keyser: Case of Con-

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

TUESDAY (24th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. S. Taylor: Clinique.

atic Asylum, ty. ien.)—3 30 P.M.

Hammersmith-

gical Theatre). Tracts of the

HOSPITAL

Tl

Course.)

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4 30 P.M. Dr. A. J. Whiting: Affections of the Cranial Nerves.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond street, W.C.)—4 P.M. Dr. Poynton: On the Use of Citrate of Soda in Infant Feeding.

FRIDAY 27th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.)—4 P.M. Dr. L. Lack: Clinique (Throat.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Paget: Surgical Cases.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square Bloomsbury, W.C.).—3 30 P.M. Dr. Batten.

SATURDAY (28th).—ST. PETER'S HOSPITAL (Henrietta street, Covent Garden).—2 30 P.M. Mr. J. W. T. Walker: Diagnosis in Urinary Disease.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

Will Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them! Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

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SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 19th, 1904.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp	Wet Bulb	Dry Bulb.	Remarks at 8.30 A.M.
May 13	30·23	S.W.	...	102	67	52	54	56	Overcast
" 14	30 00	S.W.	...	122	73	56	58	62	Cloudy
" 15	30 03	S.W.	...	120	70	47	53	59	Fine
" 16	30 05	S E.	...	121	73	49	55	61	Fine
" 17	29 76	W.	...	116	63	58	65	59	Cloudy
" 18	29 96	W.	...	121	64	49	49	55	Fine
" 19	30 10	N.W.	...	116	60	46	46	53	Cloudy

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The Lumleian Lectures
ON
SOME DISORDERS OF THE SPLEEN.

Delivered before the Royal College of Physicians of London on March 17th, 22nd, and 24th,

BY FREDERICK TAYLOR, M.D., F.R.C.P. LOND.,
SENIOR PHYSICIAN TO, AND LECTURER ON MEDICINE AT, GUY'S HOSPITAL.

LECTURE I.
Delivered on March 17th.

MR. PRESIDENT AND GENTLEMEN,—Since receiving and assenting to the request that I would deliver the Lumleian lectures this year I have experienced to the full the emotions which I gather other lecturers have on similar occasions sometimes gone through—a lively sense of the honour which you, Sir, have done me in asking me to deliver the lectures; a feeling of despair as to the choice of a subject which would be worthy of the occasion and of sufficient interest to serve for these lectures; the certainty that I should never be able adequately to deal with it; a determination to do my utmost to bring the matter to a successful conclusion; and, finally, the firm conviction that in that attempt I have largely failed. Still, in this last conviction I do not wish to be too hasty or to regard it as too deep-rooted and I shall be only too glad if your verdict on my efforts is somewhat more favourable than my own.

I have chosen for my subject Some Disorders of the Spleen, partly because I was under the impression that the disturbances of this organ were not too widely known and partly from the knowledge that a great deal of importance and interest has in recent years been ascertained. A subject of this kind—that is, the diseases of one of the organs of the body—can be treated in several ways or from several points of view—namely, the historical, clinical, coarsely anatomical, histological, and experimental. It will be at once seen that in the course of three lectures it will be impossible adequately to deal with the whole of such a subject and that either the extent must be curtailed or the lines of inquiry must be limited. I may say at once that I have attempted to deal with the subject from the clinical and coarsely anatomical standpoints so far as the material which I am able to bring forward is concerned, depending upon others for information as to the histology of the organ. Indeed, I can only regard this as a contribution to a subject which is yearly becoming ever larger and larger.

In order to get some idea of the frequency of the various lesions of the spleen I have had search made of the post-mortem records of Guy's Hospital during a period of ten years—namely, from 1892 to 1901—and I must here express my indebtedness to Dr. David Forsyth for the valuable assistance he has given me. They present a large variety, not perhaps a greater variety than might be found in any other organ, but a larger variety, I think, than is present to our minds generally when we are dealing clinically with our cases. In the ten years there were 4762 post-mortem examinations actually recorded and with but few exceptions the condition of the spleen has been noted. In an organ so variable in size and consistency as the spleen it is difficult to determine what deviations from the average shall be considered abnormal. But, including extremes of size and marked conditions of softness and hardness, there are more than 1800 cases in which the condition of the spleen might attract some attention. It will, however, serve no purpose to specify or to enumerate all the conditions of hardness or softness even amongst these, but it will be enough to deal with certain more pronounced conditions of disease. The pathological conditions of importance are those of inflammation, degeneration, growth, vascular obstruction and infarct, injury, and deformity, with which we are familar in other organs and the chief point of interest is to note the frequency with which certain lesions occur. The most frequent conditions to be noted are capsulitis, various kinds of positive enlargement, tubercle, and infarcts. And I propose to say a few words of some of these.

CAPSULITIS OR PERISPLENITIS.

One of the most frequent lesions of the spleen is inflammation or thickening of its capsule. Of the cases of capsulitis, or thickening of the capsule, 83 are reported as acute and 368 as chronic; a total of 451, or nearly 10 per cent. of all the cases examined post mortem. The condition probably has little clinical importance and the variety of conditions associated with it is so great that not very much information can be drawn from it at present as to its causation. This variety includes the diseases of the heart, lungs, and abdominal organs and, indeed, almost every kind of infectious disease. One sees apparently the explanation in any condition of local inflammation of vascular disturbance, such as a general peritoneal or abdominal lesion, in obstruction to its circulation and hence congestion, in heart disease, and in cirrhosis, and in a similar condition of affairs brought out, as we know it must be, by the infectious fevers. Hence in acute capsulitis, of which there are 83 cases, the following conditions are found (Table I.):—

TABLE I.—*Acute Capsulitis.*

Infectious diseases—		
Tuberculosis and phthisis	24	50
Typhoid fever	6	
Pyæmia	5	
Ulcerative endocarditis	4	
Pneumonia	3	
Broncho-pneumonia	3	
Pleurisy	2	
Suppurative meningitis	1	
Diphtheria	1	
Syphilis	1	
Heart disease		8
Cirrhosis of the liver		4
Renal disease		7
Cancer of the abdomen or the pelvis		5
Unclassified		9
Total		83

Among cases of chronic capsulitis, giving them in the same order, we have as under (Table II.):—

TABLE II.—*Chronic Capsulitis.*

Infectious diseases—		
Phthisis	26	94
General tuberculosis	24	
Tuberculous peritonitis	7	
Pneumonia	7	
Syphilis	7	
Malignant endocarditis	7	
Typhoid fever	4	
Broncho pneumonia	3	
Empyema	3	
Tetanus	2	
Diphtheria	2	
Malaria	2	
Heart disease		49
Cirrhosis of the liver		25
Renal disease		35
Cancers, chiefly abdominal		40
Chronic peritonitis, perihepatitis, and gall stones		16
Atheroma and aneurysm		17
Unclassified		92
Total		368

Contrasting the acute with the chronic, it is interesting to see some differences of conditions determining the event. Amongst the chronic there is a much larger group of unclassified causation—that is, of conditions the connexions of which with the capsulitis it is impossible to see or the frequency of occurrence of which is too little to enable one to draw inferences therefrom. Obviously also, while in the fatal illness the probable cause of acute capsulitis is before one, in chronic capsulitis the event may have taken place long ago and the fatal illness may really have nothing to do with it (Table III.).

ENLARGEMENT OF THE SPLEEN.

The next notable change is enlargement of the organ, which may arise from a number of causes. These may be roughly classified under (1) infections; (2) inflammations;

TABLE III.—*Relative Frequency of Causes of Acute and Chronic Capsulitis.*

—	Acute.	Chronic.
	Per cent.	Per cent.
Infectious	60·4	25·5
Heart disease	9·6	13·3
Cirrhosis	4·8	6·8
Renal	8·4	9·5
Cancers	6·0	10·8
Others	10·8	34·1*
Totals	100·0	100·0

* Includes 16, 17, and 92 in Table II.

(3) infarction; (4) passive congestion; (5) lardaceous disease; and (6) tumours, cysts, &c. The clinical aspect is inadequate—that is to say, I have only the records of five years' clinical cases and in them the number of large spleens found is but small. The figures, then, have this value only, that they show the relative proportions in which the organ is involved in different complaints as observed clinically. The figures I have are the following (Table IV.).

TABLE IV.—*Conditions associated with Enlarged Spleen.*

—	Enlarged spleens.	Per cent.
Typhoid fever	36	15·6
Leukæmia	25	10·8
Cirrhosis of liver	24	10·4
Lymphadenoma	17	7·3
Ulcerative endocarditis	15	6·5
Syphilis	11	4·8
Malaria	10	4·3
Mitral disease	9	4·0
Tuberculous disease	8	3·3
Pneumonia	7	3·0
Bronchitis	7	3·0
Splenic anæmia	7	3·0
Gall-stones	5	2·2
Anæmia	3	1·3
Various others...	48	20·5
Total	232	100·00

Among these others at the bottom of the list are cases of rheumatism, dysentery, acute nephritis, gastric ulcer, sarcoma of the lung, bronchiectasis, appendicitis, chronic peritonitis, carcinoma of the uterus, and perihepatitis. The list is not large enough to give information in more detail and all one can see in it when one has taken out the disorders sometimes regarded as primary diseases of the spleen—viz., leukæmia, lymphadenoma, and splenic anæmia—is the powerful influence of enteric fever, cirrhosis, and ulcerative endocarditis, and the somewhat less marked influence, or less frequent influence, of syphilis, malaria, and heart disease, represented especially by the mitral form. The records of post-mortem examinations give not much more precise information as to the size of the spleen in various cases, but of course the observations are limited to fatal cases and the proportionate frequency of actual occurrence cannot be expected to appear. Out of the total number of post-mortem examinations in ten years there were 379 cases of spleens of ten ounces in weight and upwards. They have been divided into several groups and may be tabulated as follows, but they do not include the special disorders already referred to—viz., leukæmia, lymphadenoma, and splenic anæmia.

On Table V. the following remarks may be made. Taking the spleens above 30 ounces in weight the largest spleen occurred in a case of cirrhosis and weighed 87½ ounces. The next two weighed 80 and 79 ounces in malaria and another malarial spleen was 53 ounces. The infective endocarditis spleens weighed 43, 35, and 30 ounces. The two typhoid fever spleens were 32 and 31 ounces. One large spleen weighing 72 ounces was associated with stricture and acute prostatitis; another of 63 ounces with gall-stones. The other great enlargements were in syphilis, cancer of the rectum, acute nephritis, atheroma, pneumonia, and in a case of rupture. In the spleens weighing from 20 to 30 ounces cirrhosis again stands at the head of the list with three of 28 ounces and one of 26 ounces, and another six weighed 21 or 22 ounces. Infective endocarditis has five spleens of from 26 to 28 ounces, typhoid fever two of 26 and 27 ounces, and in the two malaria cases it weighed 25 and 27 ounces. The other less well represented conditions are the same as in the preceding group, with the addition of phthisis (not lardaceous) three times, obesity, pyæmia, spinal abscess, and multiple thromboses. The examination of Table V. shows that among the very large spleens only a few causes are strongly represented—namely, cirrhosis of the liver, malaria, typhoid fever, and ulcerative endocarditis. In the middle-sized spleens these still hold an important place (except malaria), but others come to the front—namely, heart disease, tuberculous disease, and phthisis (apart from the production of lardaceous disease), and to a certain extent sarcoma and carcinoma of various organs. In the smallest sizes of large spleens the causes are much more evenly distributed. The four causes of great enlargement are no more strongly represented than are the three causative conditions last mentioned and the number of cases, in which the cause of death is not one of these and perhaps shows no apparent relation to the spleen is increasingly numerous. Of 129 cases not analysed in the preceding table a few disorders take a prominent part, although they are not so frequently represented as the others already selected. They are: pneumonia, with 11 cases; acute, chronic, tubal, and mixed nephritis, eight cases; atheroma, nine cases; granular kidney, 14 cases; and pyæmia, five cases. In a case of general pneumococcal infection the spleen weighed 12 ounces. Of these 129 cases nearly half—i e, 63—are definitely or presumably of an infective or microbic nature. This does not include the chronic and mixed nephritis. If these be added, as well as some surgical cases which may possibly have been septic (hernia, fracture, gall-stones, and thrombosis), there are then 78 cases out of 129, or nearly two-thirds, which are of this nature.

TABLE V.—*Showing common causes of Spleens weighing Ten Ounces or more.*

No. of cases.	Weight of spleen.	Cirrhosis.	Infective endocarditis.	Malaria.	Typhoid fever.	Heart disease.	Tuberculosis.	Cancer.	Other causes.
22	30 ounces and upwards.	6	3	3	2	—	—	1	7
42	20–29 oz.	11	8	2	5	1	4	1	10
76	15–19 oz.	8	16	0	5	6	10	11	20
26	14 oz.	4	3	0	2	5	3	1	8
27	13 oz.	1	4	0	3	4	3	1	11
53	12 oz.	3	9	0	9	6	6	4	16
60	11 oz.	7	3	0	8	7	7	5	23
73	10 oz.	2	6	0	3	6	9	13	34
379	—	42	52	5	37	35	42	37	129

ATROPHY OF THE SPLEEN.

Before proceeding to speak further of the enlargements of the spleen which form such a common feature in its pathology I may say a word of the converse condition—atrophy—and of the growth in it of tumours. Of the spleens examined 80 weighed under three ounces (1·7 per cent.). Of these, 39, or nearly half, weighed over two ounces; another 27 weighed two ounces; leaving 14 under two ounces. This matter is quickly disposed of, as a very large proportion were in cases of cancer, of epithelioma, and of sarcoma. The first involved always the abdominal organs and showed 13 cases; the second, the alimentary and genito-urinary tracts, and showed 14 cases; while sarcoma was more widespread, with four cases, making a total of 31. Of the remainder there were ovarian cysts, two cases; herniotomy, six cases; fracture, six cases; granular kidney, three cases;

septicæmia, two cases; and burns, two cases; making a total of 21 Among the 80 cases of small spleens five occurred in quite old people of the ages respectively of 70, 72, 76, 78, and 80 years. The large proportion of new growths, amounting to three-eighths of the whole, is interesting. But it must be remembered that cancer and epithelioma of internal organs are also strongly represented among the enlarged spleens. There were, however, only 37 cases among 379 altogether—that is, 9·8 per cent., against 31 out of 80 small spleens, or 38 75 per cent. New growths, then, appear to operate against the enlargement of the spleen; and incidentally it may be remarked that this does not at first sight support the view of the infectious nature of these new growths. Or, to put it more guardedly, if subsequent investigation should show corresponding figures, the failure of the spleen to be enlarged would require special explanation on the theory of the infectious nature of cancerous new growths. These relations of the spleen are in accordance with the observations of physiologists upon the proportionate diminution of organs and tissues during inanition. In Voit's observations the spleen came next to adipose tissue in its percentage loss. In a cat killed after 13 days' deprivation of food adipose tissue lost 97 per cent., the spleen 67 per cent., and the liver 54 per cent. of the fresh organs. In 100 parts of dry tissues the spleen lost 63 per cent. and the liver 57 per cent. Researches by Tominaga on the amount of nitrogen loss during a prolonged starvation period in rats and rabbits showed the spleen at the head of the list, losing 98·48 per cent. in the rat and 67·06 in rabbits; but these results appear to want confirmation.

NEW GROWTHS IN THE SPLEEN.

Another point that I may pass quickly by is the occurrence of new growths in the spleen. This is comparatively rare; and if we exclude tubercles and the lymphoid masses occurring in Hodgkin's disease the cases of tumour or growth in the course of ten years probably amount to less than 1 per cent These include cretaceous and fibrous nodules and occasional gumma or hydatid cyst. Even cancer is rare and rare out of all proportion to its occurrence in the liver or kidney. In 677 cases of carcinoma, epithelioma, and sarcoma the spleen was affected only 23 times and the accompanying table (Table VI.) shows the site of the primary growth.

TABLE VI.—*Primary Lesion in 23 Cases of Malignant Disease of the Spleen.*

Carcinoma of the stomach	8	cases.
„ „ gall bladder	3	„
„ „ mamma	2	„
„ „ colon...	1	„
„ „ sigmoid flexure	1	„
„ „ omentum	1	„
„ „ peritoneum	3	„
Epithelioma of the œsophagus...	1	„
Cancer of the ovary and rectum	1	„
Proliferating ovarian cyst	1	„
Sarcoma of the omentum	2	„
„ „ stomach	1	„
Total	23	

The remarkable prominence of the abdominal organs as the source of the cancer is perhaps what one would expect, seeing on the one hand its frequent origin in the epithelial structures there existing and on the other the great difficulties in the surgical treatment of cancer in this part. But it is also partly explained by the following considerations. Only seven times was it a case of true metastasis as far as the spleen was concerned. In the majority of cases, 16, the spleen was invaded by direct contact from other organs—the stomach, the pancreas, or the peritoneum Of the remaining seven cases, five of carcinoma, one of epithelioma, and one of sarcoma, the nodules were independent of adjacent or contiguous new growth. The primary growth in these seven cases was: in the gall-bladder, mamma (two cases), colon, sigmoid flexure, œsophagus, and stomach. Of course, this contrasts strikingly with the frequency with which abdominal cancer is repeated in the liver and it tends to show the influence of coarse transmission by veins and the absence of any general diffusion of any cancer germ cell or body throughout the circulation generally.

INFECTION AS A CAUSE OF ENLARGEMENT OF THE SPLEEN.

The relation of infection to enlargement of the spleen is well known and is illustrated by the results I have given. The most frequent causes of a really large spleen are enteric fever, malaria, and malignant endocarditis, while other frequent causes are pneumonia and tubercle. It is true that some of the largest spleens are produced under conditions not commonly regarded as, or at least not proved to be, infectious—namely, leukæmia, cirrhosis, splenic anæmia, pseudo leukæmic infantile anæmia, and allied conditions. But this very fact of the enlargement, coupled with the constant association of splenic enlargement, with various infections, justifies one in carefully considering how far they also may be determined by infections, unless it can be shown clearly that mechanical conditions are adequate to produce the swelling. The spleen in cirrhosis of the liver appears to be the typical example of an organ enlarged by passive congestion, and though it is possible, and is believed by many, that cirrhosis may be caused by a local infection, this is too far from being proved to disturb as yet this explanation of the state of the spleen. The support which the mechanical theory might be expected to derive from the fact that portal thrombosis or pylephlebitis adhesiva causes a large spleen is weakened by the suspicious relations between thrombosis and infection. The pathology of the spleen cannot be entirely settled by a reference to the clinical and pathological records of a general hospital, from which, for instance, are excluded designedly a very large number of the infectious diseases which occur. Had we the post-mortem results of scarlet fever, measles, and small-pox or typhus fever our list of enlarged spleens might be much more numerous. At the same time it must be admitted that clinically the enlargement of the organ in these diseases is not always an important feature. The following are recognised infectious diseases in which the spleen is known to be occasionally or constantly affected: typhus fever usually; enteric fever, relapsing fever, and malaria, with great constancy; measles and scarlet fever on the authority of Friedreich and Trojanowsky; variola; glandular fevers in more than half the cases; Malta fever always; diphtheria frequently; influenza; Weil's disease sometimes; and pyæmia. In anthrax the spleen is generally larger than natural, or half as large again, or double the natural size. In acute dysentery it is full and soft; in chronic dysentery it is markedly large but sometimes small. In beri-beri it is increased in bulk and weight but the influence of the failing circulation may here operate in part. In tubercle the organ often contains miliary or caseous nodules but it is also certainly enlarged sometimes. Congenital syphilis is probably, as shown by the results in phthisis, responsible for many enlargements in infants, as will be pointed out later. Tertiary syphilis causes gumma and lardaceous disease of the spleen. In leprosy it is stated that no naked-eye changes are present but bacillus-bearing cells may be found in profusion. Actinomycosis may invade the spleen from the bowel but the arrival of the germs by the blood-current is probably rare. I have already shown how often the spleen is enlarged in that obviously infective process pneumonia.

I have so far found little that is definite as to the implication of the spleen in rubella, varicella, mumps, whooping-cough, cerebro-spinal fever, dengue, cholera, sleeping sickness, early acquired syphilis, tetanus, rabies, glanders, foot and mouth disease, and rheumatic fever, and it is often expressly stated that the spleen is not enlarged in yellow fever, but Scheube states that it sometimes is enlarged, hyperæmic, and soft.

The spleen again appears to be little, if at all, enlarged by the different kinds of intoxication, whether by food poisons, snake poison, alcohol (directly), or by the different metals and chemical substances Dr. T. Oliver (in his article on this subject in Clifford Allbutt's work) expressly states that in phosphorus poisoning the spleen is not enlarged.

To the above infectious diseases may be added Landry's paralysis, which is highly probably an infectious disorder, and pernicious anæmia. Similarly splenic anæmia is under [illegible] extent Hodgkin's disease, [illegible] and rickets An interesting [illegible] Medical Association by Dr. George Carpenter may be here referred to.[1] He analysed 348 cases of enlarged spleen or splenomegaly in infants and children and the results have some bearing on our inquiry. I think it is clear that by the term "splenomegaly" he means only an organ presumably above the normal and it will also no doubt be admitted that the spleen is more easily palpable in infants than in adults and therefore a belief in its enlargement may be more readily entertained. Dr. Carpenter's line between normal and large spleens may therefore be drawn rather closer down than might in post-mortem cases be desirable. But the relative figures that he gives have considerable interest. Out of 340 cases he has reason to believe that 147 (or 42·2 per cent.) are due to syphilis, and another 131 were connected with rickets. Dr. Carpenter does not make too much of this last connexion. He says that anæmia is not necessarily present, rickets may exist without a large spleen, and rickets may get better and the enlargement of the spleen persist, or the rickets may get worse and the spleen get smaller. And therefore he regards splenomegaly as an epi-phenomenon. 66 of the cases showed no evidence either of syphilis or of rickets and were associated with the following diseases: pneumonia, broncho pneumonia, chronic pneumonia, tubercle, jaundice, ascites, enteric fever, ague, lymphadenoma leukæmia, congenital heart disease, and Parrot's nodes. This list reminds one of those I have above given and the infectious element is largely represented. He has not infrequently noticed the association of catarrhal jaundice with enlargement of the liver and the spleen. This might be explained by the obstructive enlargement of the *liver causing mechanical congestion of the spleen. But,* on the other hand, there are many points in favour of an infectious origin of ordinary catarrhal or simple jaundice, of which the existence of an epidemic jaundice is one.

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[1] Brit. Med. Jour., August 29th, 1903, p. 463.

In a communication to the *Practitioner* (December, 1903) Dr. G. F. Still calls attention to the relations of congenital syphilis and enlarged spleen. He alludes to Gee as having said that one quarter of the cases of congenital syphilis show enlargement of the spleen and he refers to a recent article by Marfan [2] who finds splenic enlargement in half the cases of congenital syphilis. Marfan considers that syphilis is by far the commonest cause of splenomegaly in infants and that this splenomegaly is accompanied often by anæmia and by some enlargement of the liver and of the lymphatic glands. This brings us very close to the splenic anæmia of infants, of which I propose to speak later.

PHTHISIS.

There are two special forms of infection which are largely represented in the wards of a general hospital. Phthisis supplied 131 cases in which the spleen was affected. It has been already stated that 42 cases out of 379 of enlargement to 10 ounces and upwards were due to phthisis and tuberculous lesions. In phthisis alone 52 cases out of 131 were more than seven ounces in weight and were not lardaceous. In 19 the spleen was lardaceous, giving a percentage of 14·4. This corresponds sufficiently nearly with the general percentage of all organs for lardaceous disease in phthisis, which has been put at 10 and 20 by different writers. Only one further fact of interest comes out of this. The average weight of the lardaceous spleens was seven ounces and the largest of them 14 ounces, whereas the largest of the non-lardaceous spleens was 11 ounces and the average of them was 25 ounces.

INFECTIVE ENDOCARDITIS.

The tendency of infective endocarditis to cause enlargement of the spleen has already been shown. It is one of the four conditions which, apart from leukæmia and Hodgkin's disease, produce the largest spleens, the others being cirrhosis, malaria, and typhoid fever, and this in spite of the moderate shrinking which infarcts commonly undergo after a little time. The enlargement is obviously of the nature of an infective swelling, such as we see in typhoid *fever, malaria, and other infectious processes.* Some interesting figures come out here. Taking the whole number of cases of infective endocarditis in which the weights are recorded in the ten years 1892–1901 they amount to 77. The average weight of the spleen was 13 ounces. It has been already shown that 52 cases had a weight of ten ounces or upwards, and the greatest weights were 43 and 35 ounces; in another ten cases the spleens were seven ounces, eight ounces, or nine ounces; and in the remaining 15 only was the spleen below what may be regarded as an average weight. That the size was not determined by infarcts is shown by the fact that infarcts were present in spleens of five ounces weight only.

As to the changes that take place in the spleen as the result of infection it has generally been considered enough to say that the organ is in a state of inflammatory congestion. But it is interesting to note that the term splenitis is not in common use as applied to these changes, nor indeed is the idea of an inflammation so much as that of a temporary congestive process generally entertained. The rapid enlargement and subsidence in ague and the obvious dependence of the typhoid enlargement on the course of the fever will probably explain this, together with the fact that the termination is in nearly every instance subsidence or resolution. Of course, it is recognised that in special circumstances suppurative inflammation occurs. Dr. Robert Muir, in a communication to the Pathological Society of London,[3] gives an account of the most important changes in the organ in infections. He says: "The phagocytic activity of the cells in the pulp constitutes an outstanding feature" The cells concerned are the non-granular cells, partly hyaline leucocytes, and partly endothelial cells, so that there is a great increase in non-granular phagocytes. The swelling of the organ is in part due to accumulation of more or less damaged elements which are to a great extent destroyed. The elements chiefly destroyed are bacteria, neutrophile leucocytes, red corpuscles, and other degenerated cells. In the rabbit's spleen one can see non-granular cells containing as many as 20 or more red corpuscles and half a dozen neutrophile leucocytes in various *stages of disintegration. Neutrophile leucocytes* and red corpuscles also undergo extra-cellular digestion. Another feature of infection is the occurrence of myelocytes in the splenic pulp. This is especially the case in a severe form of infection, of which hæmorrhagic small-pox is an instance. A third condition is proliferation of cells. This affects to a very slight degree endothelial cells and the hyaline leucocytes in the pulp, but a more pronounced condition is one of proliferation of cells at the margin of the Malpighian bodies so as to form a distinct zone round the corpuscles and give them the appearance of enlargement. The cells involved are of larger size than lymphocytes and have a relatively abundant protoplasm, which is distinctly basophile in reaction. Dr. Muir thinks that these cells afterwards move outwards into the pulp. Gaylord and Aschoff give a similar account. A scraping, they say, shows small lymphocytes, large granular cells, pulp cells which resemble the large mononuclear cells of the blood, polymorphonuclear cells, and the sickle-shaped endothelial cells and distended elements, of which the protoplasm contains red blood corpuscles or fragments of the same. As compared with the healthy spleen the scraping shows more endothelial elements and more poikilocytic cells. Further, there are obvious degeneration and fatty processes going on. They lay more stress upon the phagocytic action of the endothelial cells and Dr. Muir attaches equal importance to either. The suggestion has been made that the spleen is likely to be larger in those infectious processes in which micro-organisms are actively circulating in the blood. This is at least borne out in the case of typhoid fever, malaria, relapsing fever, and infective endocarditis. Of these, as already pointed out, typhoid fever, malaria, and infective endocarditis provide a considerable number of the quite large spleens, while the organ is very constantly enlarged, if not very greatly, in relapsing fever. The organisms of typhoid fever malaria, and relapsing fever are constantly found in the spleen, while those of endocarditis maligna are well known to have been in the blood in a sufficient number of instances.

CIRRHOSIS AND SPLENOMEGALY.

In connexion with cirrhosis of the liver and its relation to enlarged spleen attention must be called to the occurrence of cases which have been described as splenomegalic cirrhosis I have been, I had almost said, guilty of publishing a case under this title. The culpability lies in the use of a word implying that an accompanying large spleen is distinctive of any particular form of cirrhosis, when it has been already shown that out of enlarged spleens more than one-eighth (13 8 per cent) are related to cirrhosis of the liver, when it is known that an enlarged spleen is a very common result of cirrhosis, and when it is shown that of 42 large spleens in cirrhosis six weighed 30 ounces or more, 11 from 20 to 29 ounces, and eight more from 15 to 19 ounces. The justification for its use is the fact that some cases occurred in which the spleen is exceedingly large. For instance, in a case which I published a few years ago[4] the spleen weighed at death 87½ ounces in a boy not quite 15 years of age and clinically it presented the shape, size, and position of a leukæmic spleen, occupying the whole left side and lower part of the abdomen and reaching four and a half inches across the middle line into the right iliac region. About the time of the publication of my case the subject was being discussed in Paris and divergent views were held as to the relations of the spleen to the liver, some at least believing that the splenic affection might be primary or at least antecedent to the hepatic cirrhosis. But even admitting the early appearance and predominance of the splenic lesion, it was possible to believe that some common source of infection in the intestine might act first of all, or more productively, upon the spleen, and so neither of them would directly cause the affection of the other, but the two would be results of a common cause. At that time M. Landrieux and M. Milian had recorded the case of a man in whom the cirrhotic liver weighed 1900 grammes (or 67 ounces) and the enlarged spleen 2700 grammes (or 90 ounces). It will be seen that in both these and in my case the spleen was large out of all proportion to the liver, although the liver was in each case far above the normal. The attempt to discriminate the cases of splenomegalic, meta-splenomegalic, and pre-splenomegalic cirrhosis, according as the splenic and hepatic changes were simultaneous or one in advance of the other, cannot be considered wise, as the time relations can only be observed clinically and the actual first change, whether in one or the other organ, eludes observation. But there are other interesting features in these cases—namely, the stunted growth of the individuals where the disease has begun in early life, pigmentation of the skin, and clubbing of the fingers and toes. Two of these—the clubbing or Hippocratic fingers and the stunted growth—are associated by Lereboullet[5] with the biliary cirrhosis and not directly with the splenomegalic element. Lereboullet, in his thesis on "Les Cirrhoses Biliaires," uses the term splenomegalic in reference only to the size of the spleen and obviously not as connoting thereby the seat of its commencement Indeed, he would obviously class my case as one of hyper-splenomegalic cirrhosis. And he divides all cases in the following way: (1) common hypertrophic biliary cirrhosis or Hanot's disease or splenomegalic biliary cirrhosis; (2) hyper-splenomegalic biliary cirrhosis; (3) micro-splenic or asplenomegalic biliary cirrhosis; and (4) atrophic biliary cirrhosis. Describing the organs as they are seen in biliary cirrhosis in general he says that the spleen macroscopically is voluminous, of variable volume, often losing bulk after a fatal hæmatemesis, of natural shape, often with more marked patchy splenitis, even with extreme cartilaginous plates. The tissue is sometimes soft and diffluent and at others firm, with a dark red section showing, but not always, an exaggerated development of Malpighian corpuscles. Often the appearance is only that of a congested spleen. In the case of Landrieux and Milian the surface presented numerous smooth projections where the parenchyma was firm, whilst elsewhere it was diffluent. Infarcts were also present in this case. In reference to the histological conditions Kiener, in a case which he has published, shows that the lesions were neither those of a cyanotic spleen (*une rate stasique*), as in ordinary cirrhosis, nor those of a spodogenic spleen—that is, one charged with the residues of destruction of blood globules, as in malaria and intoxication He found that the lymphatic system was affected and that there was a notable hypertrophy of the Malpighian corpuscles. The histological examination showed a reticulated tissue extremely rich in cells and this lymphatic hyperplasia prolonged itself along the arteries. He concluded that it was a lymphogenic spleen like that of lymphadenoma, tuberculosis, and other infectious diseases Lereboullet in the cases he himself examined found most often, especially in the most advanced cases, congestive conditions—the pulp gorged with blood and the Malpighian corpuscles, though distinct, but little hypertrophied; further, very little perisplenitis and little trabecular thickening. The last two conditions, however, predominated in the case of Landrieux and Milian. There was generally no material difference between the sections of splenomegaly and those of the hyper-splenomegalic organ. Sometimes the pulp is charged with pigment and at others this was absent. In reference to the nature of the cell structures in the pulp he allows that there is an excess (hypergenesis) of lymphoid tissue, but though this may suggest an infective association the predominant fact is, he thinks, congestion As to the important question of the relation of the enlarged spleen to the liver, Lereboullet ranks himself with those who regard the spleen, however big, and however long antecedent in its appearance to the hepatic enlargement and jaundice, as still affected as a result of the hepatic lesion and not as the primary cause. Admitting intoxications and micro-organisms as possible original causes he still thinks that it is from the liver that the spleen is affected and not the liver from the spleen. He sees no great difficulty in the conception of an infection being conveyed against the current of blood in the splenic vein; he attaches much importance to congestion as a factor in the splenomegaly; he shows that in any case the size of the spleen may vary a good deal so that the relative size of the two organs is not a guide as to which was first diseased; and he adduces the strong case recorded by Dr. J. Finlayson[6] of the three children in one family, all of whom had biliary cirrhosis, one with a large liver and a large spleen, another with a very large spleen and slightly hypertrophied liver, and the third with a liver and spleen equally enlarged. He claims as an important element that of age, these combinations occurring much more in children than in old persons. He makes the further proposition that "the spleen reacts to infections of the liver much more often and much more than it reacts to general infections This reaction is much more frequent than the reaction of the liver to the splenic lesion." And he goes so far as to suggest that cases of Banti's disease may have to undergo a revision from this point of view. The time for this scarcely seems to have arrived. His final conclusions are that biliary cirrhoses are the results of infection; that it is neither a general infection, nor an infection with the predominant localisation in the liver and spleen, nor an infection with the primary localisation in the spleen; but that it is "an ascending biliary infection due to germs proceeding from the intestines." The infection only becomes cirrhogenic in persons predisposed to it. An allied condition, perhaps an early condition, is that called by him splenomegalic jaundice, in which with a large spleen and jaundice there is a moderate enlargement of the liver. Several of the cases reported under this head have had typhoid fever or malaria in their former history. In my own case there was no opportunity of ascertaining the true relations of the splenic and hepatic enlargements These were both considerable when the patient first came under responsible observation.

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[2] Annales de Médecine et Chirurgie Infantiles, May 15th, 1903.

[3] Transactions of the Pathological Society, 1902, p. 379.

[4] Guy's Hospital Reports, vol. lii., p. 55; vol. liv., p. 1.

DISORDERS OF THE BLOOD.

Among chronic splenic tumours besides those due to the infective diseases already specified we have certain diseases well known by name to all, but by no means exceedingly common, enlargements intimately connected with what may be called coarse changes in the blood but connected by links which may even now be held to be in great part missing. I refer, of course, to the spleens of leukæmia, of Hodgkin's disease, of splenic anæmia, and of the disease which has been burdened by the cumbersome name of anæmia pseudo-leukæmica infantum. The recognition of the leukæmic spleen in all but the earliest stages, and certainly in most cases, is easy, because leukæmia is a definite and distinct condition. The recognition of Hodgkin's disease also, so far as the spleen is concerned, does not as a rule present great difficulties—that is to say, that one will rarely be prepared to recognise a case of splenic enlargement as Hodgkin's disease unless some lymphatic glands were enlarged at the same time. And though it is, of course, conceivable that a case might occur with deep-seated, inaccessible, and unrecognisable lymphatic enlargements with manifest splenomegaly, I am not aware that attention has been called to a case realising this supposition. But splenic anæmia and infantile splenic enlargements present obvious difficulties which are by no means always solved clinically. I take the case first which occurs in infancy and early childhood. Are all the splenic enlargements associated with a little anæmia but without leukæmia or enlarged glands, to be called splenic anæmia? By common consent, no; and it has been the endeavour of numerous writers in the last few years to formulate the characters which shall distinguish a splenic anæmia from other groups of splenomegalic cases. The distinctive features which were first formulated were mainly in contrast with splenic leukæmia—that is, (1) anæmia, (2) enlarged spleen, and (3) absence of leucocytosis were the three chief features.

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[5] Les Cirrhoses Biliaires, Paris, 1902.

[6] Glasgow Hospital Reports, 1899.

other conditions or organs than the spleen alone. Cirrhosis was a possible explanation of the enlargement of the liver and spleen Now, nearly eight years later, her health is bad; she had floodings until 12 months ago. Her legs were anæmic and pallid.

A consideration of all these cases shows that the diagnosis of splenic enlargement depends very little upon the condition of the spleen as such, but almost entirely upon the other associated conditions, especially the state of the liver, of the heart, and of the blood. The size alone it is which counts for anything, and this will be shown in the case of splenic anæmia and leucocythæmia splenica; in both of these the organ reaches large dimensions, which are, however, occasionally equalled in the case of splenomegalic cirrhosis and almost in infective endocarditis.

The Erasmus Wilson Lectures

ON

ACUTE INFECTIVE GANGRENOUS PROCESSES (NECROSES) OF THE ALIMENTARY TRACT.

Delivered before the Royal College of Surgeons of England on March 21st, 23rd, and 25th, 1904,

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LECTURE III.[1]

Delivered on March 25th.

THE BACTERIOLOGY OF ACUTE INFECTIVE NECROSIS.

MR. PRESIDENT AND GENTLEMEN,—In the preceding sections it has been attempted to prove to you that lesions of a similar pathological nature, acute infective necrosis or gangrene, occur in the stomach, the duodenum, the small intestine, the cæcum, the appendix, the large bowel, Meckel's diverticulum, strangulated herniæ, and other forms of intestinal obstruction. To the naked eye the character of the lesion in perforated gastric, duodenal, and other ulcers, appendicitis, &c., is identical in each case. Hence the attempt has been made to urge singleness in the infective origin of the lesions The discussion of the various organisms found in the peritonitic fluid and elsewhere in examples of such conditions has been reserved for the third lecture, when from the bacteriology a further attempt will be made to show the universal activity of micro-organisms and the probable supreme importance of the rôle of septic cocci in the production of infective necrosis. It is also hoped that much has been done to remove from the walls of the alimentary canal their traditional character for delicacy and their proneness to become gangrenous on the least provocation. The tissues of the alimentary tract are, in fact, liable to exactly the same laws of life and death as the others which constitute the body. But owing to the natural septicity of the contents of the intestinal tract moist gangrene—i.e., septic death or necrosis—is infinitely more common than dry gangrene, i.e., aseptic necrosis, if the latter exists there.

It has been shown that the integrity of the wall of the bowel was in a similar position to that of any other tissue in the body and that its blood-supply may be considerably interfered with without causing its death or necrosis. Then the influence of infective organisms was illustrated and shown to be the cause of cases more rapid and acute than those in which there was only interference with the blood-supply. It is now my endeavour to bring some light to bear on the various organisms which enter into the fray. In 1891 Fränckel drew attention to the bacteriology of peritonitis. He showed that the exudate derived from the injection of an irritant into the peritoneal cavity was at first sterile, yielding later abundant cultures of organisms. He obtained pure cultures of the bacillus coli communis in nine out of 31 cases of peritonitis; in seven he obtained pure cultures of a streptococcus and in one a pure culture of a staphylococcus. In 1893 Tavel and Lanz published the bacteriology of 59 cases of peritonitis. Their results showed the presence of the bacillus coli communis in over 50 per cent. of cases, being about equally as frequent in pure as in mixed culture Streptococci came next in order of frequency, forming about 35 per cent. of cases, in which it was five times as often in mixed as in pure culture. Numerous other authors have published work since then, such as that by Hodenpyl, Welch, Barbacci, Malvosz, and so forth. Almost all of these authors found the bacillus coli communis to be by far the most frequent organism present and naturally have assumed it to be the cause of the peritonitis. Dr. H. P. Hawkins in his work on appendicitis took up the same attitude, but up to now the bacteriologists have not been guided in the interpretation of their results by the surgeon or clinician. Again, with the result of improvements in their science more accurate observations have been made. With these later methods Deaver publishes figures in his book on appendicitis from which the following percentages may be derived and which illustrate the differences in the bacteriology consequent upon the different clinical forms—namely, acute and chronic inflammation :—

Organisms.	I. Chronic appendicitis.	II. Acute appendicitis.
Bacillus coli communis	90 per cent.	70 per cent.
Ditto plus a staphylococcus	6 ,,	15 ,,
,, ,, streptococcus	Very rare.	7 ,,
Staphylococci	1 per cent.	4 ,,
Streptococci	Very rare.	Very rare.
Other organisms	3 per cent.	4 per cent.

The figures show very distinctly that pyogenic cocci are markedly more common in the acute than in the chronic forms both in pure and mixed culture, but, as might be expected, particularly so in the latter. A further distinction can be drawn as acute cases can be divided into those with a local abscess and those with diffuse infection or peritonitis. In the figures given by Deaver the pyogenic cocci are more frequently present with perforating than non-perforating ulcers of the appendix. Similarly, they are found more often in cases of diffuse peritonitis than with local abscess. When regarded from the clinical standpoint the figures seem to indicate that the more acute a case is, and therefore probably the earlier an operation is demanded, the more frequently are pyogenic cocci found. Barbacci, in 1892, proved experimentally that if almost any mixture of organisms are injected into the peritoneum and "sufficient time" allowed to elapse, only cultures of the bacillus coli communis could be obtained therefrom. This bacillus grows in common media with such rapidity and luxuriance that more slowly-growing organisms are swamped out and remain unnoticed.

In conducting a bacteriological examination with Dr. H. D. Singer[2] of a case of acute emphysematous gangrene the original cultures contained a streptococcus and a bacillus related to the bacillus coli communis and termed by San Felice the bacillus œdematis aerobius. The coccus was recognised in a 24 hours' culture and cover-slip preparations, but after that date it was lost owing to the rapid growth of the bacillus. If this is the condition in the laboratory it should be also the condition inside the body. Further experimentation with gangrenes and their organisms convinced me that these pyogenic organisms very materially assist the bacillus to obtain the start or impetus necessary in order for it to begin its career of ill and then the cocci may be lost entirely, being swamped out by the rapid growth of the bacilli. Mixed cultures were injected into guinea-pigs but only the bacilli were recovered, the streptococci being lost. Applying these two laboratory principles to the conduct of organisms in the body, it is to be expected that the earlier a culture is taken the higher will be the percentage of streptococci to be found in it. Secondly, in the case of acute local appendicitis there will be a higher percentage present than that found in chronic cases. And yet again, in a rapidly spreading infection with diffusion of peritonitis a yet higher percentage can be seen. Deaver's figures bear out all these considerations. And though one cannot regard it in consequence as proved there is ample circumstantial evidence upon which to base the suggestion that the pyogenic cocci are the great causes of acute infective necrosis and that later they are liable to be killed out by the growth of the bacillus coli communis and to be entirely absent from the cultures.

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[1] Lectures I. and II. were published in THE LANCET of May 14th (p. 1334) and 21st (p. 1410), 1904, respectively.

[2] Transactions of the Pathological Society, 1901, vol. lii., pp. 42-60.

The previous reasoning answers very well for the case of streptococci, for though that is one of the most widely distributed of organisms it is very easily killed and lost in mixed cultures and may literally vanish before a member of the colon group. Staphylococci are a more various group which contains a number of very hardy members, tenacious of life. They are not nearly so easily killed and lost, and may even "stay out" the lives of the other organisms present in a mixed culture. One would therefore expect them to be found in peritoneal cultures more frequently throughout than streptococci are, and such is in reality the case. The figures bear out in every detail the statements which have just been made with regard to the various frequencies of the presence of staphylococci in chronic appendicitis, perforative and non-perforative appendicitis, appendicitis with localised abscess, or diffuse peritonitis. Moreover, in 4 per cent of acute cases and 1 per cent. of chronic a pure culture of staphylococci was obtained, apparently a very rare condition, indeed, with regard to streptococci. It is not easy to understand how the colon bacillus escaped culture.

The position that I would desire to put before you is this: that the action of organisms in the laboratory is carried out in the same way in the body and that surgery can come to the aid of bacteriology and interpret the clinical results and the actions. It is now disclosed that the more acute the case is the greater the abundance of the cocci of suppuration. The later the culture is taken the fewer these become if they are found at all. The obvious inference is that the first step in the pathological catastrophe of perforation is started by these pyogenic cocci, and owing to the subsequent "swarming" of our natural guest, the bacillus coli communis, their traces are hidden and they themselves very often die. In the paper with Dr. Singer, previously mentioned, it was found that the septic organisms in cases of mixed *infection* (of traumatic gangrene) are responsible for the bronzing of the skin which precedes the spread of the gangrene and seem to act as forerunners, injuring the tissues and rendering them an easier prey to the specific bacillus. The action is the same in the walls of the stomach or appendix as in the arm or leg, with the great exception that the thinness of the walls of the former results in their perforation and in the infection of so vast an absorptive surface as that of the peritoneum. A complete parallel exists between the known septic diseases of the skin and those largely unknown of the mucous membranes of the alimentary tract. An infection from the interior of the bowel, like that on the surface of the skin, by its very nature must be "mixed," consisting of many organisms, and must contain nearly always the vastly predominant organism of the bowel, the bacillus coli communis.

There is, however, a further lesson to be learned which is of such importance that I may be excused for mentioning it here. The presence of the bacillus coli communis is so widespread in our alimentary canal that no matter what organisms can grow there, it multiplies so rapidly that it must overcome other organisms and may exterminate them. Applying the same reasoning which has been used for the processes which go on in the laboratory and the pathological processes in the peritoneal cavity outside the intestine to the normal processes which take place inside the intestine, we are forced to realise that the bacillus coli communis will tend to destroy all invaders. And as when within the lumen of our intestines it is harmless to the tissues, it is beneficial to the individual, it must be continually saving us from innumerable ills by destroying harmful bacteria. Its action may be likened to that of the leucocyte in the tissues and the bacillus coli communis becomes recognised as our best friend, the knight-errant of our intestines, the phagocyte of our bowels. But as with all friends, evil communications corrupt good manners; on occasions intercourse with streptococci and staphylococci lead to its wildly rushing in the breach which these organisms have prepared and then the leaders of the insurrection are ruthlessly trampled on and killed out by the rabble of lusty bacilli which follow in their wake. History is repeated in the actions of the bacilli of our alimentary tract and revolutionary leaders are killed by the very rabble they raise. One point further, as a consequence of the above it is doubtful if the cultures made from a case represent all the organisms that have been concerned in the disaster. Caution must be always exercised in making deductions from the results so obtained.

Mr. W. Watson Cheyne in an admirable article upon inflammation says: "The effects of the organisms on the tissues vary with the kind that is introduced; for example, the staphylococci tend to form circumscribed abscesses, while the streptococci are especially concerned in the production of diffuse spreading suppuration." This is, of course, a perfectly general statement. Both kinds of pyogenic organism acting on a comparatively thin-walled organ like the stomach will be very apt to cause a perforation. But the action of the former will be to produce a local perforation, whilst that of the latter will produce perhaps a perforation which is merely a local sign in a more widely spread area of infection. In the former case the infection and perforation involve the same area; in the latter the perforation is but one part of the infection. Dr. W. Cayley, in the Transactions of the Pathological Society of London, 1902, p. 282, records a case of streptococcus infection of the stomach, phlegmonous gastritis. The change was especially noted in the pyloric end. [illegible], although the [illegible] diapedesis of [illegible] pneumococcic gastritis on p. 286 of the same volume. In this the mucous membrane was necrosed, contrasting with its more or less healthy condition in Dr. Cayley's case. Again there was no perforation. Cases of epidemic streptococcus enteritis have been described, notably by Booker,[3] which have not been at *all necessarily fatal. Streptococci* can give rise on the skin to erysipelas which is a capillary lymphangitis; they can also cause cellulitis or a lymphangitis of the cellular tissue. The former is transient and can disappear entirely and I cannot help thinking that many acute gastrites, appendicites, and enterites are of a similar erysipeloid nature. The subject of the identity or relationship of the streptococcus erysipelatis with ordinary streptococcic suppuration will not be entered upon.

The tale of the staphylococci is different and an organism which *typically causes* a circumscribed abscess will in the gastric or intestinal walls cause a local perforation. These cocci are hardier than the streptococci are and will, I believe, be found to be the chief cause in the production of the acute infective necrosis of the alimentary tract. Of direct proof I can offer none, as my own unaided bacteriological efforts were such as could only be managed in moments snatched from the extremely busy life of the resident assistant surgeon of St. Thomas's Hospital, and though I have made a number of examinations in cases of peritonitis, the exudation in strangulation, both inside the abdomen and in hernia sacs, they are such that, though they may guide my ideas, I do not consider them worthy of being brought forward. It may be mentioned that my results guided me to the belief that pyogenic cocci will be found to be the great originators of perforations and gangrenes of the alimentary tract and also to the uniformity of the pathological process, acute infective necrosis, in appendicitis, perforated gastric, duodenal, and other ulcers, strangulated herniæ, &c

THE BACTERIOLOGY OF STRANGULATED HERNIÆ.

Bundschuh[4] found bacilli present in the fluid in the sacs in 60 per cent. of cases. Apparently this was the bacillus coli communis. The observations which I was able to complete were 15 in number. Cultures were only obtained in about 33 per cent. of cases. But the result seemed to depend mainly upon two factors—namely, the severity and the duration of the strangulation. The presence of the bacillus seems to make no difference in the prognosis or the primary union of the wound. Professor Welch years ago demonstrated the presence of the bacillus coli communis in surgically clean laparotomy wounds. It is therefore possible to go further than the usually enunciated dictum that "all work goes to show that this organism is not pathogenic when it is present in the normal intestine, but when the intestine is injured or the organism enters an unusual or abnormal situation of the body it can set up various lesions."[5] To this may now be added that it has been found in the peritoneal cavity in cases of intestinal obstruction and in the sacs of strangulated herniæ without producing any obvious result from its presence. It may not have been doing harm in a number of places where it has been found. In a case of acute infective necrosis in a strangulated hernia, reported for the first time in these lectures, "cocci" were found in the cover-slip preparations as well as bacilli, but in the cultures only bacilli were found. It is therefore not clear that, unaided, the ordinary colon bacillus of our intestine does us more harm than good. In fact, I believe that it does us infinitely more good than evil and certainly is a much libelled organism. The ordinary colon bacillus has many relations, some of whom can be extremely badly behaved. It is by no means easy to make sure of the "ordinary bacillus coli communis." The dependence for the initial start of the action of the colon bacillus on the bowel wall upon "injury" alone is not so decided as has hitherto been taught. The proof of its existing without apparent harm in the tissues, as in intestinal obstruction and strangulated herniæ, has been adduced. Again, by the action of the bacillus typhosus in enteric fever the mucous membrane of the bowel is injured, and though in this disease the colonies of bacillus coli communis seem, or are said actually to be, numerically increased, yet perforation and gangrene of the bowels are not so common. Yet, again, in tuberculous enteritis, perforation and gangrene are not nearly so common as would be expected if the bacillus coli communis merely needs the tissues to be "injured" in order to begin its work of havoc upon them.

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[3] Centralblatt für Bakteriologie und Parasitenkunde, 1899, Band v., S. 316.

[4] Beitrage zur Klinischen Chirurgie, Band xxxi., Heft 2.

"It was formerly taught that there were no micrococci in the intestines. Recently they have been demonstrated." So says a recent bacteriological text-book. And there is every reason why they should not be found in ordinary cultures, and perhaps even on cover-slip preparations, being or having been killed out by the growth of the colon bacillus. Yet I believe that we must look to pyogenic micrococci for the starting point of cases of acute perforation and gangrene—i.e., acute infective necrosis—in whatever part of the alimentary tract they may be situated.

THE RELATION TO PHAGEDÆNA, CANCRUM ORIS, &C.

With the wild ardour of youth I once set out to attempt to elucidate the bacteriology of gangrenes, phagedæna, cancrum oris, &c. The sobering effects of this attempt lie in two chief directions. Firstly, in all cases a mixture of organisms was obtained and in the process of isolation and separation of these bacteria one either lost a lot of the organisms or they in varying degrees their power of producing disease. And, secondly, I do not believe that it is possible to attribute these diseases to the result of the action of any specific organism or even organisms. These infections are of their very nature and situation "mixed" infections, and the omnipresent and over-represented organisms in them are the pyogenic cocci—that is to say, they are pre-eminently septic infections. Bacteriology, as it now exists, offers at the best but an incomplete account, and, as has been said in a recent bacteriological text-book, "it should be borne in mind that many of the bacteria which can be obtained in coverslip preparations cannot be cultivated." And it may be added that many, even the most important, may be lost before the cover-slip preparations can be made. Oberwarth[6] records a case of primary gangrene of the tonsil which proved fatal. Streptococci were alone found in the culture. In fact, streptococci and staphylococci are acknowledged to play a leading part in gangrenous dermatitis, stomatitis, tonsillitis, &c., but owing to the vigorous growth of the hardy bacillus coli communis their importance has not as yet been recognised in gastric and alimentary necroses and therefore direct proof is still wanting. It is of considerable interest and supports my suggestion, that in situations such as the tonsils whence cultures need not be crowded out by the bacillus coli communis, if it is present at all, pyogenic cocci alone or predominantly are found. This may be regarded as another item of circumstantial evidence in favour of the primary action of pyogenic cocci in the production of acute infective necrosis of the stomach, duodenum, appendix, &c.

ACUTE INFECTIVE NECROSIS IN VETERINARY WORK.

It is my desire to bring home to my hearers the value of a careful examination of the records of veterinary surgery and pathology. A most fascinating study is afforded in this way and one which will do much to aid and to extend the experimental researches. Acute infective necrosis occurs in animals in the shape of gangrene of tracts and perforations of the alimentary canal. Unfortunately, as yet, veterinary pathology is not in so advanced a state as is human pathology and the records and descriptions are consequently sometimes difficult to understand. Speaking generally, the diseases of animals are not as yet well worked out. But the future will doubtless furnish far greater stores than the somewhat meagre accounts now available.

Thrombosis of a mesenteric vein.—I found the record of one case of mesenteric thrombosis in animals described by Connochie in the *Veterinary Journal* of 1898, vol. xlvi., p. 324. The title of the paper is "Vomition in the Horse due to Mesenteric Embolism" and is very misleading. The subject was a valuable hackney filly, rising three years old, which was in good condition. For two days she was noticed to be eating sparely; on the third day she was found lying down and rolling over and over, and the fourth day she died. At the post-mortem examination an ante-mortem clot was found in the anterior mesenteric vein with resulting gangrene of the "intestines." The case in reality seemed more acute than many of those of venous thrombosis occurring in man.

Suppurative typhlitis.—A case of typhlitis such as must correspond with our appendicitis was also found and is reproduced in this section. A horse was suddenly seized with violent colic and died in "some" days. At the necropsy "a quantity of reddish serum was found in the abdominal cavity with flakes of lymph upon the intestines. On removing the cæcum there was found at the place of attachment an induration from one to two centimetres thick, and in this an abscess of the size of a 'nut' which contained grey, thick pus. Along the whole extent of the crook of the cæcum the wall of the gut was thickened. The mucous membrane was very much inflamed, deep red in colour, the epithelium came away in flakes leaving a blackish corium." The importance of this case in corresponding to appendicitis in man has been remarked on in that section of the second of these lectures, 1904.

Perforations of the stomach.—Perforated gastric ulcer in animals is a subject covered with much confusion. Acute abdominal disease in animals seems largely to consist of three kinds—namely, colic, ruptured stomach, and twisted guts. From the descriptions it is not easy always to decide upon the case as to whether the condition was inflammatory or the result of true bursting of the stomach which does occur in animals. Three genuine cases were found.

CASE 1.—(*Journal of Comparative Medicine*, 1897, vol. xviii., p. 716.) A horse died from "colic" but was found to have an irregular zigzag ulceration along the greater curvature of the stomach. There was also another ulcer near the pylorus. In the first ulcer was a perforation about one inch long which had caused peritonitis and death.

CASE 2.—(John Freeman, F.R.C.V.S., the *Veterinarian*, vol. lxxiv., 1901, p. 108.) A Scotch deerhound had been ailing for some time with wasting. At first the diagnosis was that of worms, later pernicious anæmia. Post mortem a perforated gastric ulcer of the size of a half-crown was found. The other viscera were healthy.

CASE 3.—(Mosser, *Bulletin de la Société Centrale de Médecine Vétérinaire*, Feb. 23rd, 1903.) At the post-mortem examination of a cow, from 10 to 12 ulcers were found along the greater curvature of the stomach, varying in size from that of a pea to that of a franc piece. One of these had perforated and caused peritonitis and death.

Ruptures of the stomach have been reported in far greater numbers than have true perforations and occur always along the cardiac end of the greater curvature, being sometimes as much as 18 inches long. Mr. Malcolm, F.R.C.V.S., says that it is not an infrequent occurrence and that it is due to the violent contractions of a relatively small and weak stomach which cannot relieve itself by vomiting. In a certain number of these ruptured stomachs there is evidence of previous pathological change. For instance, in the case of Littlewood, *Veterinarian*, 1894, vol. xxxiv., p. 291, the walls were thickened and softened by parasites.

Perforation of the small bowel.—Professor Penberthy in the *Journal of Comparative Pathology*, 1896, p. 25, says that in enteritis "mortification may occur in 8–10 hours." Such rapidity demands the assumption of the action of micro-organisms. Perforations of the small bowel seem more common than they are in any other situation. In the *Journal of Comparative Medicine* H. H. Dell records a case of three perforations in the ileum, associated with the presence of tænia saginata. The subject was a Gordon setter bitch. He quotes Cadeac, *Revue Vétérinaire*, 1888, as reporting a case of perforation in the duodenum of a terrier due to a "tænia." Lahoque, *Recueil Vétérinaire*, 1888, describes three perforations in the small bowel of a dog due to tænia serrata. In the *Journal of Comparative Medicine*, 1899, vol. xx., p. 379, it is reported that a seven-year-old bay mare died and at the post-mortem examination a perforation of the ileum half an inch in diameter was found and general peritonitis. The ulcer was solitary and there was no obvious cause.

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[5] Muir and Ritchie: Pathology.

[6] Deutsche Medicinische Wochenschrift, April 23rd and 30th, 1903.

Perforations of the large bowel.—Captain Martin, in the *Veterinary Journal*, 1903, N.S., vol. vii., Part 41, p. 273, gives a most interesting account of a unique case. A chestnut mare was found to have an intense inflammation of the cæcum, or typhlitis with perforation, and through that perforation a number of coils of small intestine had passed into the cæcum and become strangulated. Davis (*Veterinary Journal*, 1897, vol. xliv., p. 170) says: "The 'floating colon' was found to be greatly inflamed over a patch about eight inches long and perforated. A calculus of two and a half pounds weight was free in the abdominal cavity." Professor Dewar (*Veterinarian*) says: "A gelding, eight years old, was found post mortem to have a 'ruptured' colon ten inches in length. The walls were three to four times as thick as normal." Neyland and Leblanc (*Veterinarian*, 1896, vol. lxix., p. 48) says: "Post-mortem examination on a mare who had had 'colic.' One metre from the anus the gut was ruptured, the 'tear' being ten inches in length, and a large intestinal calculus was in the perforation."

Peritonitis in animals.—The natural thing to look into to find support for the previously recounted cases was to refer to the records of cases of peritonitis and abdominal abscess Unfortunately, the origin of these diseases is not always known or looked for. For instance, in the *Veterinary Journal*, 1900, N.S., vol. i., p. 295, a report of a case is given from the *Berliner Thierarzt Wochenschrift* of a cow which had a large abscess in the peritoneum which discharged per rectum. There was "quite a litre of greyish-yellow, stinking, filthy pus." The sinus closed and the animal recovered. The origin of the abscess is not known, but had [illegible] the importance in the veterinary world that it has with us. Brett (*Veterinarian*, 1889, vol. lxii., p. 619) says that peritonitis is not common in cattle. And he gives accounts of three cases which were diagnosed as fæcal impaction. Post mortem, two were called idiopathic peritonitis and the third was regarded as due to "cold following calving." Littlewood, in the *Veterinarian*, 1890, vol. lxiii., pp. 204–07, describes an epidemic of peritonitis which occurred among the horses of the Egyptian police reserve in which about 14 horses died from peritonitis for which no cause was demonstrated. Poisoning was excluded. All cases were acute and the only definite thing noticed was that the inflammation was mostly in the pelvis and the "double colon." Wohmuth (*Veterinarian*, 1901, vol. lxxiv., pp. 29–31) records three cases, one being due to a nail in the rumen, another to an abscess in the wall of the rumen, and the third consequent on parturition. The other records merely illustrate its occurrence after operation or parturition.

Looking through these cases veterinary surgery seems in the same state as that in which the surgery of mankind was some 20 years ago. The idiopathic peritonitis of the latter has turned out to be mainly due to the disease of the appendix which our predecessors had overlooked. It remains with the future to see if those of the animal will find a similar explanation. In discussing the pathology and physiology of the cæcal region it was shown that there was every reason to expect inflammation in this place and also the presence of lymphoid tissue. Beyond the influence of diet and position there seemed to be no particular reason why this region should be very often affected in the biped, and escape in the quadruped. It is to be expected that the disease when closer attention is paid to it will be far more frequent in the latter than it appears to be. Veterinary surgeons have not as yet recognised anything of the kind. It has also been shown that the collection of lymphoid tissue in the caput coli of animals is the analogue of the appendix of man. And, therefore, it should also have some analogous diseases. It must have a somewhat similar rôle with regard to the action and growth of micro-organisms. And it will, therefore, be liable to like inflammatory changes. These have not been fully recognised, but I have brought forward a case of abscess of the wall of the cæcum, examples of localised intraperitoneal abscess near it and in the pelvis, and peritonitis limited to, and especially marked in, the same region. And it is suggested that these have an origin analogous to what they would have in man—i.e., the appendix, in the lymphoid tissue of the cæcum. Professor Clifford Allbutt once wrote to me: "I warmly welcome any attempt to get away from anthropocentric medicine, to escape from the ptolemaic phase into the cosmic." Let this sentence close the remarks that I have made upon the subject.

ON THE SURGICAL TREATMENT OF DISEASES OF THE STOMACH FROM A PHYSICIAN'S POINT OF VIEW.[1]

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THERE is no subject of greater interest to the general physician than that concerning the surgical treatment of the diseases of the stomach with which he is called upon to deal and in my opinion there is no department of the surgeon's art which has made greater strides within recent years. The comparative safety with which the stomach can be exposed and manipulated, the perfection of the technique with which the operations are carried out, and the relief which in many cases of gastric disease is afforded by surgical interference compel the physician to regard the surgery of the stomach as one of the therapeutic procedures which he must always take carefully into consideration in guiding the treatment of cases of gastric disease. The technique of the operations is, indeed, so perfect that on at least one occasion, some months after a laparotomy had been performed for cancer of the stomach, I have seen the abdomen opened on the post-mortem table without the pathologist having noticed the almost invisible cicatrix which was all that remained as evidence of the operation that had been performed. It is no wonder then that the surgeon is ready and willing to give the sufferer from organic disease of the stomach all the benefit that may be possible from the exercise of his art. This much, indeed, may be freely granted, and yet it must at the same time be admitted that the point of view of the physician in relation to this question is necessarily somewhat different from that of the surgeon. It is in the very nature of things that the physician sees more of the natural history of these diseases than the surgeon does. He sees them earlier (he is often blamed for not seeing them early enough) and he sees them later when the surgeon has done his best. The surgeon's interest perhaps tends to slacken when the wound is healed and the patient is so far restored to the *status quo ante*. It then falls to the lot of the physician to watch the slow decay of the vital powers which accompanies the natural progress of the malady and to compare the course of the comparatively few cases which can be, and have been, operated upon with the much greater number of similar cases of disease in which no operation could ever have been possible. From this I think it follows that the physician's outlook on gastric operations, excepting those undertaken for ruptured gastric ulcer, and perhaps, though not certainly, those for simple dilatation of the viscus, is scarcely likely to be so hopeful as that of his surgical brother.

My own interest in the surgical treatment of gastric disease dates from an early period of my professional career. In 1892 I published[2] a paper on the surgical treatment of gastro-intestinal cancer from the point of view of a pathologist and based upon the post mortem examination of 26 consecutive cases. The general conclusion I then arrived at was that the radical cure of gastric cancer by surgical means must always be rare chiefly on account of the great frequency with which secondary extensions undetectable by ordinary means of examination are present, 16 out of 19 cases of gastric cancer presenting on post-mortem examination secondary nodules in the liver or other parts. As the basis of my present study of the subject I have taken the facts recorded in my ward journals since 1895 In this period of eight years I find that there have been under treatment in my wards 220 cases of stomach disease of all kinds, 80 males and 140 females. Of these cases I find that surgical operation was recommended and performed in 23 and it is on a more particular study of the records of these 23 cases (an analysis of which is given below) that I found the remarks I have to make in this paper.

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[1] A paper read at a meeting of the Glasgow Northern Medical Society on Nov. 3rd, 1903.

[2] Brit. Med. Jour., April 23rd, 1892.

Cancer, 6 males, 7 females	13 cases.
Ulcer, all females	4 ,,
Hæmatemesis, all males	2 ,,
Simple dilatation, all males	3 ,,
Stricture of the œsophagus	1 case.
Total	23 cases.

GASTRIC CANCER.

Two methods of surgical treatment suggest themselves both to the physician and the surgeon as applicable to cases of cancer of the stomach: (1) pylorectomy, the radical removal of the tumour itself; and (2) gastro-enterostomy, a palliative procedure for the relief of urgent and distressing symptoms.

1. As regards pylorectomy, I have already referred to my views of the value of this operation as based upon post-mortem room experience. After a somewhat careful consideration of a series of consecutive cases examined post mortem I came clearly to the opinion that in the present state of our diagnosis pylorectomy could seldom be undertaken with any very great prospect of success. In this opinion I found myself in agreement with Guinard. My clinical experience of the last eight years rather strongly confirms me in this opinion. In only one of the 13 cases in which I recommended operation did I advise pylorectomy as the procedure which I [illegible]efully undertaken, and in that case, [illegible] were in every sense most favourable, [illegible] not be completed on account of the highly dangerous collapse of the patient on the operating table The *man recovered from the operation* well and died nearly two months later in my wards from the natural progress of his malady. In all the other cases I advised either an exploratory incision with a view to a possible radical *operation or* the performance of a gastro-enterostomy for the relief of urgent symptoms At this stage it may be right to state the results of the 13 operations for gastric cancer in a tabular form :—

Pylorectomy advised but found to be impossible	1 case (recovery).
Gastro-enterostomy advised but pylorectomy performed as the conditions seemed favourable when the abdomen was opened	2 cases (both died).
Exploratory operation advised and followed by—	
(*a*) Gastro-enterostomy	6 cases (5 recovered).
(*b*) Closing of the wound as nothing could be done	4 cases (3 recovered).

When we examine this table we are struck with one thing—namely, the comparative safety with which an exploratory incision for disease of the stomach can be made. In the whole series of 13 cases there were only four in which the death could be directly attributed to the operation. I regard a death occurring within 48 hours after the operation as probably due to it. Of these four deaths two were cases of pylorectomy, one followed an enterostomy, and one followed the closing of the wound when it was found that nothing could be done. What higher tribute to the success of the surgeon's art could be paid by a physician than such a table as I have given of the results of, perhaps, about the most trying operation to which the human frame could be subjected? Why is it then that pylorectomy for gastric cancer still remains such a fatal operation? I have witnessed the performance of the operation four times and in all the patients died. I cannot answer the question. The surgeon is apt to say that he does not get the cases early enough in the course of the disease and I think there may be a great deal of truth in this statement. But I do not think that it covers the whole ground. It seems to me that the removal of a large portion of the stomach, especially when the organ is the seat of malignant disease, is accompanied by a degree of nervous shock which only a few constitutions are able to recover from. I am well aware of a number of brilliant successes, but I think they are still in the minority. As regards the question of the earliest time at which operation should be recommended I do not think that the physician can do much more than he does at present, unless, indeed, he is prepared to advise every case of chronic dyspepsia to submit to a laparotomy with a possible pylorectomy at the end of it. I for one am not yet prepared to recommend such a course. Our powers of diagnosis in the earliest stages of cancer of the stomach are not yet so perfect as to permit of this. As regards the 13 cases in which I advised operation there was no great difficulty in the diagnosis. In one what was thought to be a dilated gall bladder turned out to be cancer of the stomach and liver. With this exception the diagnosis was clear in all the others. But this leads me to say that when the diagnosis is clear—i.e., when a *tumour is palpable*—the time for pylorectomy or radical operation is past. Here my clinical and my pathological experience agrees. When a gastric cancer is palpable the probability of the presence of secondary extension is very great; and in addition the vitality is likely to be so much reduced that the chances of recovery from a radical operation are very slight. In all such cases while I would not be inclined to advise pylorectomy I would not refuse the patient the slight chance it might afford him if I were quite convinced that he fully appreciated all the risks.

2. I propose now to consider very shortly the operation of gastro-enterostomy or gastro-jejunostomy in the treatment of gastric cancer. From the nature of the disease this operation can only be regarded as a palliative procedure. It is an operation to be recommended in cases where there is marked obstruction of the pylorus, leading *to excessive* pain and vomiting. Possibly the establishment of a gastro-enteric anastomosis might be regarded as likely to retard the growth of a malignant neoplasm of the stomach by preventing the irritation of the tumour by the passage of the gastric contents over its surface, but I think the probability of such a result is too remote to justify the recommendation of the operation on this ground alone. But for purposes of palliation I would not hesitate to recommend it in all suitable cases. In a recent letter to the medical press Mr. A. E. Maylard expressed his doubts as to whether it was right to advise gastro-enterostomy in advanced cases of pyloric cancer when we know that the relief can in the very nature of things only be temporary and when it is almost certain that after a period of marked relief and improvement the patient will have to go through all the suffering and distress again before the final event There is perhaps something to be said in favour of such an attitude, but I confess that I have not very much sympathy with it. It is, I think, the duty *of the physician* and the surgeon alike to afford relief from suffering and to prolong life whenever it is possible to do so and that without consideration of ulterior and it may be inevitable results. Of course, it should always be made clear to the patient that the procedure to be adopted is merely a *temporary* and palliative one.

In our series of 13 cases gastro-enterostomy was performed five times and enterostomy (jejunal fistula) once. In all of these cases—except that of enterostomy, in which the patient died soon after the operation—the relief afforded was most marked and the patients survived the operation for a period of from three weeks to three months, some of them being readmitted to my wards upon the complete healing of the surgical wound. Under the limitations indicated above there can be no doubt that gastro-enterostomy is a most valuable and justifiable procedure in gastric cancer and that the earlier it is *performed*—even before, it may be, the marked emaciation and obstruction have taken place—the more successful is it likely *to* be. As regards the four remaining cases in which merely an exploratory *operation* was possible nothing more need be said. One of the patients died as the result of the *operation*, the others recovered from it and in the *course of time* succumbed to the disease.

In concluding this portion of my paper I may give a statement of the proportion of cases operated upon to the total number of cases of gastric cancer observed in the period dealt with. The *total number* of cases of cancer of the stomach treated was 39—viz., 23 males and 16 females. The total number of operations was 13—viz., 6 *males and* 7 females—i.e., operation was performed in 30 per cent. of the cases treated. In a number of other cases operation was offered but was refused by the patient after a full statement of all the possibilities had been made. The following summaries of these 13 cases are given in chronological order, the male cases first and the female cases second.

Epitome of Cases of Gastric Cancer.

CASE 1.—The patient, a blind man, aged 62 years, was admitted to Ward 7 of the Glasgow Royal Infirmary on Oct. 5th, 1895, complaining of loss of flesh, weakness, and anorexia of six months', and of hiccough and eructation of two months' duration. There was a nodular freely moveable mass palpable in the epigastrium which was decided to be pyloric in situation. No free hydrochloric acid was detected in the gastric contents. Laparotomy was performed on Oct. 25th, but pylorectomy was not proceeded with on account of dangerous collapse. The patient was readmitted, quite recovered from the operation, on Nov. 19th, 1895, and died on Dec. 16th from exhaustion. A post-mortem examination revealed great narrowing and thickening of the pylorus from an epithelioma. No secondary nodules were present. The patient's blindness, which had been present from early youth, was found to be due to quiescent myxomatous tumour in the left lobe of the cerebellum.

CASE 2.—The patient, a man, aged 54 years, was admitted to Ward 7 on March 18th, 1898, on account of pain and vomiting after food of 14 days' duration. His stomach had troubled him since August, 1896, when he had a sudden hæmatemesis. Constipation was troublesome. Cachexia and emaciation were marked. A nodulated palpable tumour could be felt which was judged to be in the greater curvature of the stomach. The patient was transferred to a surgical ward on April 6th. Laparotomy was performed, but the mass could not be removed, nor could gastro-enterostomy be performed. The man recovered from the operation.

CASE 3.—The patient, a man, aged 48 years, was admitted to Ward 7 on April 21st, 1900, on account of vomiting, weakness, and loss of flesh of two months' duration; everything, even water, was vomited. Certainly he was well and strong three months before admission but had been liable to "water-brash" all his life and for some years had suffered from mornic [illegible] he epigastrium wh [illegible] before admission. [illegible] painful and might be situated either in the left lobe of the liver or in the pylorus. There was no vomiting after admission but pain was troublesome in the left hypochondrium. The heart and lungs were normal. Slight albuminuria was present. On April 26th the tumour was diagnosed as gastric in situation. Operation was performed on May 18th. A tumour was found in the left lobe of the liver and another in the posterior wall of the stomach, the latter probably being primary. The wound was closed. The patient was readmitted on June 19th. The wound was perfectly cicatrised and the nodule was still palpable in the epigastrium. The patient died on Sept. 11th from asthenia. A post-mortem examination revealed a large columnar-celled epithelioma of the stomach with secondary nodules in the liver, portal glands, and mediastinal glands.

CASE 4.—The patient, a man, aged 34 years, was admitted to Ward 7 on Jan. 24th, 1902, on acccount of dull epigastric pain of six weeks' duration in consequence of which he had had to lie up three weeks before admission. Pain was not related to taking of food and was not accompanied by vomiting. Constipation was troublesome. The tongue was flabby, indented, and tremulous. On palpation there was fulness in the epigastrium, which was very tender, but no palpable tumour could be made out or succussion. The diagnosis oscillated between disease of the pylorus and disease of the gall-bladder. The heart was normal. Slight albuminuria was present. Operation (performed on Feb 12th) revealed a large malignant tumour in the anterior wall of the stomach with secondary nodules in the liver. The wound was closed. He was readmitted, with the wound healed, on Feb. 25th, and was dismissed to his home at his own request on the 28th.

CASE 5.—The patient, a man, aged 47 years, was admitted to Ward 7 on Jan. 16th, 1903, on account of severe pain in the epigastrium, frequent coffee ground vomiting, and great emaciation (he lost almost three stones in five months), and a mass, obviously pyloric, in the epigastrium. He had been ill for 12 months in all. There was no free hydrochloric acid in the gastric contents. The red blood corpuscles numbered 3,500,000 per cubic millimetre He was transferred to the surgical ward on Feb. 4th and a gastro-enterostomy was performed with great relief to the gastric pain and marked improvement of his general con- [illegible] home on April 13th with [illegible] lower limbs.

[illegible] ged 55 years, was admitted to hospital on July 31st, 1903, on account of pain after food and vomiting of a year's duration. Distinct dilatation of the stomach was present which was treated by lavage, but there was no palpable tumour. No free hydrochloric acid was present. A brother had died from gastric cancer. The patient was transferred to the surgical ward on Sept. 23rd and laparotomy was performed. Diffuse cancerous infiltration of the stomach wall was found. Death ensued in two days.

CASE 7.—The patient, a married woman, aged 40 years, was admitted to Ward 8 on Sept. 3rd, 1898, on account of vomiting and pain in the stomach and of rapidly advancing emaciation of about eight months' duration. She was transferred on Sept. 7th to the surgical ward on account of the constant vomiting. The occurrence of the vomiting immediately after ingestion suggested obstruction near the cardiac end and passage of bougies confirmed this. On the 10th laparotomy was performed and a large tumour was discovered in the stomach. Enterostomy was performed and a duodenal fistula was established. Death ensued within 48 hours. Post mortem examination revealed a large cancerous tumour of the body of the stomach ulcerating into the liver and into the small sac of the omentum.

CASE 8.—The patient, a married woman, aged 27 years, was admitted to Ward 8 on Nov. 23rd, 1898, on account of pain after food and a swelling in the epigastrium. The epigastric tumour was first noticed after a severe attack of pain in the stomach on Nov. 17th, and the history was not that characteristic of gastric cancer. On April 22nd, 1898, she had been admitted on account of chronic gastric catarrh with doubtful evidence of ulceration in the form of an obscure history of coffee-ground vomiting. She remained well till August, 1898, when another attack of pain and vomiting occurred, the vomited matter being brown in colour and in quantity about a cupful. She had similar attacks in the middle of August and in October. Since then she had suffered from constipation and a tendency to melæna. She was transferred to the surgical ward on Nov. 27th, with the view that the epigastric tumour might possibly be an abscess connected with an ulcer of the stomach. On the 29th laparotomy was performed, when a large cancerous tumour involving the pylorus with widespread implication of the neighbouring glands was discovered. Removal was impossible but gastro enterostomy was performed. She recovered well from the operation and had temporary relief from her pain.

CASE 9.—The patient, a married woman, aged 54 years, was admitted on Sept. 9th, 1899, to Ward 8 on account of progressive weakness and emaciation of a year's duration and of very constant vomiting after food of six or eight months' duration. A large, very hard, painless, freely moveable, and nodulated tumour (first noticed by the patient in the previous March), evidently involving the pylorus and the greater curvature of the stomach, was easily palpable. For the relief of the vomiting she was transferred to the surgical ward on Sept. 19th, where gastro-enterostomy was performed, with immediate relief of the vomiting. The patient died from asthenia on Oct. 11th and a post mortem examination held on the 13th revealed a perfectly formed artificial pylorus, as well as a large epithelioma of the pylorus, extending towards the cardiac end and also towards the opening into the jejunum. Secondary tumours were found in the left lung and pleura but none in the liver.

CASE 10.—The patient, a married woman, aged 55 years, was admitted on Sept. 27th, 1901, to Ward 8, on account of vomiting of food occasionally for four years and of loss of flesh of one month's duration. A hard mass, evidently pyloric in situation, could be felt in the epigastrium and striking gastric peristalsis was visible. Vomiting and constipation had persisted for four years. Two years previously an attack of severe pain in the stomach had occurred, followed on the next day by hæmatemesis (coffee ground) and tarry motions; ulcer was then diagnosed. The hæmatemesis was not repeated but for two years she had vomited two or three times a week, the ejecta appearing to be greater means must always be rare chiefly on account of the great frequency with which secondary extensions undetectable by ordinary means of examination are present, 16 out of 19 cases of gastric cancer presenting on post-mortem examination secondary nodules in the liver or other parts. As the basis of my present study of the subject I have taken the facts recorded in my ward journals since 1895 In this period of eight years I find that there have been under treatment in my wards 220 cases of stomach disease of all kinds, 80 males and 140 females. Of these cases I find that surgical operation was recommended and performed in 23 and it is on a more particular study of the records of these 23 cases (an analysis of which is given below) that I found the remarks I have to make in this paper.

Cancer, 6 males, 7 females	13 cases.
Ulcer, all females	4 „
Hæmatemesis, all males	2 „
Simple dilatation, all males	3 „
Stricture of the œsophagus	1 case.
Total	23 cases.

GASTRIC CANCER.

Two methods of surgical treatment suggest themselves both to the physician and the surgeon as applicable to cases of cancer of the stomach: (1) pylorectomy, the radical removal of the tumour itself; and (2) gastro-enterostomy, a palliative procedure for the relief of urgent and distressing symptoms.

1. As regards pylorectomy, I have already referred to my views of the value of this operation as based upon post-mortem room experience. After a somewhat careful consideration of a series of consecutive cases examined post mortem I came clearly to the opinion that in the present state of our diagnosis pylorectomy could seldom be undertaken with any very great prospect of success. In this opinion I found myself in agreement with Guinard. My clinical experience of the last eight years rather strongly confirms me in this opinion. In only one of the 13 cases in which I recommended operation did I advise pylorectomy as the procedure which I thought might be hopefully undertaken, and in that case, though the conditions were in every sense most favourable, the operation could not be completed on account of the highly dangerous collapse of the patient on the operating table The man recovered from the operation well and died nearly two months later in my wards from the natural progress of his malady. In all the other cases I advised either an exploratory incision with a view to a possible radical operation or the performance of a gastro-enterostomy for the relief of urgent symptoms. At this stage it may be right to state the results of the 13 operations for gastric cancer in a tabular form :—

Pylorectomy advised but found to be impossible	1 case (recovery).
Gastro-enterostomy advised but pylorectomy performed as the conditions seemed favourable when the abdomen was opened	2 cases (both died).
Exploratory operation advised and followed by—	
(a) Gastro-enterostomy	6 cases (5 recovered).
(b) Closing of the wound as nothing could be done	4 cases (3 recovered).

When we examine this table we are struck with one thing—namely, the comparative safety with which an exploratory incision for disease of the stomach can be made. In the whole series of 13 cases there were only four in which the death could be directly attributed to the operation. I regard a death occurring within 48 hours after the operation as probably due to it. Of these four deaths two were cases of pylorectomy, one followed an enterostomy, and one followed the closing of the wound when it was found that nothing could be done. What higher tribute to the success of the surgeon's art could be paid by a physician than such a table as I have given of the results of, perhaps, about the most trying operation to which the human frame could be subjected? Why is it then that pylorectomy for gastric cancer still remains such a fatal operation? I have witnessed the performance of the operation four times and in all the patients died. I cannot answer the question. The surgeon is apt to say that he does not get the cases early enough in the course of the disease and I think there may be a great deal of truth in this statement. But I do not think that it covers the whole ground. It seems to me that the removal of a large portion of the stomach, especially when the organ is the seat of malignant disease, is accompanied by a degree of nervous shock which only a few constitutions are able to recover from. I am well aware of a number of brilliant successes, but I think they are still in the minority. As regards the question of the earliest time at which operation should be recommended I do not think that the physician can do much more than he does at present, unless, indeed, he is prepared to advise every case of chronic dyspepsia to submit to a laparotomy with a possible pylorectomy at the end of it. I for one am not yet prepared to recommend such a course. Our powers of diagnosis in the earliest stages of cancer of the stomach are not yet so perfect as to permit of this. As regards the 13 cases in which I advised operation there was no great difficulty in the diagnosis. In one what was thought to be a dilated gall bladder turned out to be cancer of the stomach and liver. With this exception the diagnosis was clear in all the others. But this leads me to say that when the diagnosis is clear—i.e., when a tumour is palpable—the time for pylorectomy or radical operation is past. Here my clinical and my pathological experience agrees. When a gastric cancer is palpable the probability of the presence of secondary extension is very great; and in addition the vitality is likely to be so much reduced that the chances of recovery from a radical operation are very slight. In all such cases while I would not be inclined to advise pylorectomy I would not refuse the patient the slight chance it might afford him if I were quite convinced that he fully appreciated all the risks.

2. I propose now to consider very shortly the operation of gastro-enterostomy or gastro-jejunostomy in the treatment of gastric cancer. From the nature of the disease this operation can only be regarded as a palliative procedure. It is an operation to be recommended in cases where there is marked obstruction of the pylorus, leading to excessive pain and vomiting. Possibly the establishment of a gastro enteric anastomosis might be regarded as likely to retard the growth of a malignant neoplasm of the stomach by preventing the irritation of the tumour by the passage of the gastric contents over its surface, but I think the probability of such a result is too remote to justify the recommendation of the operation on this ground alone. But for purposes of palliation I would not hesitate to recommend it in all suitable cases. In a recent letter to the medical press Mr. A. E. Maylard expressed his doubts as to whether it was right to advise gastro-enterostomy in advanced cases of pyloric cancer when we know that the relief can in the very nature of things only be temporary and when it is almost certain that after a period of marked relief and improvement the patient will have to go through all the suffering and distress again before the final event There is perhaps something to be said in favour of such an attitude, but I confess that I have not very much sympathy with it. It is, I think, the duty of the physician and the surgeon alike to afford relief from suffering and to prolong life whenever it is possible to do so and that without consideration of ulterior and it may be inevitable results. Of course, it should always be made clear to the patient that the procedure to be adopted is merely a temporary and palliative one.

In our series of 13 cases gastro-enterostomy was performed five times and enterostomy (jejunal fistula) once. In all of these cases—except that of enterostomy, in which the patient died soon after the operation—the relief afforded was most marked and the patients survived the operation for a period of from three weeks to three months, some of them being readmitted to my wards upon the complete healing of the surgical wound. Under the limitations indicated above there can be no doubt that gastro-enterostomy is a most valuable and justifiable procedure in gastric cancer and that the earlier it is performed—even before, it may be, the marked emaciation and obstruction have taken place—the more successful is it likely to be. As regards the four remaining cases in which merely an exploratory operation was possible nothing more need be said. One of the patients died as the result of the operation, the others recovered from it and in the course of time succumbed to the disease.

In concluding this portion of my paper I may give a statement of the proportion of cases operated upon to the total number of cases of gastric cancer observed in the period dealt with. The total number of cases of cancer of the stomach treated was 39—viz., 23 males and 16 females. The total number of operations was 13—viz., 6 males and 7 females—i.e., operation was performed in 30 per cent. of the ward at 3 A.M., complaining of pain in the abdomen of eight hours' duration. For two months before this she had been complaining of pain in the stomach setting in from half an hour to an hour after food but there had been no vomiting before the day of admission. On the day before admission, about 7 P.M., she was suddenly seized with severe pain in the abdomen, accompanied by pale lividity of the countenance. A medical man who was called ordered fomentations. He was summoned again and found her doubled up with pain, the knees being drawn up on the abdomen. He ordered her removal to the infirmary. At the time of admission she was on the whole better; the pulse numbered 100 and was small, the temperature was 99° F., and she vomited a little bile only on one occasion. Dr. Hunter saw her at 12 noon on the 4th and advised immediate operation. On opening the abdomen bile-stained fluid was found in the peritoneal cavity as well as a perforation in the stomach wall large enough to admit a goose-quill and situated on the anterior surface one and a half inches above the great curvature and slightly to the left of the middle line. The rupture was sutured. A post-mortem examination verified the state of matters found on operation.

CASE 4.—The patient, a female, aged 25 years, single, was admitted to Ward 8 on Sept. 6th, 1900, under the care of Dr. Hunter, and transferred to the surgical ward for operation on the 7th. She had suffered from dyspepsia for eight years and had been under treatment before admission since Sept. 4th for peritonitis. On opening the abdomen a ruptured ulcer and a localised peritonitis were discovered. The post-mortem summary was in the the following terms: "Gastric ulcer; rupture of stomach; ulcer sutured."

The foregoing list, unsuccessful as the cases were, is not without important lessons. In the surgical treatment of ruptured gastric ulcer time is a factor of the very highest moment. The earlier a rupture is recognised and operation undertaken the better the results of the operation are likely to be. In this connexion I may refer to two cases which I recorded in the *Glasgow Medical Journal* in 1899 and in which the precise time from the occurrence of the perforation to the development of a fatal general peritonitis could be estimated with probable accuracy. In one, a case of duodenal ulcer, death occurred 21 hours, and in the other, a case of gastric ulcer, 25 hours after the occurrence of perforation. In neither case was an operation performed. In both the actual time of perforation could be accurately fixed and in both a most intense general peritonitis, with escape of the gastric contents into the cavity of the peritoneum, was discovered on post-mortem examination. Of course the situation of the perforation varies in different cases. In some the perforation may be so situated that only a localised peritonitis with subsequent abscess formation may result. In others the rupture may lead to the escape of the contents of the stomach directly into the cavity of the peritoneum, as in the two cases to which I have just referred. In the former class of case we may perhaps, and sometimes possibly with advantage, be able to wait and watch before resorting to surgical interference; but in the latter class we must advise operation at the very earliest moment if we are to have any chance of saving the life of the patient. In either class of case, however, the clinical skill and acumen of the physician will be taxed to the uttermost.

Before concluding this section of my paper I should like briefly to refer to two methods of diagnosis which have been much practised in dealing with cases of ruptured gastric ulcer. *First, with regard to the area of hepatic dulness*, it has been pointed out by a number of observers that in many cases of rupture of the stomach the area of hepatic dulness rapidly disappears. In the first of our list of cases the hepatic area was found to be greatly diminished in size and this formed one of the factors which led to our advising an operation. As we have seen, no ulcer was found in the case and the patient recovered well. Personally I do not think that we can place much reliance upon this physical sign and I would refer you to a communication by my former house physician, Dr. W. G. Rodger, in which he gives the results of his investigations on this matter in six cases, five of which were from my wards and one from the wards of my colleague, Dr. J. W. Allan.[3] *Secondly, with regard to leucocytosis*, I am inclined to think that the development of a rapid leucocytosis would be a valuable indication in our efforts at diagnosis and I think a blood count should be made in all cases. The leucocytosis may not indicate a general peritonitis but its presence would probably point to pus formation and so it may be a valuable guide as to whether operation should be undertaken or not. In one of the cases reported by Dr. Rodger where there was a duodenal ulcer perforating the pancreas but without causing peritonitis the leucocyte count rose from 5250 at 2 A.M. to 25,600 per cubic millimetre at 9 A.M.

HÆMATEMESIS.

There is perhaps no affection of the stomach the treatment of which causes the physician more anxiety than that which is accompanied by copious vomiting of blood. Hæmatemesis due to gastric disease may be of two kinds: it may be due (1) to a more or less continuous oozing from a simple or malignant ulcerated surface, in which case the vomited matter is usually of the "coffee-ground" character, or it may be caused (2) by the perforation of a comparatively large branch of one of the gastric arteries, in which case the blood vomited may be quite fluid or in the form of bright red clots. (With the copious hæmorrhage which sometimes complicates hepatic cirrhosis or is caused by varix of the œsophagus we are not at present concerned.) In cases of hæmatemesis due to arterial perforation copious tarry motions are common and in some almost as much blood may pass down into the intestine as is evacuated by the mouth. Such severe hæmorrhage may occur during the progress of a simple perforating ulcer or more rarely as the result of a "pore-like" erosion of the wall of one of the larger branches of the gastric arteries (exulceratio simplex of Dieulafoy[4]) without any marked ulceration of the surrounding mucous membrane and at most accompanied by an abrasion so slight in area and degree that the lesion might readily enough be overlooked even at the necropsy. Very severe hæmorrhages occurring in the course of Cruveilhier's perforating ulcer are not infrequently quite recovered from under ordinary medicinal treatment but the chance of recovery in a well-marked case of "pore-like" erosion of the gastric arteries is, I should think, very slight unless, indeed, the surgeon can ligature the bleeding point. Fenwick divides hæmorrhage from chronic ulcer of the stomach into three varieties: (1) slight hæmorrhage; (2) moderate hæmorrhage; and (3) excessive hæmorrhage (l'hémorragie foudroyante). Now in cases of "pore-like" erosion the bleeding is usually of the "foudroyante" variety and this variety of bleeding, according to the same authority, is rare, being only observed in 3·4 per cent. of the cases examined.[5] In some of such cases the source of the hæmorrhage may be, and I think probably has been, overlooked even on the post-mortem table and the bleeding has been erroneously ascribed to congestion and diapedesis. I have met with two such cases, confirmed by necropsy, which I have already published.[6] In one of the cases the hæmorrhage might be described as severe if not excessive and in the other as "foudroyante." The first died exhausted from a diarrhœa which set in after the hæmorrhage had been arrested and the second died on the fourth day of residence, during which he had vomited 96 ounces of blood in addition to profuse tarry motions, and exclusive of a profuse hæmatemesis before admission which had caused him to fall fainting in the street, and which an ambulance attendant who picked him up and brought him to the infirmary estimated at from two to three pints. In this case I asked my colleague Mr. J. Hogarth Pringle to open the stomach after all available medicinal means had failed but he was unable to find the source of the bleeding.

In "pore-like" erosion of the gastric arteries an important point in the diagnosis is the absolute suddenness with which in many cases the hæmorrhage sets in, and often without any previous history of gastric disorder. In one of the two cases noted above the attack came on in the midst of apparent health, and in the other the longest clinical history of stomach symptoms that could be obtained was one of four weeks. I believe, however, that I have seen a third case which was more striking than either of these two but in which the diagnosis could not be confirmed by post-mortem examination. The patient was a robust stout man of middle age, whom I saw on May 1st, 1901, in consultation with his medical man, Dr. J. N. Glaister of Glasgow. On the morning of that day in the midst of good health and the active discharge of his daily duties, and without any clinical history of previous gastric disturbance except an occasional attack of dyspepsia, he was suddenly seized after a hearty breakfast with a profuse hæmatemesis. This had continued all day in spite of careful treatment and I was called to see him at midnight. I found him exsanguine and collapsed, and with a bowlful of bright red blood at his bedside which he had just vomited. Nothing further could be done and he died early the next day. I have no doubt in my own mind that this was a case of "pore-like" erosion or "exulceratio simplex" of Dieulafoy.

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[3] THE LANCET, July 11th, 1903, p. 93.

[4] Manuel de Pathologie Interne, thirteenth edition, tome ii., p. 231, Paris, 1901.

[5] [illegible] l. ii.

[6] p. [illegible]

Now, in all cases of severe hæmatemesis due to organic disease of the stomach, whether caused by simple ulcer or by "pore-like" erosion, I am of opinion that the propriety of calling in surgical help should from the first be carefully considered by the physician, particularly if profuse bleeding is repeated at short intervals and the life of the patient is threatened from collapse. In cases where there is a clear history of chronic ulcer I think medical treatment may be pursued for a time with fair prospects of success in many even severe cases, but in cases of "pore-like" erosion where the "foudroyante" type of bleeding starts with appalling suddenness *the sooner the surgeon is called the better.* Dieulafoy has recorded one brilliant success, the life of a patient threatened by profuse hæmorrhage from "exulceratio simplex" being saved by immediate operation; and such records are always encouraging. In severe hæmorrhage from simple ulcer the operation should be easier as the site of the ulcer would serve as a guide to the bleeding point, but in "pore-like" erosion it may be exceedingly difficult to find the bleeding point after the stomach is opened. Nevertheless, the attempt should be made. In the case of ulcer, too, the presence of deep-seated adhesions or the situation of the ulcer may give rise to difficulties not easy to overcome. In spite of it all, however, our only hope in many of these cases is in the surgeon.

Epitome of Cases of Hæmatemesis.

CASE 1. *Severe hæmatemesis from a simple ulcer of the stomach, in which the stomach was opened and the edges of the ulcer were brought together by sutures.*—The patient was a man, aged 46 years, who had been suffering from anorexia, pain after food, and frequent vomiting for five months before admission. He had had three separate attacks of severe hæmatemesis—the first in July, 1899, the third on Oct. 1st of the same year, the day before his admission to the infirmary. He was very weak and greatly emaciated. As he was very willing to have something done which might prevent the recurrence of the bleeding he was transferred to the surgical ward on Oct. 5th. I was of opinion that the bleeding was from an ulcer and not from a "pore-like" erosion. After his transference the bleeding ceased and nothing was done. On the 15th it recurred with great severity. I saw him in the evening in consultation with Mr. James Luke, who was acting for my colleague Mr. Pringle and we agreed that operation should be performed at once. A simple ulcer was found, the wall at the site of the ulcer being adherent to the liver; its edges were brought together by sutures after the surface had been scraped by a Volkmann's spoon. The patient recovered from the chloroform but died a few hours afterwards from exhaustion.

CASE 2.—This was a case of profuse hæmatemesis due to "pore-like" erosion of a branch of the left gastro-epiploic artery. Laparotomy and exploration of the interior of the stomach were performed by Mr. Pringle. 96 ounces of blood were vomited during four days' residence. Profuse tarry motions were passed. Death occurred one and a half hours after operation. This case has been sufficiently referred to above and has already been published in detail.[7]

DILATATION OF THE STOMACH.

There is, perhaps, no affection of the stomach which in well-selected cases may be more successfully treated by the surgeon than that of simple dilatation of the organ. I mean by this dilatation which is produced by other causes than by malignant disease. As we have already seen, even in dilatation due to malignant disease, the operation of gastro-enterostomy may afford great temporary relief from severe suffering, but in the affections with which I am now dealing, we may, in certain cases, hope for much more permanent benefit if not for absolute cure.

Simple dilatation of the stomach may arise, I think, in several different ways. It may be caused by the cicatricial contraction of the pylorus arising from the healing of a simple ulcer at or in the immediate neighbourhood of the orifice. It may be caused by peritoneal adhesions binding the pylorus to the under surface of the liver in the region of the gall-bladder. Or it may arise from an atonic relaxation of the coats of the stomach the result of chronic catarrh due to long-continued errors of diet and overloading of the viscus. In such cases there may be no actual narrowing of the pylorus itself. In a few cases the dilatation may be due to what can only be regarded as a congenital narrowing of the pyloric opening. Now in all such cases when medical treatment has been fairly tried and has failed, we may with the greatest confidence appeal to the surgeon for help. It is always right that medical and dietetic treatment should be given a thorough trial before resorting to operation, because it must be admitted that in a certain number of cases, more especially those which are of the atonic variety and due to errors of diet, a cure may be effected by such treatment. A cure by medical means must always be preferable, for, however successful the operation, there must ever be the risk of a cicatrix yielding and giving rise to hernia, or of obstructive complications arising from the dislocation of normal relationships which is necessarily involved in any surgical procedure. There is also, I think, some danger of the artificial opening contracting somewhat in the course of time, but this is not so likely to happen in cases where there is a decided stenosis of the pylorus. There can be little doubt that gastro enterostomy is the operation to be preferred in all such cases, and when medicine has entirely failed surgery must be resorted to. My experience of this method of treatment is limited to four cases, three in hospital and one in private practice, and in all the results were most satisfactory.

Epitome of Cases of Dilatation of the Stomach.

CASE 1.—The patient, a man, aged 30 years, was admitted to Ward 7 for the first time on May 22nd, 1899, and was dismissed very greatly improved about two months later, on July 25th. On admission he was suffering from dilatation of the stomach and hæmorrhage into its cavity and into the intestinal canal. Except for well-marked Hippocratic succussion and a slight enlargement of the left lobe of the liver physical examination gave negative results. The washings of the stomach contained altered blood and anæmia was very profound. On May 29th the hæmoglobin was 20 per cent. and red blood corpuscles numbered 1,380,000 per cubic millimetre. The evening temperature often reached 101° or 102° F. The heart and lungs were normal. The illness dated from Jan. 1st, and was characterised by pain in the epigastrium and beneath the left shoulder after food, by frequent vomiting, and by progressive weakness, so that he had been quite unable to work since March. He was treated by rest, rectal feeding, and lavage of the stomach. At the time of dismissal he was very well. The hæmoglobin was 60 per cent. and the red blood corpuscles numbered 4,560,000 per cubic millimetre. The patient was readmitted to Ward 12 on May 6th, 1901, and transferred to the surgical ward on June 10th when gastro-enterostomy was performed on the 13th by Mr. Pringle. After his previous residence he had remained very well till March, 1901, when as the result of a chill his gastric symptoms again became very urgent. Succussion revealed very great dilatation and constipation was extreme The operation was very successful. He made an uninterrupted recovery and left the infirmary on August 2nd, 1901, quite well Several attempts have been made to find him at various addresses since then but have failed.

CASE 2.—The patient, a man, aged 40 years, was admitted to Ward 7 for the first time on Dec. 22nd, 1900, and dismissed, on account of family reasons, on Jan. 5th, 1901, greatly improved. On this occasion he was suffering from subacute gastric catarrh with considerable dilatation of the stomach, the symptoms having been present for about 13 weeks and consisting chiefly of pain in the epigastrium followed by vomiting. Except for moderate dilatation no evidence of serious organic disease could be detected. The heart and lungs were normal and the urine, at first slightly albuminous, soon presented healthy characters. The patient was readmitted on April 28th, 1902, *with all the signs and symptoms of great atonic dilatation of the stomach. No* tumour could be detected and there was no specially painful area. He was transferred to the surgical ward on May 19th and the operation of gastro-enterostomy was successfully performed by Mr. Pringle. The following letter from his medical attendant (Dr. J. W. Little of Newmains) shows his condition at the present time: "I have been asked by Mr. —— to reply to your letter of Feb. 9th and state that he has enjoyed quite exceptional health since the operation, never having missed his daily work since, nor has he had any stomach symptoms and can take all kinds of food with impunity. He also intends to visit you at the infirmary on Saturday between 9 and 11 o'clock." I saw the patient on Feb. 13th, 1904, and found him in all respects perfectly well and the cicatrix firm and strong.

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[7] Transactions of the Medico-Chirurgical Society of Glasgow, 1900, vol. ii., p. 242; also Author's Lectures on Clinical Medicine, Glasgow, 1900, p. 180.

CASE 3.—The patient, a man, aged 40 years, a miner, was recently readmitted for the second time to Ward 7 on Dec. 12th, 1903, on account of vomiting after food and general nervous debility. He was dismissed towards the end of January, 1904, having maintained fair health and a good appetite, except for a few days when he had some vomiting. The following summary of the rather extensive clinical notes is all that need be given here. Gastro-enterostomy was performed in June, 1902, on account of dilatation of the stomach, associated with vomiting, nervousness, and debility of at least three years' duration. He had been in previous residence from Jan. 27th to March 18th, 1899. He was then suffering chiefly from catarrh of the stomach. After leaving the hospital he was treated as an out-patient of the wards for stomach symptoms, with gradually advancing dilatation, till June, 1902, when he was readmitted for the purpose of having gastro-enterostomy performed. Since then, although enjoying fair health on the whole, he has been liable to occasional attacks of vomiting, the last severe attack having occurred in November, 1903. The result in this case has not been so good as in the other two cases, but this may partly be accounted for by the fact that his nervous system has been weakened by a severe crushing accident six or seven years ago which has permanently crippled his right leg and prevented him following his ordinary occupation.

The last of the 23 operations on the stomach which have formed the basis of this paper—viz., gastrostomy for cancerous stricture of the œsophagus—need not be considered in detail, as the disease does not involve the stomach and so hardly comes within the scope of my present subject.

In what has gone before I think I have clearly shown that, with careful selection, there are many affections of the stomach which may be most beneficially and successfully treated by surgical operation. As regards malignant disease I fear that in the meantime at least the results of surgical interference will be mainly palliative. In cases of ruptured ulcer, of excessive hæmatemesis and of dilatation we may in many cases confidently expect, not only the immediate saving of life, but a permanent cure of the malady as the result of operation. To my surgical colleagues, Mr. J. Hogarth Pringle, F.R.C.S. Eng., by whom the majority of the operations here recorded were performed, and Mr. Luke, who acted in his chief's absence, I must, in conclusion, express my gratitude, not only for the great skill which they displayed in the performance of these delicate and difficult surgical procedures, but also for the invaluable help which they so readily afforded me in the preceding study and examination of the cases for purposes of diagnosis.

Glasgow.

FIVE CASES OF CARCINOMA OF THE MALE BREAST.

BY CHARLES R. KEYSER, F.R.C.S. ENG.,
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CANCER of the male breast is so rare a disease that there is no necessity to offer an excuse for recording the following cases. Over 14 years ago Roger Williams[1] published a paper on 100 cases of cancer of the male breast and since then only a few isolated cases have from time to time been recorded. Thus Shattock[2] described one in a man, aged 57 years, who had noticed a growth in the breast for three years. This patient also had a yellowish discharge from the nipple. Microscopically the tumour was a duct carcinoma. This case is of especial interest as duct carcinoma occurring in the male breast is exceedingly rare. Wagstaffe[3] quotes a case of a man, aged 61 years, who had carcinoma of both breasts and published a report of 20 cases which were observed between 1857 and 1875. Lunn[4] recorded a most interesting example occurring in a man, aged 91 years, who had suffered pain in the left breast for ten months before admission into the Marylebone Infirmary. For three months a lump had been noticed in the axilla. A fungating growth was present in the left breast involving the nipple and an area of one inch around the nipple. The growth was moveable on the deeper parts but a gland was felt in the axilla. The breast and the glands were removed but the patient died a few days afterwards from hypostatic congestion of the lungs. The growth was reported to be a duct carcinoma, notwithstanding the presence of the glands in the axilla. This patient is said to be the oldest on record suffering from cancer of the breast. Warfield[5] collected 37 cases which occurred between 1890 and 1901 but this includes some of those already recorded. W. Blair Bell[6] has recently published a case of a man, aged 56 years, who four and a half years previously noticed a small, hard lump, of the size of a pea, in the right breast. This gradually increased in size and two and a half years after the tumour was first noticed it began to ulcerate. There was never any discharge from the nipple. The right breast presented an ulcer, four inches by three inches, the edges of which were hard, raised, and everted. There was a foul discharge and the ulcer bled easily. No glands were felt. The breast and the underlying fascia and muscle were removed as well as glands which were found in the axilla. The growth recurred 15 months after the operation in the skin above the scar; a deposit was also felt on the fifth left rib. Both of these were removed but the patient died one year and nine months after the first operation.

The Museum of the Royal College of Surgeons of England contains six specimens of cancer of the male breast; in five in which the age and the duration of the growth are stated the average is 57 and four and a half years respectively. The Museum of St. George's Hospital contains five specimens, in two of which the histories of the patients are given. In the first of these the growth was removed from a man, aged 58 years, who noticed a small lump in the right breast four years previously to admission to the hospital. A slight bloody discharge from the nipple had also been observed. Since then the growth had slowly but steadily increased in size and occasionally had been painful. On examination a hard nodular tumour of the size of an orange was felt close to the nipple; it was adherent to the skin but freely moveable on the deeper parts. The skin was discoloured and the nipple was retracted; a gland could be felt in the axilla. The breast was removed. It was reported that the patient's father had died at the age of 80 years from the same complaint, the tumour having existed for 13 years. The second specimen was removed from a man, aged 64 years, who had perceived a swelling of the right breast gradually increasing in size for a period of eight years. At the time of operation the tumour was of about the size of a large walnut; it was adherent to the skin but moveable on the pectoral muscle. There were no glands to be felt in the axilla. The growth was said to have been caused by a blow from a stone.

From recent reports from three of the large London hospitals I have collected 1416 cases of carcinoma of the breast; only ten of these occurred in males, or 1 in 140·5. Warfield says that in three years 307 cases of carcinoma of the breast were treated at the Johns Hopkins Hospital; three of these were in males. Roger Williams states that of all the neoplasms of the breast about 1 per cent. occur in males. The same authority gives 50 years as the average age at which the disease commences; in nine cases which I have collected the average age was 61·5 years.

The histories of the five hitherto unpublished cases which form the subject of this paper are as follows.

CASE 1.—The patient, a man, aged 61 years (Fig. 1), was admitted into the Cancer Hospital, under the care of Dr. F. A. Purcell, on April 23rd, 1895. Two years before, whilst lifting a heavy box, he was struck by a corner of it on the right breast. The breast was bruised and became very tender. Soon afterwards a hard lump "like a button" was found under the nipple; this increased in size and 12 months later it began to discharge. On examination a large, hard, raised mass was found which was ulcerated on the surface and tender to the touch. No remains of the nipple could be seen. The tumour was slightly moveable on the deeper tissues. The glands all matted together were felt in the axilla. The right side of the heart was dilated and emphysema was present. On April 27th the breast and the glands were removed but the patient died on May 12th.

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[1] THE LANCET, August 10th, 1889, p. 261.

[2] Transactions of the Pathological Society, vol. xliii.

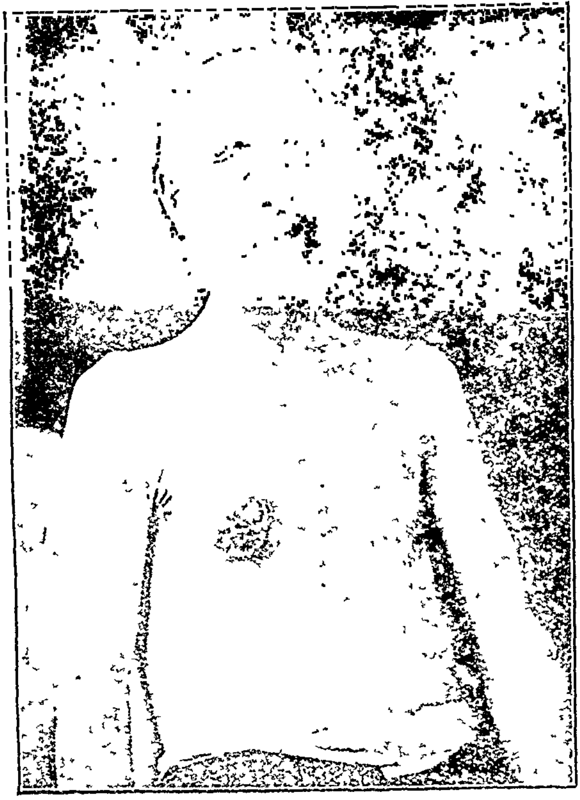
[3] Ibid., vol. xxvii.

[4] Ibid., vol. xlviii.

[5] Johns Hopkins Hospital Bulletin, October, 1901.

[6] Brit. Med. Jour., vol. i., 1903.

FIG. 1.



Ulcerating cancer of the breast.

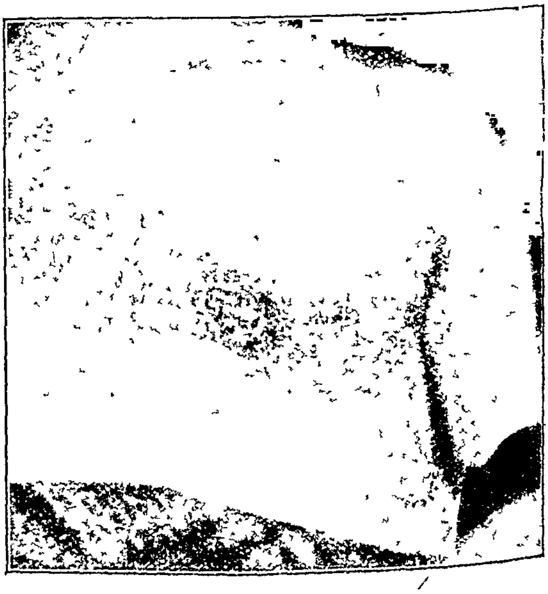
CASE 2.—The patient, a man, aged 48 years, was admitted into the Cancer Hospital on Nov. 11th, 1897, under the care of Dr. Purcell. 12 months previously he noticed pain and itching about the right nipple. There was no history of injury. On examination, just to the outer side of the right nipple was a hard, freely moveable lump, of the size of a small walnut. The skin was adherent but the nipple was not retracted. There was no discharge from the nipple. On the 13th the tumour was excised but the axilla was not opened. The patient made an excellent recovery and was discharged on Dec. 1st. He returned on March 7th, 1902, and stated that for two years he had noticed a small lump in the right axilla and that for one year there had been a small growth in the scar. Both were gradually increasing in size and caused some shooting pain. There were present a small moveable tumour of the size of a hazel nut in the scar, which was not attached to the skin, and a large, moveable mass close to the axilla. Both were removed. After leaving the hospital the patient was lost sight of.

CASE 3.—The patient, a man, aged 63 years, was admitted into the Cancer Hospital on Jan 9th, 1899, under the care of Dr. Purcell. The history was that three years previously he had injured the right breast and that one year previously he had noticed that the right breast was harder than the left. He never suffered any pain. On examination the right breast was larger than the left and a hard, circular mass about two inches in diameter could be felt just beneath the nipple which was depressed. The mass was adherent to the skin but was moveable on the deeper parts. No glands were felt in the axilla. On the 11th the growth was freely excised. An excellent recovery followed and the patient was discharged from hospital on the 23rd.

CASE 4.—The patient, a man, aged 48 years, was admitted into Charing Cross Hospital on May 19th, 1899, under the care of Mr. H. F. Waterhouse. 12 months previously he injured the right breast so as to cause bruising. Three months before he noticed that the breast was getting hard and that at times there was a discharge of blood from the nipple. He never suffered any pain. On examination the patient was very fat and looked older than his age. There was a marked prominence of the right nipple and a tumour, purple in colour, of the size of a five-shilling piece, could be seen just below and to the inner side of the nipple. On palpation a large hard mass, rounded in shape and of the size of a small orange, could be felt. The skin was adherent but the tumour was moveable on the pectoral muscle. No glands were felt in the axilla. On May 25th the breast was amputated by an elliptical incision and the axilla was cleared out; many glands were found in the latter situation. After leaving the hospital the patient was next seen in January, 1900, when he was quite strong and well and showed no sign of recurrence. In April, 1904, he returned to the hospital with facial paralysis and signs of bulbar paralysis and died on May 1st.

CASE 5.—The patient, a man, aged 62 years (Fig. 2), was admitted into the Cancer Hospital on Oct. 12th, 1903, under the care of Mr. F. B. Jessett. 18 months ago a "boil" appeared on the left side of the chest and another one 16 months later. Five weeks ago the present sore was noticed and it "broke" three weeks afterwards. On the inner side of the left nipple there was a raised, indurated, dusky patch three inches in diameter, the upper part of which was sloughy and was discharging pus. On the 23rd the mass was scraped and swabbed with pure carbolic acid Microscopically the ulcer was an epithelioma. It was also of some interest to learn that the patient's son was in the hospital at the same time for cancer of the tongue.

FIG. 2.



Epithelioma of the left breast.

The diagnosis of all these five cases was verified after operation by the microscope and in no instance was there any doubt as to the nature of the growth. Cases 1, 2, and 3 were examples of the ordinary scirrhus cancer, Case 4 was a soft spheroidal-celled carcinoma, and Case 5 was a squamous-celled epithelioma. The last case is particularly interesting owing to its extreme rarity. Roger Williams recorded three cases and quotes one case which Czerny described. The following case is of interest although not an example of malignant disease.

A man, aged 44 years, was admitted into the Cancer Hospital on April 7th, 1897, under the care of Mr. Cotterell. The history was that two years previously he had received a bite from a horse on the left breast and that two months previously he noticed a swelling of the left breast which gave him much pain, especially on pressure. On examination the left breast seemed to be in a condition of simple hypertrophy; there was no defined edge to the swelling which was diffused over the whole area of the breast. The nipple was not prominent and there was no [illegible] breast was amputated as [illegible]. Histologically the growth [illegible] patient returned to the hospital on July 1st, 1899, with a second fibro-adenoma in the right breast.

Most text-books on surgery dismiss the subject of cancer of the male breast very briefly and Sheild,[7] although discussing the disease at greater length, says that "the symptoms and course are precisely similar to what is found in females." From a study of all the cases with which I am acquainted some facts may be deduced which show that the disease in men does not follow quite the same course as it does in women. The differences may be of minor importance but [illegible] may be arranged under the [illegible] (2) side affected; (3) durati[illegible]; [illegible]

1. *Age.*—The age at which the disease occurs varies from 12 to 91 years. In nine cases which I have collected the [illegible]; this is somewhat higher than [illegible] he gives 50 years as the mean. [illegible] partly to the fact that I have only taken the average of a very small number of cases and partly because in my series Lunn's case is included, the age of his patient being 91 years. At all events, the average age at which the disease occurs in men is many years later than in women; in the latter Sheild says it is most common between 40 and 60 years. Quite recently Leaf,[8] who has investigated 100 cases of cancer of the breast in women, found that the average age at which the disease commences is 49 years two months. Bland Sutton[9] says it is most common between 40 and 50 years; Watson Cheyne[10] between 35 and 60 years; and Pick[11] between 35 and 55 years. Moreover, a relatively large number of the cases in men commence over the age of 70 years or between 60 and 70 years (Warfield).

2. *Side of the body affected.*—In women carcinoma of the breast is more often found on the left side, whereas the opposite is the case in men. Out of 31 cases quoted by Wagstaffe 16 had the right breast affected and 12 the left; in three instances both sides were diseased. Since the publication of these I have collected 11 cases and of this series the right breast was implicated eight times and the left three, showing that the disease occurs nearly three times as frequently on the right as on the left side.

3. *Duration.*—In 13 cases the length of time that the growth had been noticed by the patient is mentioned; ten years is the longest and three months is the shortest, the mean being 3·36 years. (R. Williams gives 3·16 years.) In women the average duration is somewhat less than this. I am unable to give the total duration of life as in most of the cases it is not recorded, but Warfield mentions one case where the patient lived 35 years. In Wagstaffe's paper the duration of life is given in 30 cases: 11 lived under one year, eight rather more than one year, one over two years, three over three years, five over four years, and two over eight years, the average being 1·63 years.

4. *Presence of ulceration.*—In a large proportion of the patients who present themselves for treatment ulceration of the growth is found. In 12 cases where any mention of the appearance of the breast is made seven were in a state of ulceration, whilst two others presented a dusky red colour and were evidently on the point of breaking down. In one case the ulcer was five inches in diameter. Wagstaffe states that in more than half the number of cases ulceration is present when the patient is first seen. Schuchardt[12] found that in 61 out of 70 cases ulceration was present.

Although a history of previous injury to the breast can often be obtained in women as well as in men, yet in the latter the history seems, as a rule, to be much more definite. Another point that I have observed is the frequency with which the growth starts in or around the nipple. In the 37 cases collected by Warfield the nipple was involved in 18. This site for a tumour of the breast is also seen in women, but in the latter the neoplasm is usually a duct carcinoma, whereas this form of growth is exceedingly rare in men.

The treatment which should be adopted is, as in women, removal of the whole breast, the skin over the breast, the fascia covering the pectoralis major (and the muscle itself if involved), and all the fat and cellular tissue in the axilla. As in the female, if the growth only is excised recurrence quickly follows. Provided that the growth is not too extensive for removal the prognosis after operation is good.

In conclusion I am much indebted to Dr. Purcell, Mr. Jessett, and Mr. Waterhouse for permission to publish their cases; also to Dr. T. J. English for the excellent photographs which he was kind enough to take for me.

Wimpole street, W.

A CASE OF CONGENITAL DEFICIENCY OF BOTH UPPER LIMBS.

BY H. ASHLEY GAITSKELL, M.D. CANTAB.,

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THE following is an account of a case of congenital deficiency of the upper limbs and as this is a condition of rare occurrence I consider it worth recording.

On March 2nd, 1902, I was called to a woman four miles away in a country village in Northamptonshire who was stated to be in labour. When I arrived I found her up and walking about. On inquiry the pain did not seem to be severe enough for labour pains. I asked her when she expected to be confined and was told that it was not due for another month. I thought that it was advisable, however, to make an examination as there had been a considerable amount of "flooding." The abdomen was distended and the uterus was evidently enlarged, the enlargement corresponding to about the eighth month of pregnancy. The os was only slightly dilated and a soft mass projected from it which proved to be a small clot of blood. Beyond this I could with difficulty feel the head. Thinking it possible to stave off labour I prescribed opium and rest. I saw the patient on the next day and hæmorrhage had ceased. Two days later, however, I received an urgent message stating that the "waters had burst," and asking me to come at once. On arrival at the patient's house I was told that the child was already born but that he possessed no arms. I examined the child and found that he was alive but was evidently premature, about eight months as I expected. There was total absence of any signs of arms but otherwise the child was complete in every respect. I did not think he would live but requested the mother to allow me to have him photographed. The child, however, died in two days but I managed to secure a photograph of his body (Fig. 1). I also obtained permission to make a post-mortem examination, explaining that it was a case of considerable rarity and the opportunity ought not to be missed.

It was difficult to make out on feeling through the skin the existence of any clavicles or scapulæ, so I made an incision through the skin on the left side and a careful dissection revealed their presence; these were preserved in formalin and put aside till the opportunity arose for an accurate dissection of the parts, as I wished to know what had become of the glenoid cavity of the scapula and the muscles which normally arise from the clavicle or scapula and are inserted into the humerus. The arrangement I did find was as follows and is not without interest. Over the acromio clavicular joint and arising from its ligaments was a dense aponeurosis (Fig. 2) and into this most of the muscles were inserted (as far as I could make out from the smallness of the muscles I had to deal with). In the posterior region the supraspinatus, infraspinatus, and teres minor all arose from their normal places on scapula and were inserted into this same aponeurosis over the acromio-clavicular joint. There were no signs of the teres major, deltoid, or of the triceps. The aponeurosis arose from all those parts where the deltoid normally arises—namely, the spine of the scapula and the clavicle. Of the pectoral muscles I could only find one and this also was inserted into the aponeurosis. I did not attempt to dissect out the vessels and nerves, for these were of such small size that the time occupied would have been more than I had at my disposal. I next proceeded to clear the bones of all muscles, &c., and to investigate the condition of the various articular surfaces. The clavicle appeared to be quite normal, there being free movement at both the sterno-clavicular and acromio-clavicular joints; but it was otherwise with

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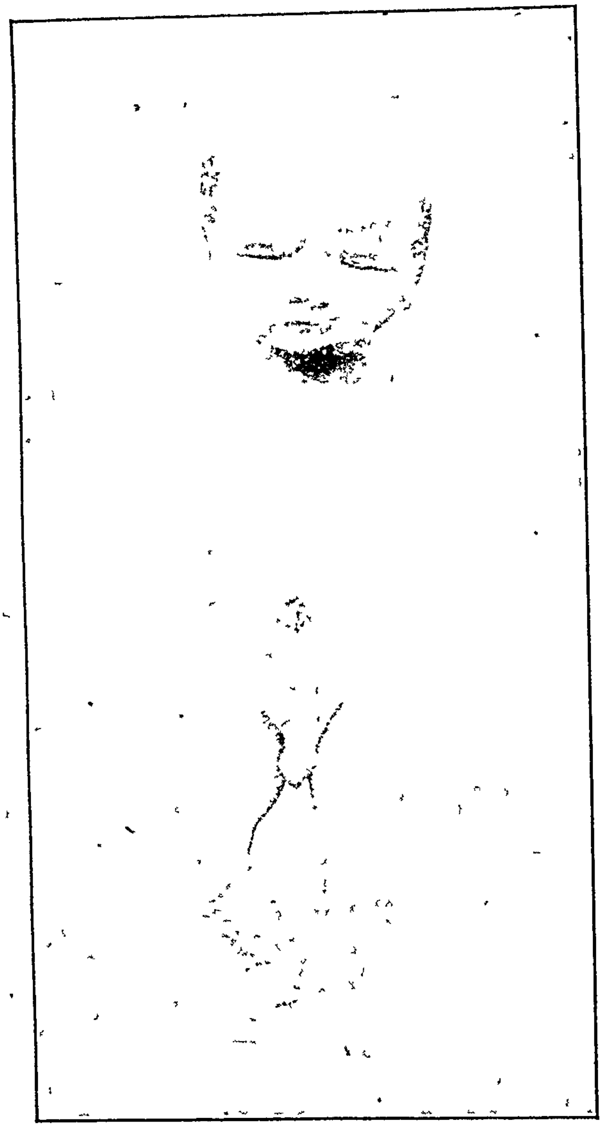
[7] Diseases of the Breast, 1898.

[8] The Clinical Causes of Cancer of the Breast and its Prevention, 1904.

[12] [illegible] Heft 1, 1884.

FIG. 1.



A case of congenital deficiency of the upper extremities.

FIG. 2.

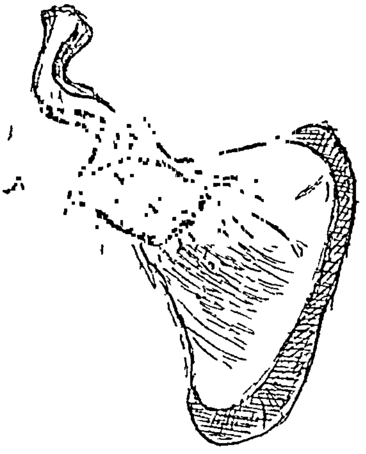


Diagram to show approximate area of aponeurosis. A, Aponeurosis.

the scapula, its axillary edge differing considerably from the normal anatomy of that part. The most prominent feature of the scapula is the condition of the coracoid process. Instead of being the normal small process, curved forward beneath and in front of the clavicle, it consists of one big process, being the continuation upwards of the body of the scapula. This extended behind, beneath, and above the clavicle, and there was a small articular surface between it and the clavicle. The tip of the process was capped with a large piece of articular cartilage. The size of this process, I presume, might be accounted for by the fact that owing to some error in development the cartilages of the glenoid cavity and the tip of the coracoid process had become fused into one common cartilage, possibly owing to some accidental jarring of the fœtus in utero, but this could scarcely cause a symmetrical deformity. There is an attempt at a glenoid cavity at the axillary end of the base of the spine of the scapula in the shape of a small boss of bone with small articular surface placed inferiorly to the spine of the scapula. Its position can just be seen underneath the aponeurosis (A) in Fig. 2. The acromio-clavicular joint was quite normal but for a large amount of fibrous tissue forming the aponeurosis arising from it. There were no signs of a coraco-acromial ligament. The biceps and all muscles which usually connect the two bones with the humerus appeared to be entirely absent.

I am greatly indebted to Mr. Thomas C. Pinny of Harlestone, Northampton, for the photograph illustrating the case.

Burgess Hill.

ON THREE CASES OF SUPRARENAL APOPLEXY IN CHILDREN.

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THE possibility of almost sudden death in infants being due to hæmorrhage into the suprarenal capsules is so little recognised and so little is known about this disease that it seems worth while to record the following three cases with which I have come in contact.

CASE 1.—The patient was a baby, aged three days. The confinement was attended by St. Mary's Hospital Maternity Charity. He was a full term child and labour was easy. He never breathed freely; he cried but not vigorously; however, he got a fairly good colour and death was not anticipated. On the morning of the third day the breathing became grunting in character and the child moaned and refused to take the breast. On the same evening he had a general convulsion, with loss of consciousness, became black in the face, blood ran from the nose and mouth, and he died in half an hour.

Post-mortem examination showed the child to be fairly well nourished. The neck, the head, and the face were covered with a purpuric eruption. The navel was quite sweet. There were no marks of violence. The internal organs were all normal with the exception of the lung and the suprarenal bodies. The right heart was distended. The lower lobe of the right lung contained a large hæmorrhage which had burst through the bronchioles and could be traced up into the trachea and larynx and was evidently the source of the blood seen externally. The suprarenal bodies were reddish-purple in colour and stood out against the posterior abdominal wall. They were equally implicated and were moderately distended with what proved to be on section recent blood extravasation. Hæmorrhage was confined to the suprarenals, the surrounding structures being unaffected. The family history was not relevant. The mother had had three other children; there had been no miscarriages and there was no family disease.

CASE 2.—The patient was a boy, an only child, two months old. He had been entirely breast fed and had been perfectly healthy. He took the breast well and there had been no gastro-intestinal disturbance. On Feb. 29th, 1904, the mother fed him at 11 P.M.; he took the breast and she noticed nothing wrong and afterwards he went to sleep. On the next morning at 5 A.M. the mother noticed a change; the child was breathing heavily. She said, however, that the colour was good, that there was no loss of consciousness, that the fists were not clenched, and that there were no squint, no sort of fit, and no screaming or apparent pain. The natural functions were performed normally. The mother could not get the child to suck. However, he went to sleep for about ten minutes and then woke again and again refused the breast. He was then redressed and two little reddish-purple spots were noticed over the buttocks and one on the neck. Others were looked for but none were seen. He was brought up hurriedly to St. Mary's Hospital but died on the way. I saw the child at 7 A.M., just after death. There was a purpuric eruption over the face, the chest, and the abdomen, and there were a few spots elsewhere. He was a plump baby and there was nothing in the throat to indicate the cause of death, nor were there any external marks of violence. No history of tubercle, syphilis, rheumatism, or hæmophilia in the family could be obtained. There was no infectious fever in the neighbourhood. The child had not been vaccinated.

Post mortem nothing abnormal was found except suprarenal hæmorrhage and purpura. The heart, the lungs, the brain, the kidneys, and the spleen were all healthy. The suprarenals were equally affected, were dark purple in colour, and appeared to be distended with blood though only slightly increased in bulk. The hæmorrhage had not encroached beyond the organs themselves. There was no thrombosis of the renal or inferior cava veins. On section the medulla was seen to be more deeply tinted than the cortex which was reddish in colour. Microscopically the capsule was stretched, with effusion of blood beneath it in places. The cortex was distinctly recognisable but contained a considerable number of red blood cells. In some places in the cortex the parenchymatous cells were entirely replaced by blood, in others there were just a few gland cells left, while in a very few spots the parenchyma was little changed. The cortical cells which remained seemed normal and took the stain well. The medulla was greatly disorganised and showed marked necrotic change. The gland cells were indefinite in outline, swollen, and homogeneous, and took the stain badly; intermixing with them were many blood cells, greatly in the majority. The hæmorrhage into the medulla seemed to precede that of the cortex and here and there were clumps of brownish granules due to the breaking-down of hæmoglobin. There was no fatty change discernible and the blood-vessels were quite normal.

For the notes of the third case I am indebted to Mr. A. F. Cole, late resident medical officer of the Mildmay Mission Hospital, Bethnal Green, and to Dr. W. Gauld, medical superintendent of the same institution, for permission to publish them.

CASE 3.—The patient was a girl, aged seven months, who previously had been quite healthy and who was taken to the Mildmay Mission Hospital on Feb. 14th, 1904, because she had awakened screaming at 3.30 that morning. The onset of an exanthem was suspected and the mother was told to take the child again if the rash appeared. The temperature was 99·2° F. At 6 P.M. she was taken back again. The temperature was 104° and she was covered with an intense purpuric eruption far thicker on the extremities than on the abdomen where the patches were further apart. The child was now distinctly ill, warranting the giving of a bad prognosis. She died on the next morning in a convulsion just 22½ hours after the initial screaming fit and 12 hours after the purpura had appeared. No history of small-pox, scarlet fever, measles, &c., occurring in the neighbourhood could be obtained. She had been breastfed from birth and had had no drugging or patent food.

Post mortem the child was found to be an ordinary specimen, such as the neighbourhood produces, with no excess of fat on the body. Nothing abnormal anywhere was found except in the suprarenals. There was no hæmorrhage from the mucous or serous membranes. The suprarenals appeared as two masses of black blood clot, nearly half the size of the kidneys themselves, giving a remarkably vivid appearance on disturbing the intestines. Hæmorrhage was equally marked on both sides and was confined to the suprarenals.

The state of our ignorance of the etiology of suprarenal hæmorrhage is sufficiently exemplified by the number of theories which have been put forward. Spencer,[1] from examination of stillborn children, 20 per cent. of whom he found had suprarenal hæmorrhage, believed the prime factor to lie in the delicacy of the fœtal blood-vessels in this organ either normally or as the result of syphilis. The additional strain necessary to cause rupture of the delicate blood-vessels he ascribed chiefly to mechanical squeezing by the uterus during labour and to external violence, while he considered that asphyxia held a place of quite secondary importance. In support of this view he instanced his own cases, most of which succeeded difficult labour and especially breech births where manual interference is so often needed. Mattei[2] considered that the large, heavy infantile liver was pressed back against the posterior abdominal wall during labour, squeezing the inferior vena cava against the vertebral column, and so damming back the blood into the suprarenals and causing it to burst its bounds. Against these theories is the fact that in many cases a note has been made that labour was easy. Still,[3] in 1898, from an analysis of 18 cases of hæmorrhage and congestion (the only ones he was able to collect), believed that while trauma and asphyxia would account for many of the cases in stillborn children and children dying within the first few days of birth, it was insufficient to explain those occurring later. After the fifth day he suggested that the cause might be found in fatty degeneration of the arterial walls. Others he believed to be due to a toxin. Hutinel[4] advanced the theory that suprarenal hæmorrhages were preceded by thrombosis of the renal and inferior caval veins, into which the plexuses of the organ empty, resulting in consequent engorgement of these plexuses and subsequent rupture. Many authorities believe this condition to be symptomatic of an acute specific fever, at any rate in the older infants. Hamill[5] was able to collect from various sources 90 cases of children in whom suprarenal hæmorrhage or congestion occurred. These include 28 stillborn children, while some are merely pathological reports. From an exhaustive study of the literature of these cases and from careful analysis he apportioned them into three groups: (1) those in which death occurs during or before labour, due to manipulation and trauma; (2) those in which it occurs between birth and detachment of the cord, due chiefly to infection of the cord; and (3) those dying afterwards in which the cause is of an infectious or toxic nature. Of the 90 cases by far the greatest number belonged to the first group while only 11 came under the last heading.

There can be no doubt that while asphyxia and trauma can account for the great bulk of cases yet there is separable a small class, as pointed out by Eustace Talbot,[6] for the explanation of which we must look farther afield. This group consists of cases of death occurring in older infants and is a very limited one. Talbot only reports four, to which he added two which came in his own experience. Into this group my last two cases fall. Those which come under this head are characterised by a very definite train of symptoms. A child previously well is suddenly seized with acute abdominal pain and vomiting and rapidly becomes seriously ill. The temperature rises and an exanthem is often suspected. No characteristic rash, however, appears although sometimes there is purpura. In a few cases there are other hæmorrhages resembling the "purpura fulminans" of Henoch, convulsions generally supervene, the patient becomes moribund, and death occurs in a period which may be counted by hours. It is to explain these cases that the toxæmic theory is called to our aid and seems most nearly to answer the question.

Firstly, there is a close resemblance between the clinical records of these cases and of those of acute specific diseases of a malignant type. Secondly, there is no lack of experimental evidence suggestive of a toxic origin. Gärtner[7] isolated a bacillus like the colon bacillus, but not identical, which caused visceral hæmorrhage in dogs by intraperitoneal injection and recovered it from the animal's blood. Klebs and Eppinger[8] isolated a micrococcus in cases of hæmorrhage into the viscera of children. Roux and Yersin[9] caused congestion of the suprarenals by injection hypodermically of diphtheria bacilli into rabbits, guinea pigs, and pigeons. Langlois and Charrin[10] produced engorgement of the suprarenals by injection of bacillus pyocyaneus. Pelliet[11] obtained a like result by subcutaneous injection of essence of cloves into rabbits and guinea-pigs. Roger[12] used a virulent culture of Friedländer's bacillus and produced in guinea-pigs engorgement and effusion into those glands. Talbot[13] isolated from one case a streptococcus like pyogenes aureus but which differed from it in that it coagulated milk. Riesman[11] found staphylococcus aureus and albus in pure culture from the blood and tissues of four cases.

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[1] Transactions of the Obstetrical Society of London, 1891, vol. xxxiii.

[2] Lo Sperimentale, 1863, and Journal de Medecine, de Chirurgie, et de Pharmacologie de Bruxelles, 1865.

[3] Transactions of the Pathological Society of London, 1897-98, vol. xlii.

, p. 537.

Taking these data into consideration the possibility of a toxæmic origin becomes a probability but there are many difficulties. In the first place, it is surprising that in nearly every case in which bacteriological examination has been made the result proved negative. Then, again, in no case is there evidence of exposure to any source of infection, and furthermore, while profound toxæmia, the result of specific infection as in diphtheria and summer diarrhœa, is a common cause of death in children, cases of hæmorrhage into the suprarenals are very rare. If it be an infection presumably it is a special infection of unknown origin. I advance the crude state of our knowledge of this not unimportant condition as sufficient excuse for the publication of these additional cases.

London.

FURTHER NOTE ON SOME ADDITIONAL POINTS IN CONNEXION WITH CHLOROFORMED CALF VACCINE.[1]

By ALAN B. GREEN, M.A., M.D. CANTAB.

(From the Government Lymph Laboratories.)

SINCE April, 1903, the date of my preliminary note[2] on this subject, the preparation of calf vaccine by the chloroform process has been carried on at these laboratories and a large number of vaccines have now been treated by this method. These lymphs have been freed from their non-spore-bearing extraneous bacteria within a period ranging between one and eight hours after their collection from the calf and have, subject to the usual tests, been issued for general vaccination purposes about two weeks after collection. Their use has resulted in high "case" and "insertion" success. The following points in connexion with these vaccines have been investigated.

The effect of temperature in the elimination of extraneous micro-organisms from crude calf vaccine by the chloroform process.—It has been ascertained that the temperature at which vaccine emulsion is subjected to the chloroform process determines largely the rate at which the extraneous bacteria of that emulsion are eliminated. This has been shown in two ways. In the first set of experiments vaccine emulsion consisting of one part by weight of pulp and two parts by weight of water was divided into several equal portions. Each portion was then submitted to a pre-determined and separate temperature along with the set of apparatus to be used for its treatment with chloroform. These temperatures ranged from 10° to 37° C. In each case after both emulsion and apparatus had reached the requisite temperature of the experiment passage of chloroform vapour and air through the emulsion was effected. It was found by means of plate cultivations that elimination of extraneous micro-organisms was most rapidly effected in the case of the emulsions chloroformed at 37° C. and that elimination was most slowly effected in the case of the emulsions chloroformed at 10° C. Between these temperatures the gradation of germicidal action was very constant. The potency of these vaccines was subsequently tested by inoculations on calves, with the result that vaccines which had been subjected to the chloroform process at temperatures below 30° C. caused rather better vesiculation than the vaccines treated at temperatures above 30° C. In the second set of experiments vaccine emulsion, prepared as before, was divided into a number of equal portions, each of which was placed in a separate test-tube. In this case, the emulsions were all subjected to the chloroform process at 15° C. After the passage of chloroform vapour and air through the emulsions for half an hour, the entrance and exit of each vaccine tube were clamped in order that none of the contained chloroform might escape and the tubes were placed in temperatures ranging from 10° to 37° C. for 24 hours. In the case of these emulsions, where the amount of chloroform present in each must have been approximately the same, a similar gradation of germicidal action was evidenced as in the former set of experiments, elimination occurring most rapidly in the case of emulsions submitted to a temperature of 37° C. and most slowly in the case of emulsions submitted to a temperature of 10° C. The potency of each of these vaccine emulsions was tested as before by inoculations on calves, with the result that vaccines which had been submitted to temperatures below 30° C. gave slightly better vesicles than vaccines which had been submitted to temperatures above 30° C. Both series of experiments indicate that the temperatures at which extraneous bacteria are killed most quickly in vaccine emulsion by the chloroform process, the specific germ being left meanwhile in state of full activity, lie probably between 18° and 23° C

The species of micro-organisms killed by the chloroform process.—In addition to the extraneous micro-organisms mentioned in the preliminary note as commonly occurring in crude calf vaccine and as being eliminated therefrom by means of chloroform experiments have been made with further species of bacteria. These, with the exception of the bacillus proteus vulgaris and the bacillus coli communis, have never been found in vaccine lymph at these laboratories, but they have been subjected to the action of chloroform in order that knowledge of the germicidal value of that process might be extended. The bacteria thus experimented with are the bacillus proteus vulgaris, bacillus prodigiosus, bacillus pyocyaneus, bacillus fluorescens liquefaciens, bacillus coli communis, bacillus typhosus, bacillus diphtheriæ, bacillus mallei, bacillus pestis, bacillus tuberculosis, and spirillum choleræ Asiaticæ. Broth emulsions of these bacteria were first experimented with. As soon as an emulsion was established a suitable culture medium was inoculated with a small portion of it and duly incubated in order to ascertain whether the species of micro-organism in question could be easily recovered from the emulsion. The passage of chloroform vapour and air through the emulsion was then begun and during the process at regular intervals further cultivations were made from it. In every instance the bacteria of experiment were found to have been killed at intervals ranging from one to eight hours from the commencement of the process. In a second set of experiments vaccine emulsions were prepared by mixing one part by weight of pulp with two parts by weight of water. To these emulsions the bacteria to be experimented with were added and cultivations were at once made therefrom in each instance to ascertain whether recovery of the bacteria was possible. Passage of chloroform vapour and air through the emulsions was then carried out and further cultivations were made from them from time to time. As in the case of the broth emulsions, after the passage of the chloroform vapour and air for a few hours the bacteria in the vaccine emulsions were killed. In the case of each experiment of the two foregoing series a "control" preparation was established in which the bacteria were found to be still alive after the bacteria of the corresponding experimental preparation had been killed. The vaccine used in these experiments was collected for experimental purposes only.

The keeping properties of chloroformed vaccines.—The keeping properties of chloroformed vaccines have been tested in the following ways. First, vaccine lymph freshly collected from the calf was divided into two portions. One portion after emulsification with water was subjected to the chloroform process and after elimination of its extraneous micro-organisms the chloroform was partly removed by the passage through the emulsion of a stream of sterile air. The other portion was emulsified with 50 per cent. of glycerine and water solution. These chloroformed and glycerinated emulsions were, within 24 hours of their collection from the calf, each subdivided into five parts, one part of each being stored at 10°, 20°, 25°, 30°, and 37° C. The potency of these several parts was subsequently tested on calves at regular intervals of time. The result showed (*a*) that the highest potency was retained for the longest time, alike for the chloroformed and glycerinated portions, by the emulsions stored at 10° C., for the shortest time, alike again by both portions, by emulsions stored at 37° C.; and (*b*) that the potency as between the chloroformed and glycerinated vaccine kept at any one of the foregoing temperatures was practically the same, the only marked difference occurring in case of the vaccines kept at 37° C., a temperature at which the chloroformed emulsions retained potency for a longer period than did the glycerinated emulsions.

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[12] Comptes Rendus des Séances de la Société de Biologie, January, 1894.

[13] St. Bartholomew's Hospital Reports, 1900.

[14] Post-Mortem Reports, University Hospital, Philadelphia.

[1] A paper read before the Royal Society on May 5th, 1904.

Proceedings of the Royal Society, 1903, and THE LANCET, June 20th, 1903, p. 1738.

Upon the completion of the foregoing experiments, a further number of vaccines collected from vesicles of good average quality were emulsified with water in the proportion of one part by weight of pulp to two parts by weight of water, and subjected as before to the chloroform process. When elimination of their extraneous bacteria had been effected part of the chloroform was removed from the emulsions and these were placed in the ice-chest at 10° C. Immediately prior to the issue of these vaccines the remainder of the chloroform was removed and glycerine was added in the proportion of two parts by weight of glycerine to the original weight of vaccine pulp. These vaccines were later, after passing the requisite tests, issued for general vaccinating purposes, a similar interval being allowed to elapse between their collection from the calf and subsequent issue as is usual at these laboratories in the case of glycerinated vaccine—namely, about six weeks. In the case of two of these chloroformed vaccines an interval of two months elapsed between collection and issue. The use of these chloroformed vaccines has been attended with results showing high "case" and "insertion" success.

Summary.—Experience of the further use of the chloroform process in the preparation of a large number of vaccines during the past year confirms the conclusions arrived at in the preliminary note. And meanwhile important additional knowledge has been gained—namely, that chloroformed calf vaccine, if originally of sufficiently high potency, will, when prepared and stored under suitable conditions, retain for a considerable time a high degree of potency and this notwithstanding that the extraneous organisms had been rapidly eliminated from it in an early stage of its preparation.

WOUND OF THE LEFT THORAX, WITH EXTENSIVE LACERATION OF THE PLEURA, ETC.

BY E. WYNSTONE-WATERS.

ON March 20th, at about 2.30 A.M., I was awakened by the arrival of a number of natives at my house and I soon discovered that one of them, a man of about 25 years of age, had received a severe wound with a native knife. The wound occupied the left ninth intercostal space, its direction being oblique and parallel to the ninth rib, and extended posteriorly somewhat beyond the posterior axillary line, while in front it reached the anterior axillary line. The wound implicated the parietal pleura in nearly its whole length, except posteriorly where the incision became more superficial. The visceral pleura was also implicated, but to a less extent, and the lung tissue was lacerated. At the time I made the examination there were very considerable hæmorrhage and at first a marked whistling sound which, however, soon became indistinct. Pneumothorax was established, air having rushed in and separated the parietal and visceral pleura, and the lung was somewhat collapsed in virtue of its elasticity.

The wound having been thoroughly cleansed I did not attempt to reduce its size, thus being certain of a more efficient drainage and at the same time obtaining a larger field for observation. On the next day on removing the dressings I found that a considerable amount of hæmorrhage had occurred, while the external aperture was filled by a closely fitting plug of lung tissue which protruded somewhat beyond the external surface. No attempt was made to reduce this protrusion but it was kept thoroughly aseptic. The protruded lung was quite healthy and showed considerable crepitation due to the residual air. On the fourth day slight but steady pressure was applied to the protruded lung tissue and a firm compress of carbolic tow was strapped over the part. On the fifth day on removing the dressings I found that the lung tissue had yielded to the continued pressure of the compress and was inside the thoracic cavity. Shortly after this granulations were seen to be rapidly springing up all round. The area at first occupied by the plug of lung now presented a pink field of healthy newly formed tissue, only a very slight amount of pus being present on the dressings. The wound was kept plugged with cyanide gauze, so that the cavity was filled with healthy tissue from the very bottom, there being no opportunity for the development of any sinuses or other false cavities. Skin gradually spread from the edges of the wound and was soon seen to cover up the whole site of the lesion, except where a few exuberant granulations prevented its further encroachment. These islands of new tissue, however, soon yielded to a few touches from a crystal of blue stone and the skin rapidly covered up their original site.

This case is one of exceeding interest to the physiologist as well as to the pathologist and surgeon, showing nature in one of her happiest moods. The patient belongs to the Waswahili, a subdivision of the Bantu section of the African negro, a race occupying a "thin line along a thousand miles of creeks and islands" on the East coast of Africa. The protruding portion of lung by its constant pressure caused inflammatory adhesion to take place between the visceral and parietal pleura along the line of pressure, thus completely sealing up the rent into the pleural cavity and establishing a continuity of parietal and visceral pleura—in fact, producing a condition resembling the normal pleura—viz., a closed sac. The air in this now closed sac becoming rapidly absorbed, the lung expanded and the parietal and visceral layers of the pleura coming into apposition the normal process of respiration was again established. Doubtless in time the inflammatory adhesion of the pleura at the peripheral margin will become fibrous and the exposed surface of lung, which has been forced to retire within its own cavity, will adhere and become united by fibrous tissue to the scar tissue filling the original wound. Thus, by a perfectly natural process, aided by strictly antiseptic precautions, an exceedingly severe and dangerous wound was closed, the only drawback or compensation nature will impose being a somewhat diminished "vital capacity" on the affected side.

Lamu, British East Africa, May, 1904.

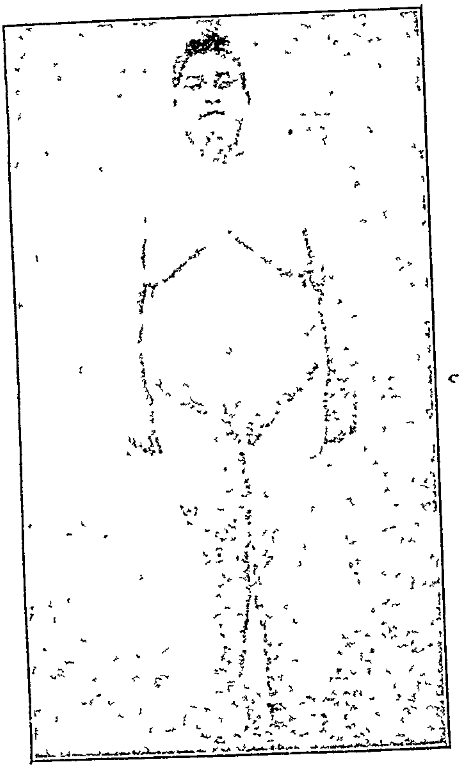
GYNÆCOMASTIA.

BY EDWIN S. CRISPIN, M.R.C.S. ENG., L.R.C.P. LOND.,
CIVIL SURGEON AND HON. BIMBASHI, EGYPTIAN ARMY.

I READ with interest the article on Gynæcomastia in THE LANCET of March 26th, p. 865, by my colleagues, Mr. A. Webb Jones and Dr. J. B. Christopherson as I happened to be at Merowi when I received that number of THE LANCET where Case 1 is still at work and where also I found a third case. I regret that I was unable to get a photograph of the latter as I had not my camera with me; he has a distinct gland in each breast of the size of a small Tangerine orange which can be easily moved over the muscles of the chest; the nipples are also well developed. He also is a Sudanese, a Nubawi, Case 1 being a Furawi, not a Firtitawi, as mentioned in that article, but, however, they all come from the neighbourhood of Darfur.

I believe that gynæcomastia is not at all an uncommon condition amongst the Sudanese of Central Africa. I saw two or three more cases amongst the Dinkas and Baris while I was travelling on the Bahr-el-Ghebel between Lake No and Gondokoro. Sir Harry Johnston in his book, "British Central Africa," gives a very good reproduction of a photograph of a similar case on p. 399 and says it is very common amongst Sudanese. I do not think that he can have confused these cases with those of prominent pectoral development of fat and muscle, as a digital examination would at once settle the [illegible] but in a photograph these cases are very similar. [illegible] photograph taken by Dr. J. Warnock the F[illegible]m, of a case of this latter sort.

apparent female breasts being chiefly due to excessive fat. I believe the condition of gynæcomastia is extremely rare amongst Egyptians, as during several months spent all over



Egypt examining conscripts for the Egyptian Army at the rate of about 300 a day I only remember seeing one case.

Merowi, Sudan.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ROYAL FREE HOSPITAL.

A CASE OF REPEATED INTESTINAL OBSTRUCTION FOLLOWING AN OPERATION FOR REMOVAL OF A CYST OF THE PELVIS; RECOVERY.

(Under the care of Dr. T. O. HAYES and Mr. T. P. LEGG.)

FOR the notes of the case we are indebted to Mrs. F. E. Willey, M.B., surgical registrar to the hospital.

The patient, a young unmarried woman, aged 20 years, was admitted to the Royal Free Hospital on March 4th, 1902, under the care of Dr. Hayes, suffering from prolapse of the uterus. She stated that 12 months previously a "lump" had appeared at the vulval orifice but it had caused her no inconvenience. Six months afterwards the lump became much larger and appeared directly she got out of bed in the morning and remained at the vulval orifice till she pushed it up again, which she did every night on going to bed. A month before admission she had had some trouble with micturition, which, however, only seems to have been very slight. She had always suffered from constipation and a year ago she had an acute illness, characterised by severe abdominal pain, complete constipation, and vomiting which was described as fæcal. At this time she was in bed for three weeks. The menstrual periods had always been regular but scanty.

On examining the abdomen a smooth, rounded, elastic swelling was found arising out of the pelvis rather more on the right than on the left side and reaching as high as the umbilicus; it crossed the mid-line and on the right side extended outwards into the iliac region as far as the anterior superior iliac spine. On percussion a dull note was obtained over the swelling, in which a fluid thrill was obtainable. The rest of the abdomen presented nothing abnormal and it was quite soft. Per vaginam the uterus was found to be prolapsed completely. It could be replaced in the vagina, but the abdominal swelling, which bulged into the posterior cul-de-sac, prevented complete reposition. Bimanually the swelling in the abdomen was found to be continuous with that in the posterior cul-de sac of the vagina. The cervix uteri was greatly hypertrophied and softened. The external os was small. A sound passed one inch beyond the normal length.

On March 15th Dr. Hayes opened the abdomen in the mid-line above the pubes. Much difficulty was experienced in defining the tumour owing to the presence of numerous old adhesions which matted the tumour and intestines to one another and to the parietes. During the separation of the adhesions the tumour was ruptured and a thin, yellow, cloudy fluid escaped. The ovary was found to be considerably enlarged. The tumour, ovary, and tube having been isolated were brought up to the surface of the abdomen and the pedicle was ligated by interlocking sutures of thick silk which were buried in the stump of the broad ligament and tube by suturing the peritoneum over the raw surface. The wound was closed by three layers of sutures, no drainage being employed as there was no oozing after the parts had been wiped thoroughly. On examining the specimen it was found to consist of (1) a smooth-walled cavity containing six ounces of yellowish fluid, apparently a cyst of the broad ligament; (2) the Fallopian tube, which was one and three quarter inches long, closely connected with the wall of the cyst, but not opening into it; and (3) an enlarged cystic ovary which also did not appear to be connected with the cyst. The fluid in the cyst was alkaline and had a specific gravity of 1013. Microscopically blood cells only were found. The left ovary was considerably enlarged and bound down by adhesions. On account of the patient's age and the absence of any other evidence of disease it was not removed. During the first 24 hours after the operation the patient vomited frequently, the pulse was under 100 per minute, and she made good progress till the 19th, on which day vomiting recurred and she had a good deal of pain in the lower part of the abdomen. An enema and an aperient did not open the bowels, but the vomiting was checked by refraining from giving her anything by the mouth. On the 22nd the bowels were opened, the pain in the abdomen was less, and the pulse rate was 96. On the 24th vomiting recommenced and became more and more frequent until in the evening it was distinctly feculent. She was obviously very ill. The pulse-rate rapidly increased to 120 per minute and the abdomen became distended. Peristalsis of the intestine was quite easily visible. Mr. Legg decided to open the abdomen, which was done through the former operation wound. A broad adhesion was found binding the subjacent coil of the intestine to the line of the scar and kinking it, the intestine above being much distended. In separating this coil the wall of the bowel was denuded of its peritoneal coat for about two inches of its length. Many other adhesions, some recent and others of older formation, were separated and the bowels were freed as much as possible. In this proceeding a small cavity containing recent blood clot was found in the right side of the pelvis. A drainage-tube was placed in this cavity and brought out through the lower part of the incision, the rest of the wound being entirely closed. Both before and after the operation, whilst the patient was under the anæsthetic, the stomach was washed out with hot water and a couple of ounces of haustus sennæ were put into the stomach before the tube was removed. She vomited at once on coming round from the anæsthetic. Five minims of liquor strychninæ were given hypodermically every four hours and a drachm of sodium sulphate every two hours. At the end of 24 hours she was able to take fluid nourishment without being sick and her general condition was greatly improved in every respect. This continued till the early morning of the 28th, when the vomiting and pain returned with increased severity, the abdomen became distended, and peristaltic movements of the bowel were easily seen. Her bowels had not been opened since the operation in spite of turpentine enemata, castor oil, &c. The wound was again opened; the adhesions were very numerous and many fresh ones seemed to have formed, binding down the intestines, the most adherent coil of which was freed and fixed to the upper angle of the wound without opening it. As before the patient was much relieved by the operation and she rapidly improved, the pulse coming down to nearly its normal rate and the bowels being opened twice on April 2nd. This state was maintained till April 6th when the previous symptoms again recurred, the pulse rapidly rising to 116. The wound was reopened; a coil of the small bowel was found considerably distended and fixed by adhesions in the neighbourhood of the scar and was severely kinked. On tracing this portion of bowel it was found to be continuous with that which had been fixed to the upper angle of the wound; below it was tightly bound down to the brim of the pelvis. This loop was brought out of the wound and isolated by packing off the rest of the abdominal cavity with gauze. It was covered with protective and ordinary dressings were applied. During the next two or three days the patient was very ill, the chief symptoms being vomiting and abdominal pain, but the pulse kept about 100 per minute. On the 12th the bowels were opened naturally and afterwards they acted regularly. On the 14th the gauze packing was removed, a smaller amount being lightly replaced on each side of the loop, which had become partly withdrawn into the abdominal cavity and was covered by granulations. Slowly the whole loop was withdrawn and as this took place the wound closed, so that on May 28th only a small granulating area was left and she was in excellent health. The bowels acted daily with the aid of a belladonna and aloes pill. On June 19th she left the hospital.

Remarks by MR. LEGG.—This case presents some features of interest. In the first place, the extent of the adhesions found at the operation for the removal of the cyst was somewhat unusual. These were, no doubt, the result of the acute abdominal attack (which seems to have been due to acute peritonitis) which she had suffered from a year before admission. The patient had not had any children or miscarriages and there was no history of a vaginal discharge. In the second place, the repeated attacks of intestinal obstruction coming on at short intervals and developing acutely when the patient appeared to be progressing favourably. This patient had three attacks in less than a fortnight—viz., on March 24th and 28th and on April 5th. The patient's condition after the operation for removal of the tumour was not very satisfactory. She had considerable abdominal pain, repeated attacks of vomiting, and there was a good deal of difficulty in getting an action of the bowels. On the ninth day the symptoms of intestinal obstruction became unmistakeable and developed acutely. The relief obtained by opening the abdomen and separating the adhesions was immediate but it only lasted a few days, for on March 28th all the symptoms recurred. At this operation, which was done by my colleague Mr. E. W. Roughton, the loop of intestine which was fixed to the wound was not opened because it was impossible to tell which part of the small bowel it belonged to and if it had been high up in the jejunum a fistulous opening in the worst position would have resulted. Further, it was hoped that by freeing the adhesions the obstruction would be relieved and if not the loop fixed to the abdominal parietes could be opened at once. These hopes were fulfilled and on April 2nd the bowels were opened but on the 5th all the signs of intestinal obstruction were again present and the abdomen was reopened. It appeared to be always the same loop of intestine which was giving rise to the symptoms—viz., that piece which had been stripped of its peritoneum at the first operation for the relief of the obstruction. Resection did not appear to be possible as the loop was firmly bound down to the posterior part of the brim of the pelvis. The only method feasible was to isolate this loop by bringing it out of the wound and so shutting it off from the rest of the abdominal cavity. If the patient recovered further operative treatment could then be undertaken. The bowel above the loop attached to the skin was not greatly distended, therefore it was not opened. For some days there was a good deal of abdominal distension but the vomiting soon ceased and the pulse remained slow. The loop was slowly withdrawn into the abdominal cavity; it was covered with granulations and there must have been many adhesions around it, yet no signs or symptoms of intestinal obstruction again arose. At the present time the patient is in perfect health. Her bowels act regularly with the aid of an aperient pill. For some time after the operation she wore an abdominal belt but she has long since discarded it and there is very little bulging of the scar.

LIVERPOOL INFIRMARY FOR CHILDREN.

FOUR CASES OF STRANGULATED INGUINAL HERNIA IN INFANTS AGED 17 DAYS, FIVE WEEKS, FOUR MONTHS, AND 12 MONTHS.

(Under the care of Mr. R. C. DUN.)

CASE 1.—The patient was a male, 17 days old. This infant was breast-fed. There had been vomiting several times daily since birth but the bowels had moved regularly. Three days before admission to the hospital he became restless, appeared to be in severe pain, and began to vomit frequently. A medical man was called in and strangulated left inguinal hernia was diagnosed. Attempts at reduction failed. The following day all the symptoms were aggravated. The vomited matter became green. A soap-and-water enema resulted in slight movement of the bowels. 72 hours were allowed to elapse after the hernia was first noticed before the infant was brought to the hospital. On admission he was in a collapsed state; an irreducible hernia occupied the left inguinal canal and scrotum. No phimosis was present. Operation was at once undertaken. The constriction was found at the internal abdominal ring and divided. On opening the sac, which was congenital in type, two or three drachms of blood-stained serum escaped. The contents were a coil of small intestine deep violet in colour but retaining its gloss. The seat of constriction was examined. A considerable degree of anæmia was present, particularly at the point of exit, but the surface was smooth and glistening and the appearances seemed to warrant a return of the intestine. This was carried out. The sac was ligatured at its neck, the distal portion was removed, and a radical cure was performed. The child's condition was grave for several hours after the operation but gradually improvement occurred. The bowels moved three times during the first 24 hours, there was no vomiting, and all appeared to be going well. 12 hours later a sudden change for the worse occurred, the pulse became feeble, the temperature, previously normal, rose to 101° F., vomiting occurred several times in rapid succession, and death followed 36 hours after the operation. No signs of inflammation were present about the incision.

Necropsy.—At the post-mortem examination no peritonitis was found. The strangulated loop of small intestine was recognised three feet six inches from the ileo-cæcal valve. It was deeply congested, smooth, and shining. The circulation had returned to the anæmic areas of constriction noted at the operation. On opening the bowel the mucous lining of the strangulated loop showed marked inflammatory infiltration. Corresponding to the seat of constriction at the point of exit there was present an almost complete ring of small, superficial, irregularly shaped ulcers. The mucous membrane of the intestines and stomach was otherwise normal in appearance. A Meckel's diverticulum was present two feet nine inches from the ileo-cæcal valve—i.e., nine inches below the strangulated loop of intestine. This process was just over one inch in length and communicated with the lumen of the bowel by an opening of the size of a threepenny-piece. From the apex of the diverticulum a thin fibrous band passed upwards and to the right, crossing anterior to the ileum five inches distal to the root of the diverticulum. This band was two inches long and gained attachment to the mesentery one and a half inches from its free border. The small intestine at the point of origin of the diverticulum was drawn towards the mesenteric attachment of the band. Thus a vertically placed loop of ileum was formed, the proximal end of which corresponded with the root of the diverticulum, while its distal extremity was the portion of small intestine lying behind the fibrous band. The band in question as it crossed the ileum lay in contact with its anterior surface. No adhesion existed between it and the underlying intestine. The small gut distal to the band was empty and collapsed, as also were the cæcum and large intestine. The bowel above the band was slightly distended. The tips of three fingers could be inserted under the band.

CASE 2.—The patient was a male, five weeks old. He was breast-fed and had had good health up to the present illness. Late one evening, after 18 hours' constipation, he was suddenly seized with severe pain, causing violent attacks of screaming, and vomiting occurred. The mother noticed that the right side of the scrotum was swollen and hard a few minutes after the onset of the symptoms. The family medical attendant was called in and gentle taxis failed to reduce the rupture. Cold compresses were applied throughout the night and the legs and pelvis were elevated. Vomiting and pain continued at intervals and the breast was refused. Mr. Dun saw the child 12 hours after the appearance of the symptoms; the bowels had not moved and no flatus had been passed during the night. A large irreducible right scrotal hernia was present; the testicle lay behind the lower part. There was no phimosis. Chloroform was administered. Gentle attempts at reduction failed to make any impression on the size of the hernia so operation was immediately undertaken. On exposing the sac the constriction was found to be caused by the narrowness of its neck. The sac was opened and its neck was divided; it was of the infantile variety, a complete tunica vaginalis testis being present. No fluid was present in the sac. It contained a loop of small intestine, bright red in colour. The seat of the constriction was examined, the bowel was returned to the abdominal cavity, and a radical cure was carried out. The subsequent progress was satisfactory. No vomiting occurred after the operation and the bowels moved freely in six hours. The stitches were removed on the sixth day and recovery was uninterrupted.

CASE 3.—The patient was a male, four months old. This infant had been weakly since birth; he was artificially fed but had suffered from no gastro-intestinal disturbance. There had been no cough. When three weeks old an inguinal hernia appeared on the right side and a truss was applied a week later. At the sixth week a left inguinal hernia made its appearance and a double truss was applied which had since been worn regularly. At the age of three and a half months the infant was taken to the Children's Infirmary on account of phimosis; this was well marked and circumcision was recommended. The truss worn was well fitting and controlled the hernia satisfactorily; during the 12 weeks it had been in use the hernia on the right side had not been down while the left hernia had appeared twice. The infant was circumcised and all went well until the fifteenth day after the operation when the child was suddenly seized with severe pain. The hernia on the right side was found to have come down under the truss. The truss was removed but the mother could not get the hernia back. 18 hours later the child was taken to the hospital. Vomiting had occurred frequently during the night; there had been little pain since the onset of symptoms but nothing had passed by the bowels. There was present a large scrotal inguinal hernia on the right side which was tense and irreducible. The child was collapsed. Operation was performed. The constriction was found at the internal abdominal ring. The sac, of infantile type, contained the cæcum, vermiform appendix, and about one inch of the ileum above the ileo-cæcal valve. The condition of the bowel was good; the appendix was ligatured and removed, the intestine was replaced in the abdomen, and a radical cure was performed. The bowels moved twice in the 12 hours following the operation and there was no vomiting. The healing of the wound ran an aseptic course. The stitches were removed on the seventh day. On the fourth day after the operation diarrhœa set in; from being slight at first this gradually increased in severity and, in spite of dietetic and therapeutic treatment, the child died exhausted 19 days after the operation.

Necropsy.—At the post-mortem examination no peritonitis was found. There was slight congestion of the cæcum externally. On opening this portion of the intestine numerous small ulcers of the mucous coat were seen; they were present at the ileo-cæcal valve but did not extend into the small intestine. The mucous lining of the colon was unaffected.

CASE 4.—The patient was a male, 12 months old, who was artificially fed. A left inguinal hernia had been present since the age of six weeks. A truss had been worn regularly but had not completely controlled the rupture. For a few weeks before the present illness the child had suffered from a bad cough and the hernia came down frequently under the truss and was more difficult to reduce than formerly. The bowels had been acting regularly. Ten hours before Mr. Dun saw the child the hernia was noticed to be down and could not be reduced. When seen vomiting was frequent and neither fæces nor flatus had been passed. The left scrotum was œdematous and red and contained an irreducible hernia. No phimosis was present. There was bronchitis in both lungs. Under chloroform the hernia was still irreducible. The operation showed a sac of infantile type, containing a portion of small intestine in good condition. The constriction was at the internal ring outside the sac. A radical cure was performed and recovery was uninterrupted.

Remarks by Mr. DUN.—Strangulated inguinal hernia is comparatively rare in childhood. The above four examples are of particular interest on account of their occurrence during the first years of life. The adhesion of a Meckel's diverticulum to a distal portion of the mesentery may, I think, be fairly considered as the causal factor in producing the hernia in Case 1. Although insufficient to cause obstruction, it undoubtedly led to a certain amount of abnormal fixation of the intestine in its neighbourhood. Thus some interference with peristalsis probably occurred leading to increased muscular contraction in the bowel. This additional peristaltic effort, put forth to overcome increased resistance, may have led to the forcing of the loop of ileum, only nine inches above the adhesion, into a patent funicular process. The occasional vomiting which was present from birth may have been due to the same cause.

As regards causation, in each of these cases the important predisposing factor, a patent funicular process, existed. As an exciting cause in Case 1 increased peristalsis the result of distal resistance by an adherent Meckel's diverticulum was the probable factor. In Case 2 constipation of short duration was the only apparent cause. In Case 3 marked phimosis was present. In Case 4 severe cough was the most obvious cause of strangulation in a previously existing hernia. Dealing with treatment the probable failure of taxis, even when immediately resorted to, is exemplified. The importance of early operation cannot be too strongly urged owing, firstly, to the rapidity with which collapse ensues and, secondly, on account of the constantly increasing danger of ulceration of mucous membrane subsequently occurring in intestine the external appearance of which would seem to warrant its return to the abdominal cavity at the time of operation. Collapse was present in Cases 1 and 3, in which strangulation had been present 72 and 18 hours respectively, while in Cases 2 and 4 of 12 and 10 hours' duration it was absent. Ulceration of the mucous membrane occurred in Cases 1 and 3 and was probably the cause of death in both. The fatal issue in Case 1 was rapid and apparently due to septic absorption from the ulcerated surface; in Case 3 it resulted from exhaustion following upon chronic diarrhœa.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

The Glomerular Lesions of Diffuse Nephritis.—Malignant Growths.—Primary Sarcoma of the Liver in an Infant.—Sarcoma of the Alimentary Canal.—Leukanæmia.

A MEETING of this society was held on May 17th, Dr. P. H. PYE-SMITH being in the chair.

Dr. W. P. HERRINGHAM and Dr. J. H. THURSFIELD communicated a paper on the Glomerular Lesions of Diffuse Parenchymatous Nephritis. They said that much difference of opinion existed as to the exact significance of the microscopic appearances found in the glomeruli in this disease. Hitherto the appearances had been supposed to represent fibrous tissue but the great difficulty in accepting this view lay in the fact that epithelial cells, the proliferation of which was the striking feature of the disease, did not elsewhere give rise to fibrous tissue. The microscopic appearances were described in detail and illustrated by a series of lantern slides, the contention being that a continuous and connected process could be traced from the first proliferation of the epithelial cells up to the production of the degenerate or functionless glomerulus. The causation of the degeneration was attributed to chemical or bacterial poisons rather than to any mechanical force.

Mr. C. E. WALKER read a paper on the Cytology of Malignant

Growths, dealing with the recent work done upon malignant growths by Professor J. B. Farmer, Mr. J. E. S. Moore, and himself. After a description of the somatic and heterotype mitoses and of the occurrence of the latter in malignant growths Mr. Walker went on to say that though the tissue forming malignant growths resembled normal reproductive tissue in many other respects than in the presence of the heterotype and homotype division figures, there were, particularly in the case of animals, some important points of difference. This resemblance and difference had been emphasised by the application of the term "gametoid" to the mature cancer cells to distinguish them from the gametic cells which arose from gametogenic tissue. Up to the present time the collaborators had seen nothing that could be seriously interpreted as evidence of fusion or fertilisation of the cells forming malignant growths. The occurrence of reduced cells naturally suggested the possibility, or perhaps probability, of fusion, and to them it did so particularly in view of what happened in the case of certain ferns observed by Professor Farmer, Mr. Moore, and Miss Digby more than a year ago. [illegible] e stimuli to prothallial tissue [illegible] ertilisation and the production [illegible] taking place in some cases [illegible] elements appearing. The [illegible] ged cases of nuclear fusion in [illegible] tful or at any rate too few to [illegible] generalisation. Mr. Walker said that his collaborators and he attached great importance to the occurrence of the heterotype mitosis and the consequent production of reduced tissue as being intimately connected with the malignant characters of the growths in which it was found. Since they, on Dec. 10th last, recorded its presence in malignant growths occurring in man Dr. E. F. Bashford and Dr. J. A. Murray had recorded its presence in malignant tumours in many other vertebrates as well as in man. The [illegible] and preparation were necessary if mitotic figures were to be observed this involved no loss of time. As a proof of this Mr. Walker referred to a slide of epithelioma which was among those under the microscopes. It was from a case operated upon that afternoon and had been fixed in acetic acid and alcohol, imbedded in paraffin, cut, stained to show nuclear divisions, and mounted in Canada balsam within four hours.

Dr. E. P. **BAUMANN** and Dr. J. G. **FORBES** described a case of Primary Sarcoma of the Liver in an Infant. The patient, a male infant, aged 11 months, was admitted to the Hospital for Sick Children, Great Ormond-street. He had suffered for some four weeks from vomiting, loss of flesh, and enlargement of the abdomen. On admission he was very pale but not jaundiced. The liver was enormously enlarged, forming an elastic, semi-fluctuating mass. Death occurred a week after admission. At the necropsy several massive deposits of friable new growth were found occupying practically the whole of the [illegible] had occurred into the deposits [illegible] found in any other tissues or [illegible] nation showed the growth to be of the nature of a round- and spindle-celled sarcoma. Some of the areas of hæmorrhage appeared as blood spaces lined by proliferating endothelial cells. Here the growth had the appearance rather of an angiosarcoma. Elsewhere in the middle of the growth proliferation of the endothelial cells of the capillaries was to be seen merging into the type of cell constituting the sarcoma and affording a possible clue to its origin.

Mr. E. M. **CORNER** *and Mr. H. A. T.* **FAIRBANK** *made* a communication on the Sarcomata of the Alimentary Canal. Mention was first made of a case of intussusception which complicated a sarcoma of the colon in a boy, nine years of age. This case was the eleventh recorded instance of sarcoma of the colon and the fifth in which a sarcoma had caused the formation of an intussusception. The tumour was a round celled sarcoma. The paper then dealt with sarcomata of the alimentary tract in general. 174 instances were collected. In these, males were affected twice as often as females. Those of the œsophagus and rectum seemed mainly to occur at the later periods of life; those of the ileo-cæcal region and the colon during the first decade. The œsophagus was affected 14 times, the stomach 58 times, the ileo cæcal region 65, the colon 11, and the rectum seven times. The round-celled variety was by far the most common. The prognosis of early operation seemed very good, six cases being free from recurrence from one to nine years afterwards.

Dr. F. **PARKES WEBER** read an account of a case of Leukanæmia with great Hyperplasia of the Spleen and Prevertebral Hæmolymph Glands and with Increase of Connective Tissue in the Bone Marrow. The patient, a man, aged 58 years, died after about a year's illness with progressive asthenia and symptoms somewhat resembling pernicious anæmia, though he had great enlargement of the spleen and the liver. The main features of the case could be summed up as follows: (1) progressive waxy pallor and asthenia with maintenance of subcutaneous fat; (2) changes in the red blood corpuscles rather similar to, but not so extreme as, those met with in true pernicious anæmia; (3) absence of true leukæmic changes in the blood but presence of slight myelocythæmia and of inverted proportion of lymphocytes to polymorphonuclears; (4) relative deficiency of pigment in the urine; (5) changes found after death in the hæmopoietic tissues similar to those of "mixed-cell" leukæmia or pseudo-leukæmia; (6) abnormally firm consistence and fibrous tissue increase in the bone marrow of the shaft of a long bone; (7) absence of enlargement of the ordinary lymph glands but hyperplasia of the spleen (hæmal gland) and hæmolymph glands; and (8) absence of any reaction for free iron in the spleen, the liver, or the kidneys such as occurred in pernicious anæmia. Similar cases had doubtless been described as pernicious anæmia merging or becoming transformed into leukæmia.

At the close of the ordinary meeting the annual general meeting for the election of officers and council was held. A vote of thanks was passed to Sir Samuel Wilks who retired from the office of trustee. The members nominated by the council to hold office during the ensuing year were duly elected.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

Quantitative and Qualitative Leucocyte Observations in Various Forms of Insanity.—Social Causes of Alcoholism.—Combined Spinal Degeneration with Unusual Mental Symptoms.

THE quarterly general meeting of this society was held on May 18th at the Langham Hotel, Portland Place, London, W., under the presidency of Dr. **ERNEST W. WHITE**.

The report of a committee of the association which was appointed to investigate further the remarkable case of multiple consciousness in a girl brought before the society by Dr. Albert Wilson last year was read by the secretary to the committee.

Dr. **CHARLES A MERCIER**, a member of the committee, moved the adoption of the report and emphasised that part of it which recommended its publication in full in the *Journal of Mental Science*. He paid a high tribute to Dr. Wilson for his laborious collation of the details and the lucid presentment of them.

Mr. **JAMES STEWART** (Clifton) seconded the motion for adoption and it was unanimously carried.

Dr. L. C. **BRUCE** read a paper by himself and Dr. A. S. M. **PEEBLES** (Perth Asylum), entitled "Quantitative and Qualitative Leucocyte Observations in Various Forms of Insanity." The contribution showed exhaustive research and contained several significant and suggestive points. One of them was that the large lymphocyte which, according to Hutchison, is not usual in normal blood in any considerable quantity, was commonly present in many cases of pure mental disorder. Moreover, if a person were immunised against a bacterial toxin it was found that those cells became definitely phagocytic. The eosinophile cells, ordinarily about 2 or 3 per cent., rose to 50 per cent. in some abnormal mental states.—Dr. **ROBERT JONES** spoke in flattering terms of the energy shown by Dr. Bruce and Dr. Peebles. He referred to drugs, such as pilocarpine, cinnamate of sodium, and camphor, which increased the lymphocytes in the blood.—Dr. **BRUCE**, in his reply, said that Dr. Peebles and himself had tried the drugs referred to by Dr. Jones except camphor and found that though they increased the lymphocytes that effect was not noticed in connexion with the polymorphonuclears. The leucocyte investigation had a practical application in the assistance which it gave to a correct prognosis.

Dr. W. C. **SULLIVAN** (H.M. Prison, Pentonville) read a lengthy contribution entitled "A Statistical Note on the

Social Causes of Alcoholism." He pointed out that the bulk of the social evil wrought by intemperance was due to chronic alcoholic poisoning, not to simple drunkenness. Thus, suicide, crime, insanity, and racial degeneration—in so far as they were caused by drink—depended on chronic alcoholism. But the sort of drinking which led to casual drunkenness might be entirely different from that which led to chronic intoxication. Drunkenness in its simple form was the result, mainly, of convivial drinking, of the drinking that went with conditions of relative luxury; it was generally intermittent and did not tend much towards chronic alcoholism. It was quite different with the sort of drinking which might be termed industrial drinking, the drinking that went with bad hygienic conditions, overcrowding, insufficient or unattractive food, overwork, and so on. It was characteristic of this form of drinking that it went on during working hours and that it was more or less in substitution of food. It might not cause drunkenness except indirectly, but it inevitably led to chronic alcoholism. The difference between these two sorts of drinking explained the fact that the distribution of drunkenness in England differed widely from the distribution of alcoholism, alcoholic suicide, crime, and insanity. This contrast was demonstrated by means of coloured maps which showed that the counties ranking highest in the list of drunkenness ranked low in alcoholism. The same result was brought out more clearly by comparing drunkenness and alcoholism in large composite areas representing special industrial conditions. Thus it was shown that the prosperous mining districts, where there was little industrial but much convivial drinking, were much more drunken but much less alcoholic than any other part of the country—they were even a little less alcoholic than the agricultural counties but nearly five times as drunken. In the manufacturing towns, where the industrial conditions were less favourable, there was much alcoholism; and in the seaports, where these conditions were at their worst, alcoholism, alcoholic suicide, and crime reached their highest development. In these towns the alcoholism was accompanied by much drunkenness, though the drunkenness was not the cause of the alcoholism but both were effects of a common cause in the industrial conditions. Statistics of drunkenness were therefore of no value as a measure of alcoholism. From a social point of view convivial drunkenness was at once much less important and much easier to check than was industrial alcoholism. The remedy for the latter form of drinking was to raise the standard of living and something might also be done by restricting the facilities for obtaining alcohol during working hours by providing hygienic substitutes and by sane and temperate teaching as to the proper use and limitations of alcoholic liquors.—Mr. STEWART, who said he had been interested in the subject for 25 years, urged that great care should be used in differentiating between chronic alcoholism, drunkenness, and inebriety, and Dr. Sullivan, in one part of his paper, had referred to the causes of inebriety instead of the causes of drunkenness. The consequence of this confusion of terms was that a large number of drunken persons were looked upon as cases of disease and when their vicious habits were abandoned it was considered that they had been cured of the disease of inebriety. That somewhat accounted for the vaunted efficacy of "gold cures," "atropine cures," and the like. Dr. Sullivan's comparison between the amount of chronic alcoholism in certain districts and the number of attempts at suicide was of great value because many persons would glibly declare that all who suffered from chronic alcoholism had brain disease, a statement he dissented from. Only the presence of brain disease would justify the term "inebriety." Dr. Sullivan's classification into "luxury drinking" and "misery drinking" was very happy and would help to account for many cases which came under notice. In a series of 200 cases he found 134 had been due to "misery drinking." Mr. Stewart proceeded to give his reasons to account for the large number of such cases among women and concluded by pointing out the fallacy underlying much of the motive for indulging in the habit.—Dr. C. A. MERCIER was not prepared to discuss the paper at once but thought that Dr. Sullivan's classifications were well worthy of consideration and that they must profoundly affect a person's manner of regarding the subject.—Mr. H. F. HAYES NEWINGTON pointed out that in discussing the subject the social and psychological aspects overshadowed a very important point which was often quite forgotten—namely, the poor quality of the liquid consumed under various names. The question could not be adequately discussed without that being taken into consideration. It was of little use to speak of Parliamentary control or the reduction of licences while the distiller was allowed to continue to poison His Majesty's subjects. A large proportion of distillers used scarcely any malt and much of the whisky consumed was cyder and spirit. It had recently been stated that there was no test for brandy.—Dr. DAVID YELLOWLEES said he appreciated the distinction between convivial drinking and misery drinking but it by no means covered the ground. A large class of drunkards needed neither the excuses of conviviality nor of misery but drank because they liked to. He asked what "chronic alcoholism" meant. His own feeling was that it meant degeneration of the whole organism, brain included, by alcohol, but it was obviously not the meaning of Dr. Sullivan. He pleaded for a clear definition of the terms used in speaking of alcoholic indulgence.—Dr. G. F. BLANDFORD and Dr. R. W. BRANTHWAITE continued the debate, the latter stating that though he had an experience of 22 years in that department he did not yet know which was a drunkard and which was a chronic alcoholic.—Dr. GEORGE H. SAVAGE thought knowledge on the subject was largely increased by statistics and heartily seconded the remarks of Mr. Hayes Newington. The cases which came under the notice of the alienist were the recurrent ones—cases of recurrent mania or recurrent mental disorder. Those people did not drink because they were miserable but because it was the stage of the mental disorder through which they were passing.—Dr. ROBERT JONES said the view of many was that the chronic alcoholic or drunken person succumbed last in the brain, whereas in alcoholic insanity the brain suffered first. It was a case of *locus resistentiæ minoris*.—Dr. SULLIVAN, in reply, said he regarded as inebriety the act and tendency, whereas chronic alcoholism was the effect. During a large experience at Liverpool he knew of only three "blacklisters" in whose history there had not been one or more attempts at suicide.

Dr. J. KENNEDY WILL read notes on a case of Combined Spinal Degeneration with Unusual Mental Symptoms and illustrated the paper by means of microscopic sections of the cord.—Dr. W. B. STODDART discussed the paper.—The company afterwards dined at the Café Monico.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.

A meeting of this society was held on May 18th, Professor JOHN CHIENE, the President, being in the chair.

Dr. T. M. BURN-MURDOCH exhibited the following cases: 1. A child, aged ten months, who was admitted to hospital suffering from Infantile Scurvy. This was a very unusual condition and, in fact, was the first case of the kind which had been seen by any of the medical officers of the institution. The child had been fed for nine months on sterilised milk obtained from the Leith corporation depot. The legs were painful when moved and the child lay flaccid and limp with the legs everted. On admission there was a brawny swelling at the lower part of the left femur and at present there was a similarly situated mass on the right thigh. The left arm was also much affected and was kept constantly straight out from the body, there being a subperiosteal hæmorrhage over the humerus. The bowels were constipated and the motions were streaked with blood. The vaccination scars became red though the operation had been performed six months previously. There were traces of blood in the urine and the gums were slightly congested though not bleeding. 2 A girl with a well-defined Rheumatic History and with a Cardiac Lesion who showed well the presence of rheumatic nodules over the knuckles, wrists, ankles, tendons, spine, &c. 3. A female child, aged six years, with a marked Ataxic Gait. She was first admitted to the hospital in July, 1902, suffering from inability to walk and with squint, which conditions had persisted for two years. At that time she was very nervous and was constantly falling, her speech was slow, and there were choreic movements of the hands, though her intelligence was up to the normal standard. There was improvement after this for a time and the child attended school. Her present *condition showed internal strabismus, slurred speech*, constant muscular fibrillary twitchings, and no dragging of the feet; the condition was probably due to a tumour in the cerebellar tissue. 4. A boy, admitted for very Intense Paroxysmal Headache. There were chronic fibrosis of the left lung and double optic neuritis. These were the only symptoms and the case was probably one of cerebral tumour.

Mr. Harold J. Stiles showed:—1. A child with Congenital Elevation of the Scapula. The left shoulder was seen to be deformed and its movement was interfered with; the shoulder was higher on the *left* side and not so broad as the right. Abduction of the arm from the shoulder was rendered impossible on account of a mass of bone which grew from the upper border of the scapula and which became wedged against the transverse processes of the vertebræ. The treatment was to divide this bony mass from its attachment to the scapula. 2. A boy, aged 11 years, after Cuneiform Osteotomy of the Femur for Coxa Vara. The lameness came on when he was four years of age with little or no pain and free movement of the right hip except that of abduction, and the limb grew shorter. The pelvis was tilted on the deformed side and there was fixed adduction of the hip to an angle of 35°; the trochanter on the right side was elevated one and a half inches. There were no history of disease and no wasting of the limb. All the signs were present of a simple bending down of the neck of the femur. At the operation a wedge of bone was removed from below the root of the trochanter and the limb was fixed in an abducted position after division of the adductor muscles for three months. At the present time there was no tilting of the anterior superior spine. 3. A girl, aged nine years, from Shetland, after an operation for an unusually large Hydatid Cyst of the Liver. The heart was displaced and the tumour reached down an inch below the umbilicus. It resembled a hydronephrosis but the thrill was very well marked and the hydatid fremitus was present. A vertical incision was made through the middle of the right rectus muscle and on opening the cyst about a gallon of fluid escaped. The cyst wall at once began to separate from the liver and was extracted in two pieces. There was one daughter cyst of the size of a bantam's egg. The opening in the liver was stitched to the peritoneum and a large tube was introduced. 4. A child, aged two and a half years, after excision of a large Sarcoma of the Left Kidney. The operation was performed nearly four months ago. For three months previous to this the swelling had been noticed and the child made no complaint of pain. The tumour extended one inch below and one inch to the left of the umbilicus. A long incision was made below the left costal margins from the erector spinæ to the front dividing the peritoneum and the tumour was shelled out. Some enlarged retroperitoneal glands were felt but at present there was no obvious recurrence of the disease. 5. A child after Arthrodesis of the Ankle and Knee for Infantile Paralysis. The paralysis was very severe, involving at first both lower extremities as well as the right arm. Recovery, however, was almost complete with the exception of the right leg, of which only the psoas muscle retained its activity. The ankle was fixed by a long nail driven right up into the tibia and now both ankle and *knee joints were still. 6. A girl after a second operation for* Ununited Fracture of the Humerus. At the first operation an aluminium plate fixed by four screws was inserted, but as the wound was septic union did not take place between the broken ends of the bone. Four weeks ago the same operation was again performed as the wound was then aseptic. There was still a small sinus present but a good deal of new bone had been thrown out.

Dr. John Thomson exhibited:—1. A case of Congenital Cerebellar Ataxia of the type described by Dr. F. E. Batten. The boy was aged four and a half *years and presented* marked bilateral nystagmus of a conjugate character and lateral head nodding. The latter conditions had been present since early infancy. A year ago the ataxic gait was well marked; he spread his legs apart in walking and frequently fell backwards. It was not a hereditary condition. The knee-jerks as well as the other reflexes and organic reflexes were normal. The child was improving to a slight extent. 2. A girl, eight years of age, with a peculiar Congenital Deformity of the frontal, nasal, and superior maxillary bones. The patient was an imbecile child of a mentally defective woman. The frontal bone was divided into two by a wide sulcus and the nose was very broad and possessed a wide median groove. The eyes were *very far* apart; the upper jaw was atrophied and the palate was dwarfed, as was especially the case with the premaxillary bone. The case was one of an attempt at the double formation of a head above the nose.

Mr. Stiles and Dr. Thomson exhibited three cases of Congenital Hypertrophy of the Pylorus after Operation. The first case was operated upon two years ago, when he was only four and a half weeks old and weighed a little over six pounds. He had vomited all his food during the preceding fortnight and there was marked constipation. The emesis became more and more severe and the stomach became greatly distended. Loreta's operation of forcibly stretching the pylorus was performed. This was a simple procedure, the stomach being opened near the pylorus and a pair of forceps being passed into the pyloric orifice and opened up, though Mr. Stiles had found a three-bladed tracheal dilator more useful. In this case the vomiting ceased at once and the child rapidly improved. The boy was now two years old. The second case was that of a child now 13½ months old. The operation was performed on June 16th, 1903, when the infant was 10½ weeks old. When five weeks old the weight was ten pounds. At this period, however, vomiting, constipation, and emaciation commenced and when the operation was performed the child weighed only seven pounds. Loreta's operation as above described was performed and for two weeks the vomiting ceased. It then returned, however, and as the child was obviously seriously ill a second operation was accomplished three weeks after the first. A posterior gastro-enterostomy was performed and at once the child commenced to improve. In future Mr. Stiles would always perform the latter operation for this condition as it simplified the after-treatment very much and the child could be fed at once. In Loreta's operation to be effectual the peritoneal coat must be ruptured by stretching and then this had to be sutured. They could never tell how much fibrous tissue might be the result of such procedure. The third case was that of a child now three and a half months old. The operation of posterior gastro-enterostomy was performed on April 1st, 1904, when the child weighed six pounds. At the present moment the weight was ten pounds. Mr. Stiles uttered a word *of warning against the use of* carbolic poultices in the case of young children.

Dr. J. S. Fowler showed: 1. A case of Dwarfed Growth in a child eight and a half years of age, exhibiting some of the symptoms of cretinism and probably due to thyroid inadequacy (myxœdema fruste). The child was 37 inches high or 10 or 11 inches shorter than he ought to have been, or in other words, his height corresponded to that of a child three and a half years of age. All the members of his family were short of stature, probably the result of rickets. The boy did *not walk until four years of age* and since then he had not grown in height. The face was heavy and swollen in appearance, as was also the neck, and the abdomen was large. Skiagrams showed that the ossification of the bones corresponded to that of a child of the age of three years. 2. A case of General Spastic Rigidity with a Low Grade of Idiocy and very Severe Rachitic Deformity. The child was now about five years of age; the birth was natural and three days subsequently fits began to occur. Development had never proceeded; the child cried constantly, sucked the tongue, and rolled the head. These were some of the symptoms of microcephalus, but Dr. Fowler did not think this was a pure case of that affection but rather that there had been an extensive cortical hæmorrhage which had interfered with the growth of the child's brain.

Dr. Drummond exhibited a case of Microcephalus. The child was nine months old and at the age of three months fits commenced. They were very numerous, eight or nine per diem. Under the action of bromide of potassium and chloral the fits had nearly ceased. The head was of the size of that of a child aged six months and the anterior fontanelle had completely closed.

Mr. E. W. Scott Carmichael showed a boy with a Congenital Malformation of the Bones of the Right Forearm. The third metacarpal bone with the corresponding phalanges were absent from the right hand.

The following card specimens and photographs were also shown:—

Dr. Burn-Murdoch: Photographs of a remarkably interesting case of deformity, Double Congenital Dislocation of the Hip, and a rare condition of both knees, the External Condyles of the Femora *being Undeveloped* and the Patellæ being Absent.

Mr. Stiles: (1) A small Round-celled Sarcoma of the

Upper Half of the Femur: Disarticulation at the Hip; (2) a large Hydrocephalic Head; (3) a Hydatid Cyst of the Liver; (4) a Gold Brooch removed from the Œsophagus of an Infant by Median Œsophagotomy; and (5) a large Sarcoma of the Kidney and microscopical specimen.

Dr. Fowler: Specimens and drawings of Blood from a Mixed-celled Leucocythæmia in a child—excess of large lymphocytes and myelocytes.

Mr. Scott Carmichael: (1) Congenital Absence of the First and Second Parts of the Rectum, with sac-like dilatation of the descending and sigmoid colon; (2) Necrosis of the Os Calcis, the result of a septic wound of the foot; and (3) Recent Ileo colic Intussusception.

Dr. Thomson: (1) Bones of the Lower Limb from a case of Infantile Scurvy (Barlow's Disease); (2) Diplococci from a case of Posterior Basic Meningitis; and (3) photographs and drawing of Rheumatic Nodules in various positions.

West London Medico-Chirurgical Society.—A meeting of this society was held on May 6th, Dr. Seymour Taylor, the President, being in the chair.—Mr. L. A. Bidwell read a paper on Chronic Pancreatitis. Two types of the malady were described: (1) the interlobular variety, the islands of Langerhans being unaffected except in the latest stage; and (2) inter-acinar pancreatitis in which there were cell infiltration and fibrous tissue formation within the lobules and inside the islands of Langerhans. The second type was the less frequent variety and was not commonly associated with duct obstruction but was accompanied by glycosuria. The interlobular variety was met with in association with obstruction of the pancreatic duct by pancreatic calculi, biliary calculi impacted in the ampulla of Vater, cancer of the bile papilla, or stenosis of the opening by inflammatory changes originating either in the bile duct or in the duodenum. In cases of impacted gall-stone there was a considerable amount of cholangitis set up which, owing to the communication between the bile and pancreatic ducts, spread to the latter duct. Thereafter, there being no outlet for the inflammatory products, the substance of the pancreas became involved in the inflammatory changes and chronic interstitial pancreatitis resulted. This condition might subside completely but on the other hand it might pass on to abscess formation with secondary suppuration of lymphatic glands. The symptoms resembled those exhibited by the slighter cases of subacute pancreatitis. The onset was usually gradual but an acute attack of pain in the epigastrium resembling that of gall-stone colic and followed by jaundice might usher in the attack. Loss of flesh and strength were prominent features. The emaciation and weakness steadily increased and a fatal result if no operation were undertaken was almost certain. These cases had to be distinguished from gall-stones, cancer of the head of the pancreas, cancer of the liver and ducts, and cancer of the stomach, and the points of differential diagnosis were discussed. The treatment recommended was laparotomy. A certain number of cases had recovered after simple palpation of the pancreas, but many surgeons, amongst whom was Mr. A. W. Mayo Robson, advised that the gall-bladder should be drained in all cases. Removal of any stone found in the ampulla of Vater was also necessary. The narration of four cases of chronic pancreatitis which had come under Mr. Bidwell's own observation concluded the paper.—The President referred to the diagnostic value of rigors in cases of jaundice due to gall-stone obstruction.—Mr. W. McAdam Eccles had had the opportunity of observing two of the cases referred to by Mr. Bidwell. A point of great interest was the occurrence of clear unclouded mucus in the gall-bladder. In neither case was there any sign of calculi in the biliary ducts. He felt sure that in some instances in which a patient suffered from what appeared to be biliary colic and showed evidence of sugar in the urine the pancreas was the seat of the real lesion.—Mr. E. Percy Paton considered that in two of Mr. Bidwell's cases there was a good deal of uncertainty as to the diagnosis and it seemed to him that in both of the cases the true nature of the disease might have been carcinoma.—Mr. Bidwell replied.—Mr. Eccles read a paper on Lessons from a Year's Fatalities. In all, 19 cases were referred to and in all death was due to lesions of the head or trunk, a fact which illustrated one of the advances of modern surgery—namely, that operations on the extremities were fraught with but little danger provided that sepsis was excluded. No less than 14 of the fatalities were due to abdominal lesions. Of the other five cases one was due to fracture of the base of the skull, one to hæmorrhage into the mid-dorsal region of the spinal cord, and one to fracture of the ribs with injury to the heart wall. This last case was specially interesting. The patient, a boy, aged 14 years, was crushed between two vans. On admission he was collapsed, livid, with very laboured respiration and much frothing of mucus in the larynx and mouth. Examination showed fracture and depression of the fourth, fifth, and sixth left rib cartilages. A grave prognosis was given but the boy made steady improvement. 16 days after the accident, while sitting up in bed, he died suddenly. Post-mortem examination revealed, in addition to the fractures above noted, bulging and perforation of the left ventricular wall in a position immediately under the fractured fifth rib. There had apparently been a partial laceration of the ventricle and the wall had gradually thinned and eventually ruptured, causing the fatal issue. The other two fatalities were due to carcinoma of the mammary gland and in both pulmonary infection was the immediate cause of death. Of the 14 abdominal cases death was due to abdominal tubercle, gastric hæmorrhage, hæmorrhage from the hepatic artery in the floor of a duodenal ulcer, carcinoma of the sigmoid flexure, internal strangulation by a band, strangulated femoral hernia, and multiple hepatic abscesses in one instance each, to intussusception in three cases, and to lesions of the vermiform appendix in four cases. A study of these fatalities from appendicitis tended to confirm Mr. Eccles in his view that in all cases in which there was strong suspicion that the appendix had been inflamed it was safer to remove it than to wait for subsequent attacks, any one of which might prove disastrous.—Mr. Paton endorsed the opinion expressed by Mr. Eccles as to the advisability of removing the appendix after one clear attack of inflammation of that organ. He had seen most satisfactory results from operation in tuberculous peritonitis similar to the case quoted, in which there had been large masses in the abdomen, together with very little peritoneal effusion.—Mr. F. G. Lloyd was unable to agree with Mr. Eccles's conclusion as to the necessity for operation in all cases of appendicitis after a first attack.

British Laryngological, Rhinological, and Otological Association.—A meeting of this association was held on May 13th, Mr. John Bark, the President, being in the chair.—The President said that the association had sustained a great loss through the death of Sir Philip C. Smyly and it was resolved that a letter of condolence should be sent to Lady Smyly and the family.—A letter was read from the Laryngological Society of London inviting coöperation in the appropriate celebration of the 100th birthday in March, 1905, of the inventor of the laryngoscope, Señor Manuel Garcia.—It was resolved that a special council meeting should be held to consider this matter.—Dr. W. H. Kelson showed a case of Post-nasal Casts. The patient, a man, aged 36 years, had for years suffered from post-nasal catarrh. About once a week a tough fibrinous disc of the size of a shilling formed in the region of Luschka's tonsil. It became loose after three or four days and the patient was able to expectorate it. Scraping, galvano-cautery, and caustics had been tried but the disc reappeared.—Dr. J. Dundas Grant said that this case resembled Thornwald's disease. He advised trans-illumination, a bacteriological examination of the crusts, and the use of his new sniffing nasal douche.—Dr. V. H. Wyatt Wingrave said that as all lymphoid structures had disappeared he looked upon the case as one of atrophic pharyngitis. He advised diminution of the enlarged turbinals.—The President advised the trial of von Troltsch's method of gargling and washing out the naso-pharynx.—Dr. Kelson also showed a case of Epithelioma of the Larynx and Œsophagus in a single woman, aged 31 years.—The President said that last year he had shown a case of epithelioma in the œsophagus in a still younger instance—namely, a woman, aged 28 years.—Mr. Mayo Collier read the notes of a case of Acute Abscess of the Thyroid Body after Influenza. The patient was admitted into the North-West London Hospital on April 18th with a large, pulsating swelling on the left side of the neck. The trachea and attached structures were all displaced to the right side. Dyspnœa and cyanosis were present and the expectoration was blood stained. An ice-bag was applied. An operation was performed by Mr.

J. Jackson Clarke and Mr. G. Templeton. An incision about three inches long was made in the middle line and the tumour was partially isolated. There was severe hæmorrhage from engorged veins during this stage of the operation and the patient began to show signs of asphyxia. The trachea was opened low down in the neck and a tube was introduced. Artificial respiration, injection of strychnine, and ammonia to the nostrils had no effect, the patient never breathing again. At the necropsy it was found that the swelling was limited to the left lobe of the thyroid. When opened it was found to contain a quantity of thick, chocolate-coloured, extremely offensive pus. The swelling was adherent to the carotid sheath. The rings of the trachea showed no signs of atrophy from pressure and both recurrent laryngeal nerves were apparently sound. The heart muscle and valves were normal; the right side was distended with clot. The lungs were very œdematous. The bronchi were filled with frothy fluid. The other organs were apparently normal.—Dr. Dundas Grant mentioned a similar case under his care in which death took place very suddenly.—*Dr. J. Lumsden showed a Nasal Dilator* for continuous dilatation of the anterior nares in cases of nasal obstruction when due to swelling of the mucous membrane covering the nasal bones. The benefits which he had found to result from the use of it by those who complained of stuffiness in the nose were (1) that it allowed the nose thoroughly to be cleared from discharge by sniffing air backwards; and (2) that it allowed nasal respiration to be carried on comfortably while it was in place. The instrument was made by Messrs. Arnold. It was meant to be worn at night chiefly.—Dr. Andrew Wylie stated that he tried this dilator and had found that it afforded the patient great relief.—Dr. Wyatt Wingrave deprecated the constant stretching of the alæ nasi and advocated the employment of an india-rubber tube.—Dr. W. Jobson Horne spoke favourably of small pieces of cotton-wool tucked up into the recess of the vestibule of the nose.—Dr. J. Sim Wallace, in resuming the adjourned discussion on Mr. Mayo Collier's paper on Latent or Intermittent Nasal Obstruction, said that the nose was not only a respiratory organ but a perspiratory organ also, and if the function of perspiration was interfered with or unduly taxed various deleterious effects were certain to be brought about.—Dr. Wyatt Wingrave maintained that there was an intimate relation between nasal obstruction and the onset of puberty and even between some obstructions of the nose and menstruation.—Dr. L. H. Pegler, Mr. E. Dennis Vinrace, Mr. Fox, and Mr. Barwell also made some remarks.

British Gynæcological Society.—A meeting of this society was held on May 12th, Mr. John W. Taylor, the President, being in the chair.—*The President exhibited* the following specimens and read notes of the cases. 1. A Loop of Semi-Gangrenous Intestine successfully removed from a patient 77 years of age with its solid undigested contents; it was taken from a hernia in the cicatrix of an abdominal section performed 23 years previously (a partial hysterectomy for fibroids); the hernia had been strangulated for 24 hours. 2. A Cyst of the Broad Ligament which contained upwards of 30 ounces of fluid successfully enucleated from the vagina.—*Dr. Macnaughton-Jones then gave a demonstration of the Method* of Moulding Pessaries from the Celluloid Rings recommended by Schultze, pointing out that these rings were lighter and stronger than any others and always retained the shape into which they were moulded.—Dr. Heywood Smith then opened the postponed discussion of Dr. Macnaughton-Jones's paper on the Dangers of Pessaries. He attributed much of the evil of pessary treatment to the mistaken idea that the application of a pessary could cure a retroversion and to the introduction of pessaries without previous correction of any existing displacement; he could not concur in the view that reposition by the sound should be altogether abandoned.—Dr. C. H. F. Routh exhibited the combination of a Hodge pessary with a ring and hollow stem pessary which he had found most useful, especially in curing sterility; he had not experienced any evil results.—Dr. Herbert Snow said that he had come to the conclusion that pessaries should not be applied for versions or flexions but only to relieve pain or to prevent prolapse; the elastic ring pessary would do this and was harmless.—Dr. R. H. Hodgson said that in 20 years' experience he had never seen any evil from a pessary properly introduced and not neglected and he was sorry to hear stem pessaries condemned as in a number of cases he had known them to relieve pain that had been of years' duration.—*Mr. E. Stanmore* Bishop expressed his entire belief in the lever action of pessaries but said that he thought that in their use a great distinction should be drawn between flexion, version, and prolapse; in flexions he considered that they could do no good and were likely to do harm. The worst cases to deal with were those of procidentia which in his experience was always accompanied by rectocele and cystocele; if operation was declined it became necessary to resort to some form of Pott's pessary, of which he exhibited one introduced in Manchester by *Dr. A. Donald*, but these all required the use of a belt which was a great objection to them.—The President said that the dangers of the continued use of pessaries seemed to him twofold—namely, (1) the development of pelvic disease either by the rekindling of old inflammation or by infection from the husband, alienated by the presence of the instrument, or by infection directly due to the presence of the pessary; and (2) the effects of stretching, for the pessary not only held up the cervix so that the fundus fell forwards but it also acted injuriously by stretching the sacro-uterine ligaments. *He had made extensive trial of celluloid* rings but he had not found them satisfactory and, like Dr. Macnaughton Jones, had reason to prefer the Smith-Hodge or S pessary to the figure of 8 pessary.

South-West London Medical Society.—A meeting of this society was held on May 11th at Bolingbroke Hospital, Mr. E. F. White, the President, being in the chair.—Dr. E Furniss Potter read a paper entitled "Some Observations on the Treatment of Adenoids." In reviewing the indications for operation Dr. Potter said that cases might be divided into two classes: (1) those in which the objective signs were so obvious that no one would question the desirability of removal; and (2) those in which the signs and symptoms were comparatively slight, such as when a child was beginning to be deaf or was frequently suffering from colds in the head or spoke with a "nosy" tone of voice. In the daytime the child might not present the appearance of a mouth-breather and when asleep he might not snore and might keep his mouth firmly closed, yet on examination a small quantity of adenoid tissue might be found in the naso-pharynx. In cases where there was any appreciable defect in hearing or where stuffiness in the nose was chronic an operation was indicated. In cases where free intervals alternated with periods of obstruction it was more difficult to decide. As regards the anæsthetic Dr. Potter advised nitrous oxide gas and ether. Under nitrous oxide alone the duration of the anæsthesia was too short. With respect to instruments only two need be mentioned—namely, forceps of various shapes and the curette (Gottstein). The latter was excellent for removing a central clump but was not so suitable where growths were scattered or in close proximity to the Eustachian cartilages. In these cases the forceps were preferable.

Reviews and Notices of Books.

La Maladie du Sommeil: Rapport par la Mission envoyée en Afrique Occidentale Portugaise. (Report of the Commission on Sleeping Sickness in Portuguese West Africa.) By ANNIBAL BETTENCOURT, AYRES KOPKE, GOMES DE REZENDE, and CORREA MENDES. Lisbon: Imprimerie de Libanio da Silva. 1903. With plates. Pp. 280.

THIS report was presented to the Minister of the Marine and of the Colonies by the members of the commission sent to investigate the subject of sleeping sickness in Portuguese West Africa. The work commences with a historical survey of this fatal disease which became recognised as a well-characterised morbid entity so far back as the commencement of the last century, when in 1803 Winterbottom showed its existence amongst the slaves in the Bay of Benin. Next, in 1840, a missionary, Clark, described it under the name of "hydropisie narcotique" on the Gold Coast and Sierra Leone. In the third quarter of the century a very accurate description of the symptoms of the disease was given by F. W. Davis, an English naval surgeon, and he mentions that it was held to be brought about by smoking the narcotic weed *dyambo* and by drinking bad palm wine. It is interesting to note that this authority held that some of the cases might be due to chronic meningitis or encephalitis. The historical references are next brought down to recent times, whilst the geographical range of the disease is indicated.

The mission undertook its labours in order to study sleeping sickness as it affects the province of Angola. It started from Loanda and the extensive itinerary shows what large portions of the country were visited. It would seem that before the year 1871 the malady had not attracted much attention. Although it was disseminated throughout the province, excepting the portion south of the fourteenth degree of latitude, yet its intensity and frequency were not the same for all regions. Loanda was found to be the locality most intensely affected. The malady after the year 1877 made marked strides and during the last three years it has attained the highest degree of intensity.

Regarding the predisposing causes of the disease, the authors find that it takes root mostly where the climatic conditions are hot and moist and where the vegetation is very abundant. It was found to be the least disseminated at Ambaca, where the vegetation was scanty and irrigation was but little carried on, and at Pungo-Andongo, a stony and elevated region, not subjected to great heat and with a smaller amount of humidity. The disease attacks both sexes. The opinion is often held that men rather than women are attacked but this is due to the fact that in the localities where this view is taken the men largely predominate. Again, at Cuanza the opposite holds good, for here the affection would seem to be more prevalent amongst women, this really being due to the fact that the men have emigrated to other regions whilst the women remain there. The truth is that the disease shows no preference for either sex. All ages are attacked; in early infancy and above 60 years it is rare. Adults show the largest number of cases, then adolescents, and next children of from five to ten years of age. The negro race is principally attacked. The affection is far from rare amongst half-castes; amongst whites it is excessively rare—in fact, the authors do not believe that the latter are ever attacked. This, however, as shown by recent cases reported in medical literature, is not the case.

As regards the environment of the inhabitants, the negro lives in cottages, sleeping either on mats or on raised platforms. The cottages are divided into two chambers—the one near the entrance for domestic animals and the other, separated by a bamboo palisade and of but small dimensions, for the whole family. The cottages are kept clean internally but the excreta are thrown on the ground near them. The food is dried fish and a flour of maize or of manioc. Meat is also taken, preferably in a state of putrefaction. Water is drunk which is often of the most insanitary description and alcohol is taken to an excessive degree. Tobacco is much smoked, often from a pipe common to many of the inhabitants.

The authors do not agree with Corre that the disease is hereditary. As regards contagion, in the region investigated this idea is firmly held—it is supposed to be transmitted by the clothes and the saliva. The authors of the report are in agreement with this belief and detail their reasons for so thinking. They next proceed to discuss more minutely the various hypotheses which are held regarding sleeping sickness and they conclude from their investigations that the lymphatic system is affected first and that subsequently occurs the lesion of the nervous system. The latter, however, ensues at a period separated by a long interval from the invasion of the lymphatic system and thus the long duration of the disease is explained.

A review is next made of the various micro-organisms that have been held to cause the disease. Following this is an excellent chapter on the symptomatology which is illustrated by highly characteristic plates and we next find the post-mortem results minutely recorded. Regarding treatment the authors appear to have tried many remedies; they recommend salicylate of sodium for the febrile attacks. Arsenic has a certain value when given with quinine, kola, and cocoa. Where the blood contained the filaria perstans oil of male fern was prescribed but without any effect. Neither lumbar puncture nor the injection of a 1 per cent. solution of lysol into the subarachnoid space caused any amelioration. Finally, the authors employed a serum obtained by the inoculation of asses with cultures of a streptococcus which was isolated by them and which they believed to be specific but the result was valueless.

In the chapter on the bacteriological researches with regard to sleeping sickness the authors describe the characters of a diplo-streptococcus discovered by them in the subarachnoid fluid. This organism they hold to be identical with the one described by Castellani independently. These results will, of course, require reconsideration in view of the recent discovery of a trypanosome in cases of this disease.

The conclusions which are arrived at are: that the malady is "une méningo-encéphalo-myélite diffuse," affecting chiefly the higher segments of the cerebro-spinal axis; that it is an infectious malady; and that the micro-organism described by them has been found in nearly all the cases investigated. With regard to prophylaxis they hold that every patient should be at once isolated, and the habitations where cases have occurred must be rigorously disinfected or burnt. Separate eating and drinking utensils should be provided for the inhabitants of any infected region. Abuse of alcohol and excessive fatigue should be avoided. Masters should not engage servants from an infected region. Finally, they recommend inoculation with the above-mentioned serum which was found to give good results in the animals experimented on.

The Medical Inspection of School Children. By W. LESLIE MACKENZIE, M.A., M.D. Aberd., Medical Inspector of the Local Government Board for Scotland; assisted by EDWIN MATTHEW, M.A. Aberd., M.B., C.M. Edin., Assistant Physician to the Leith Hospital. Edinburgh and Glasgow: William Hodge and Co. 1904. Pp. 455. Price 10*s.* 6*d.*

THIS volume is intended for the use of medical officers of schools and medical officers of health, as well as school managers and teachers, and cannot fail to assist in correlating the medical inspection of children with school management and teaching. The book has been written as a sequel to the report of the Royal Commission on Physical Training (Scotland) which definitely recommended that "provision be made for regular inspection of the children in all schools." With this recommendation we are heartily in accord and trust that it will be carried into effect by the Government. This will necessitate the appointment of many medical inspectors trained for this particular service of the State and for such the work under review forms a valuable text-book, containing much information on the medical inspection of children as well as on school organisation and the powers of educational authorities. To insure useful results from the medical inspection proposed it is essential that there should be a certain amount of knowledge and mutual understanding on many matters concerning both the inspectors and those engaged in education in the schools, so that reports made to the authorities may be understood and acted on. On pp. 255–377 the writers deal with the methods of examination and conditions of defect commonly found in the teeth, nose, ears, eyes, lungs, and so forth, as well as with the infectious diseases of childhood; the descriptions given are rather brief, being intended only for the instruction of medical men engaged in the duties of inspection who may be supposed already to have acquired skill and experience in these departments of clinical work, but they will serve a useful purpose in supplying information to school managers and teachers when acting on reports as to the maladies of childhood which interfere with school life.

In the first part of the book, speaking of administrative difficulties that may arise, Dr. Mackenzie refers to parental objections and says that "when a system of medical inspection is once fully organised difficulties at present in the way will cease to exist." This raises an important question that is sure to be put forward when the matter comes before Parliament and one which it is the duty of the profession to meet fairly. It must be seen that a medical examination of children compulsorily attending school, if it is not to be followed by means for the relief of maladies or defects through medical treatment, may not altogether unreasonably give offence to some parents. The Commission instituted an examination of 1250 children in Scotland and we are told (p. 351) that in Edinburgh among 600 children "no case of hernia was discovered, although a very stringent examination was made of 100 girls and 200 boys, and a general examination in the others." Headings—"Hernia—Umbilical, Inguinal, or Femoral"—appear in Schedule A as suggested for adoption; we do not think the investigation of such points necessary among ordinary children attending a day-school. The teachers make a rough classification of the mental abilities of a new pupil by setting the child to work, when his defects are soon observed. What is needed for good school organisation is more accurate diagnosis of brain power and early recognition of any mental or physical disabilities. The principal means of diagnosis presented by the author are anthropometrical; we are surprised to see it stated at p. 65 that "the head measurements could not be regarded as having any direct bearing on physical or mental development or efficiency; but, as pointed out in the Commission's report (p. 24), they afford some data for determining the purity or mixture of races." This is quite contrary to the observations of Dr. Francis Warner and others who have studied the physical indications of mental feebleness and degeneracy, among which "small head" has constantly been observed in a large proportion of the cases. It is said (p. 64) that "measurements of some sort were an obvious necessity, since they alone could give definiteness to simple inspection." This is true in points where measurement is practicable. In the report of a committee of the British Medical Association on schools, 1895, 42 defects in development were defined and recorded in each case where they were seen, 21 "nerve signs" were also looked for, and the two kinds of signs were correlated statistically with the report on mental status and the nutrition of the child; information thus gained afforded valuable evidence used by several Royal Commissions and Parliamentary committees. Some such method might well be incorporated in organising the medical inspection of children.

In the second part of the book Dr. Mackenzie gives much useful information bearing on the practice of medical inspection of children, describing also the effects of environment as already ascertained and the averages of height and weight in relation to age as they have been determined by various observers. The purpose of inspection is defined as "intended first to discover precisely in what way the unfitness is manifested, and second, to indicate how the conditions of school life shall best be adapted to the degree of unfitness." It is in the adaptation of brain training as apart from the instruction of children that specialised medical knowledge and experience in treating mental defects are needed by the school inspector in order that the principles of mental hygiene may be brought to bear on school methods. Hitherto the School Boards that have appointed medical officers have not usually sought their advice as to methods of such training.

The relations of the inspection of children to general social investigation are ably dealt with. It is shown that many factors lead towards the ultimate result which it is desired to achieve through school life—viz , a healthy well-developed adult with full powers of mind and body. The principal factors dealt with are inheritance and hygienic environment. To these might well be added some detailed consideration of the effects of the teaching curriculum on the stability and growth of the brain. Under the heading Pre-natal Nurture the author refers to the heavy mortality of infants in the first month of life which is principally due to premature birth, congenital malformations, and defective conditions of ante-natal origin. It is among the surviving children with some degree of defect that the most difficult pupils are found in the schools. This is a very important aspect of child life which suggests that consideration should be given by the legislature to the advisability of prohibiting the work of women in factories during the later months of pregnancy. Probably hygienic measures which tend to lessen pre natal defectiveness would lower the proportion of adult defectives in our population. Infant mortality falls principally upon the males, while it has been shown that almost all the conditions of congenital defectiveness seen in school children are more frequent among boys than girls and the lesser degrees of developmental defect, such as of the palate, nose, ears, mouth, palpebral fissures, and so on, all possess a significance as stigmata of degeneration and are of anthropological importance in dealing with the problems of childhood. We should like to see these points included among those recorded in the medical inspection of children, because it has been demonstrated that they are correlated with a subnormal brain condition and vitality. Probably the record of minor congenital defects is as good a test as can be obtained of the conditions in any locality predisposing to defectiveness in children, whether inherited from the parents or produced only during the pre-natal period. It was through the record of such points that the marked differences among the nationalities were observed by the committee of the British Medical Association on school children.

The third part of the book is devoted to school anthropometry and contains good illustrations of the apparatus devised by Professor Matthew Hay to whom the Commission intrusted the inspection of children in the Aberdeen schools. The schedule appended for recording each child has numerous headings on matters of social import, to which are added personal appearance and nutrition, height, weight, and certain body measurements, not including the head, together with diseases and gross deformities. Throughout the book it seems to us that the neurological aspect of the child has been subordinated to considerations of hygiene and anthropometry. The book is well printed and will be valued as one of the few standard works that have appeared on this subject.

Ophthalmological Anatomy, with Some Illustrative Cases. By J. HERBERT FISHER, M.B., B.S. Lond., Assistant Surgeon to the Royal London Ophthalmic Hospital (Moorfields). London: Hodder and Stoughton. 1904. Pp. 188. Price 7*s.* 6*d.*

WE are disposed to think that a better title for this work than that which it bears would have been "Cases Illustrating Certain Points of Ophthalmological Anatomy," since the author himself admits in the preface that much that might have been written under the heading of ophthalmological anatomy has not been included and for the omissions refers the reader to the text-books—a proceeding which, whilst it lightens the labour of the author, has the advantage of stimulating the industry of the student. Nevertheless, a good description is given of the intracranial course of the fibres of origin of the optic nerve and of the third, fourth, fifth, and sixth nerves. The account of the olfactory nerve is obviously superfluous and has nothing to do with ophthalmological anatomy. The topographical relations of the skull to the subjacent convolutions and sulci are given with commendable exactitude. Several pages are devoted to a reprint of an article by Dr. Fisher, published in the fourteenth report of the Royal London Ophthalmic Hospital, in which he maintains a theory in opposition to the doctrine generally received that horizontal movements of abduction and adduction are respectively effected by the isolated action of the external and internal recti. This, he says, is a theory with which few anatomists and physiologists are in accord and he proceeds to supply various arguments in favour of his own view that these movements are in each case the result of the action of several muscles, the superior and inferior recti aiding the action of the internal rectus in effecting adduction and the two oblique muscles the action of the external rectus in abduction. The arguments which he advances do not bring conviction to our mind. Mr. Fisher writes a good chapter on the orbit and surrounding air cells. He is of opinion, in which we agree with him, that surgical procedures designed to deal with septic thrombosis of the cavernous sinus must be effected through the eviscerated orbit. The alternative proceedings of reaching the sinus through the maxillary antrum or by the lateral route corresponding to that chosen for the extirpation of the Gasserian ganglion are operations that can only be described, in the language of the elder Guthrie, as long, tedious, difficult, bloody, and dangerous. Mr. Fisher rightly insists on the attention that should be paid from the first to punctured wounds of the orbit, neglect of ordinary surgical antiseptic measures having frequently led to septic meningitis. He makes an original suggestion in regard to the emphysema that is sometimes observed after comparatively slight blows on the nose, emphysema that is limited to the eyelids, nose, and cheeks, and appears to be absent in the retro-ocular tissues. In such cases he has not been able to recognise any fracture of the bones and believes that the blow on the eyelids puts a sudden strain on the internal tendo oculi and thus lacerates the anterior wall of the lacrymal sac to which this ligament is adherent so that on blowing the nose the air is forced into the subcutaneous tissues through the rent in the tear passages. The book will be read with interest by the clinician rather than by the student.

Elements of Water Bacteriology with Special Reference to Sanitary Water Analysis. By SAMUEL CATE PRESCOTT, Assistant Professor of Industrial Biology, and CHARLES EDWARD AMORY WINSLOW, Instructor in Sanitary Bacteriology in the Massachusetts Institute of Technology. London: Chapman and Hall. 1904. Pp. 162. Price 5*s.* 6*d.* net.

THE bacteriological analysis of water has been passing through a period of somewhat severe trial but at last there seems some hope that it may emerge and establish itself on a secure basis as a trustworthy guide to the safety and suitability of a water for domestic purposes. We welcome this little book as a distinct help to this end. In it there are a singular clearness of vision as to the object to be attained and a resolute refusal to be drawn off into side issues which, though of great interest in the study of the flora of a water, are not of practical service for the determination of the sanitary condition of the supply. After a brief period of extravagant anticipation bacteriological analysis fell into an almost equally extravagant disrepute from which it is slowly recovering, thanks to much excellent work done in America and to the patient labours of Houston, Horrocks, and others in England. The difficulties which surround this method of analysis are due to the extreme delicacy of the tests and to the difficulty of determining what interpretation is to be placed on the presence of the ever widening group of colon bacilli and to the lack of any standard methods of analysis. This latter difficulty has been faced, if not met, in America by the appointment of a Committee of Standard Methods, with the result that the quantitative bacteriological analysis of water in that country is on a satisfactory basis as compared with the chaos which prevails in England and Germany. It was owing to the absence of such standard methods, no doubt, that we met with the astounding statements as to the sterility of the London water-supply which were produced for the benefit of the Water Commission. Unfortunately, though a great advance, the standard American methods are more uniform on paper than in practice. Experience shows that the suitability of a culture medium for the growth of organisms is largely modified by the method of sterilisation adopted and the American instructions allow the alternative employment of steam at 100° C. or the autoclave at 110° C. This is, however, of less importance when the analysis is for sanitary purposes than when the bacterial flora is to be studied.

After a preliminary chapter on the various factors which influence the number and variety of organisms in water the quantitative determination of micro-organisms and the interpretation of the results are treated and the broad conclusion is reached that recent contamination will betray itself by the presence of a large number of organisms developing in gelatine in a standard time—48 hours at 21° C. The results are controlled by culture at 37° C. in agar containing lactose and it is shown that normal waters contain few lactose-fermenting germs growing at this temperature. A very brief account of the methods to be employed for the detection of bacillus typhosus and spirillum choleræ is given. Naturally we turn to the chapters on the detection of bacillus coli and the interpretation to be placed on the discovery of this organism in the water examined. On the whole, the chapters dealing with these subjects are good. No attempt is made to dispute the fact that bacillus coli occurs in waters which cannot be condemned but the conclusion is reached that the absence of bacillus coli is certainly evidence of the harmlessness of a water and that when present its numbers form a reasonably close index of the amount of pollution. The solid basis on which these conclusions rest is that of a large number of analyses conducted in a definite manner, which show that an organism having certain characters—the bacillus coli of these authors—can be isolated from small quantities of contaminated waters and not from those which experience has shown to be safe. The significance of the discovery of bacillus enteritidis sporogenes, streptococci and other intestinal bacteria is shortly discussed and the book ends with an appendix giving instructions for the making of standard media. There are a very full bibliography and index.

Lehrbuch der Geburtshilfe. (Text-book of Midwifery.) By F. AHLFELD. Third edition. With 479 illustrations. Leipsic: F. Wilh. Grunow. 1903. Demy 8vo, pp. 757. Price 9 marks.

AS we anticipated on its first appearance, Professor Ahlfeld's "Text-book of Midwifery" has met with a considerable amount of success and a third edition has now been published. There is much in the work to recommend it both to students and teachers. Not only does it put forward the results of the author's own large experience but it also contains the records of a considerable amount of original work carried out by his assistants and others working under his direction. Further than this the book contains a very complete bibliography.

The whole subject is treated in a most thorough and scientific manner, for the author gives not only his own views but does full justice to the work and views of others. It is essential in a text-book primarily intended for students that theories should be critically examined and if necessary rejected. The author of this book does not fail to state his opinions fully and dogmatically upon many debatable questions of practice and these expressions of opinion are of the greatest value since they are those of one well qualified to form a correct judgment. The book is essentially conservative in its general views and some of the more modern methods which have met with a good deal of support from others are regarded with a wholesome scepticism. As instances of this we may mention the employment of Bossi's dilator and the operation of vaginal Cæsarean section, two methods of treatment which have met with enthusiastic support at the hands of at any rate some authors. For the sake of his outspoken views upon these and kindred subjects Professor Ahlfeld's book may be recommended to those obstetricians who are only too readily carried away by their enthusiasm for methods of treatment of as yet unproved value.

LIBRARY TABLE.

Elementary Lectures on Errors of Refraction and their Correction. By HAROLD B. GRIMSDALE, M.B., B.C. Cantab., F.R.C.S.Eng., Assistant Ophthalmic Surgeon to St. George's Hospital, Assistant to the Royal Westminster Ophthalmic Hospital. London: *The Medical Times*, Limited. 1904. Pp. 87. Price 2*s.* 6*d.*—These lectures, we presume, represent the instruction given by Mr. Grimsdale to his pupils at St. George's Hospital. They supply information on errors of refraction sufficient for the average student and if thoroughly digested will to a certain extent enable him to understand the principles on which the refraction of the eye rests and the means by which deviations from normal conditions are recognised and corrected. It is taken for granted that the student has had practical lessons in the use of the ophthalmoscope but vision testing is fully described. Mr. Grimsdale considers that in almost every case below the age of 60 years, when accommodation is usually lost, it is advisable to use a mydriatic, atropine being employed for children and homatropine for adults. He very prudently observes that since the risk of glaucoma increases with age no patient who has been homatropinised should be allowed to leave the consulting room without the instillation of a drop of solution of eserine to neutralise the effect of the mydriatic. The principles on which retinoscopy rests are satisfactorily given and the mode of selection of glasses for the conditions of myopia, hypermetropia, and astigmatism is described in some detail, illustrative cases being added. It would be of advantage to the student if the notation of the prescription for glasses to be presented by the patient to the optician were more fully explained; such orders as those given on pp. 51 and 52 would not be readily understood without some attendance in the out-patient room. Mr. Grimsdale alludes to the performance of the operation of extraction of the lens in cases of high myopia. He does not, however, mention the limits between which it is legitimate to undertake it but simply remarks that eyes with high myopia are not healthy and that accidents are not infrequent. His personal experience has led him to regard the operation with some disfavour, 20 per cent. of the cases operated on subsequently suffering from detachment of the retina. Mr. Grimsdale will do well in the next edition of his little *brochure* to provide a better set of diagrams; those which he has inserted are rough and coarse and not always correctly lettered.

A Manual of Obstetrics. By A. F. A. KING, M.A., M.D. Ninth edition, revised and enlarged. With 275 illustrations. London: Kimpton. 1904. Pp. 622. Price 12*s.* 6*d.* net.—A text-book which has reached its ninth edition does not call for any extended notice on our part. In the present edition some errors have been corrected and various additions made. The author has been careful to preserve the character of the book as an elementary work intended only to present an outline of the rudiments and essentials of obstetric medicine to the student at the outset of his studies. It is not to be expected, therefore, that the work of revision will have been carried so far as to include all the recent advances in obstetric medicine. Were this so it would be easy to pick out many chapters which could not for a moment be considered up to date in the case of a more ambitious work. There can be no doubt that the book has adequately fulfilled the purpose for which it was written and we think that the present edition will continue to do so as well as its predecessors.

The Annual Charities Register and Digest, 1904. London: Longmans, Green, and Co. and the Charity Organisation Society. Pp. 750. Price 5*s.* net.—This admirable digest of "charities in, or available for, the metropolis" keeps up its high standard of information. The introduction by Mr. C. S. Loch contains everything that an almsgiver should know for the proper allocation of his alms. There is an index which is a model of accuracy and is full of cross references, while the body of the book gives details of all kinds of charities rightly so-called and in addition of a number of polemical "religious" societies which have no claim to the name. But the book is indispensable to anyone who wishes to help his poorer brethren in the best way.

The Oxford and Cambridge Year-Book, 1904. Part 1, Oxford. Edited by A. W. HOLLAND. London: Sonnenschein. Price 3*s.* 6*d.* net. Pp. 687.—This work may be called a university "Who's Who?" The editor's aim, as expressed in his preface, is to give "particulars of the degree—together with other distinctions—present occupation, and address of all now living who have graduated, or who are entitled to graduate, at either Oxford or Cambridge." So far as we can test the work the editor seems to have succeeded very well. The present volume will be found of great interest to all Oxford men and we look with pleasant anticipations to the forthcoming volume on Cambridge. On p. 346 the name "Kepple" is surely a misprint for "Keppel."

Analytical Records

FROM

THE LANCET LABORATORY.

SPARKLING SAUMUR. (1) DRY ROYAL, (2) BRUT ROYAL.

(ACKERMAN LAURANCE. LONDON AGENTS J. N. BISHOP AND SONS, 13, COOPER'S-ROW, CRUTCHED FRIARS, LONDON, E.C.)

THE sparkling wines produced in the Saumur district of France are really excellent and deserve to be known better, for they are equal in many respects to the sparkling wines of Champagne. Of late considerable attention has been turned to the *production* of sparkling white wines outside the Reims district with very satisfactory results. Dietetically there is no reason why good sound, dry, sparkling saumur should be inferior to champagne wine, while it is generally of a light and non-acid character. According to our analysis the following represents the composition of two excellent types of sparkling saumur as above described. 1, Dry Royal: extractives, 4·57 per cent.; mineral matter, 0·17 per cent.; alcohol, by weight 13·15 per cent., by volume 16·24 per cent., equal to proof spirit 28·46 per cent.; volatile acidity reckoned as acetic acid, 0·06 per cent.; fixed acidity reckoned as tartaric acid, 0·57 per cent.; sugar, 2·47 per cent.; and volatile ethers reckoned as ethyl acetate, 0·03 per cent. This is a medium dry wine with excellent bouquet and flavour. 2. Brut Royal: extractives, 2·87 per cent.; mineral matter, 0·12 per cent.; alcohol, by weight 12·77 per cent., by volume 15·77 per cent., equal to proof spirit 27·64 per cent.; volatile acidity reckoned as acetic acid, 0·054 per cent.; fixed acidity reckoned as tartaric acid, 0 53 per cent.; sugar, 1·31 per cent.; and volatile ethers reckoned as ethyl acetate, 0·023 per cent. This is an agreeably dry and sound wine which is practically free from volatile acidity. The bouquet and flavour are excellent. These wines are very good examples of sparkling saumur and there is no doubt that for invalid purposes they would serve as well as champagne. The restorative value of champagne wine is well known and there is no reason why sparkling saumur wines of this type should not be dietetically and medicinally as good. Where expense is a consideration sparkling saumur may be ordered with confidence for the same stimulating and restorative properties which qualify expensive champagnes.

"KUMA."

(COSMO CHEMICAL CO., LIMITED, 72, FARRINGDON-STREET, LONDON, E.C.)

We have been informed of the composition of this antiseptic fluid which is intended more particularly as a mouth wash although it may be used for other purposes in which a germicidal action is required. The formula is an excellent one containing well-known antiseptics, essential oils, and aromatics. It is free from harmful substances and is very pleasant to use. The vendors make no secret of the composition, so that medical men and dental surgeons may know exactly what they are employing. Our analysis has confirmed substantially the statement made in regard to the composition.

ALBUMENISED HUMANISED MILK.

(E. G. COOK, ASHFORD FARM, ASHFORD, MIDDLESEX.)

We have received two samples of milk from the above farm which have been modified to meet the special requirements of infants. Sample No. 1 was made with cow's milk, cream, lactose, colostrum, water, and a small quantity of potash and bicarbonate of soda. Sample No. 2 was made by subtracting from cow's milk a part of the casein and then adding cream, lactose, a small proportion of alkali, and the yelk and white of an egg. Both samples are so treated as to split up the fat globules and prevent their separation; they are then bottled under pressure of carbon dioxide and oxygen gas and afterwards heated to 150° F. for half an hour. According to our analysis this process succeeds in bringing the composition of cow's milk very closely to that of human milk. Thus the analytical results given by Sample No. 1 were as follows: fat, 2·65 per cent.; proteid, 1·98 per cent.; lactose, 5·42 per cent.; and mineral matter, 0·41 per cent. Sample No. 2 gave the following results: fat, 2·82 per cent.; proteid, 2·24 per cent.; lactose, 6·27 per cent.; and mineral matter, 0·65 per cent. The mineral matter is in slight excess owing to the addition of a little alkali and bicarbonate of soda. This milk is stated to give excellent results in infant feeding and medical opinion is quoted in favour of its employment. An important feature of the milk is that the antiscorbutic qualities of the fresh milk are retained unimpaired.

"TABLOID" OPHTHALMIC DIONIN.

(BURROUGHS, WELLCOME, AND CO., SNOW-HILL BUILDINGS, LONDON, E C.)

Dionin, or ethyl-morphine-hydrochloride, has been very favourably spoken of in ophthalmic practice. The drug possesses definite analgesic properties and is said to be free from the disabilities of morphine and its salts. So far no euphoric symptoms it is stated have been reported to follow the use of dionin. Moreover, with the single exception of codeine phosphate, dionin is the most soluble morphine derivative. It is used in iritis, keratitis, glaucoma, vitreous and corneal opacities, and in sympathetic ophthalmia. The tabloid contains 0·0005 gramme of dionin.

BORO-THYMOL.

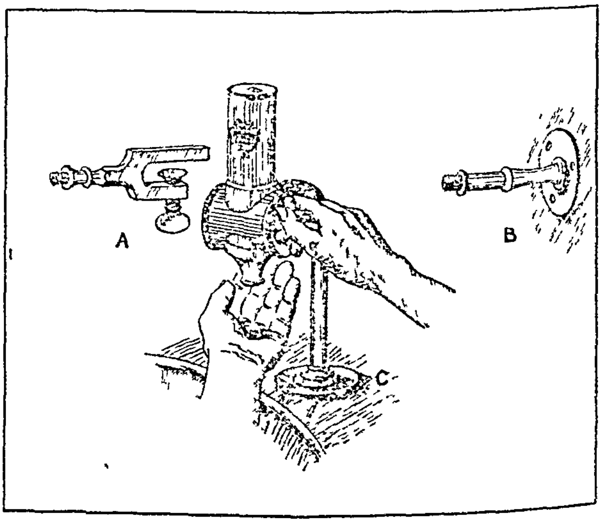
(THOS. STEPHENSON, 137, GEORGE STREET, EDINBURGH.)

The composition of this agreeable antiseptic fluid is simple, while the antiseptics employed, though powerfully germicidal, are neither injurious nor corrosive. We found alcohol present and a residue was obtained amounting to 2 37 per cent., consisting of boric and benzoic acids. In addition there were present the volatile substances thymol, menthol, eucalyptol, and oil of wintergreen. The preparation is useful for application to wounds, for douching the nasal cavities, or as a gargle for the throat. It may be taken also internally to check gastric and intestinal fermentation, while it affords a pleasant wash for the mouth and teeth.

New Inventions.

THE "ONDO" SOAP DISTRIBUTOR.

THE principal object of the apparatus shown in the accompanying illustration is to avoid the use of one piece of soap successively by a number of persons and to provide a means by which each of them may have a separate portion of soap sufficient for purposes of ablution. Its principal parts are a reservoir for soap in the form of a loose powder and an arrangement for the delivery of this powder in quantities as required. The reservoir is an upright nickel-plated cylinder having a total length of about six and a half inches and an internal diameter of an inch and a half. The distributor is contained in the short horizontal cylinder, and when the four-armed cross shown at one end of it is turned small quantities of the soap powder are delivered from the opening at the lower end into the palm of the hand. Three methods of mounting the distributor are provided—namely, by means of a support clamped to a shelf, as at A; or by a horizontal arm fastened to a wall as at B; or by a vertical standard bent horizontal at its upper part as at C. The price (nickel-plated) is 12*s.* 6*d.* Soap "refills" are supplied at 4*s.* per dozen, antiseptic and either perfumed or plain as desired. The weight of the apparatus full of soap is about two pounds. The makers are Messrs. John Bolding and Sons, Grosvenor Works, Davies-street, London, W.



BRISTOL CHILDREN'S HOSPITAL CONVALESCENT HOME.—The tenth annual meeting of the subscribers to the Children's Convalescent Home at Weston-super-Mare, which is in connexion with the Bristol Children's Hospital, was held on May 7th under the presidency of Mr. R. E. Dickinson, M.P. The medical report stated that 338 children had been admitted during 1903, the average stay in the home being three weeks. The financial statement was satisfactory.

THE LANCET.

LONDON: SATURDAY, MAY 28, 1904.

Physical Exercises for Children.

IT is as important for the well-being of a nation that its citizens should be strong physically as that they should have had mental training. A race of intellectual valetudinarians will surely fail in the present keen struggle for existence. During childhood the body and the mind are alike in a plastic state and can be moulded to a surprising extent by carefully directed training. It is therefore in childhood that the future citizens can be fitted for their future work, both mental and physical. Long ago the need for training of the mind was recognised and the many ancient endowments throughout the country bear witness to the long duration of the appreciation of mental training. It is, however, only within recent years that men have come to see that to obtain the best results physical training is also needed. The spontaneous physical exertion during playing is doubtlessly of inestimable value but with properly directed and coördinated exercises even better results are seen. With the recognition of the value of physical exercises the need for a suitable course of training arose. Many works on the subject have appeared and a "model course" was officially recognised for use in public elementary schools. It has been felt, however, by many of those who have studied the subject most deeply that the time has come for revising the scheme in the light of experience. A committee was therefore appointed to investigate the matter. It was under the chairmanship of Mr. J. STRUTHERS, C.B., and we are glad to see that it contained amongst its members two medical men—Dr. J. KERR and Dr. A. L. S. TUKE. It was essential that some members of the committee should possess medical knowledge, as the whole theory of physical training rests on a physiological basis. The report of this committee has recently been presented to Parliament and it deserves attention. The terms of reference to the committee were: "To examine the model course now in use, to judge how far it should be modified or supplemented, and to consider what principles should be followed in order to render a model course or courses adaptable for the different ages and sexes of the children in the public elementary schools."

With the course suggested in the Blue-book we are not especially concerned except that we may express our general approval. It is rather to the principles on which the course has been founded that we must direct our attention. It is often said to be unwise to give the reasons for an opinion, for the reasons may be more open to criticism than the opinion which depends on them. But we think the committee has done wisely in setting forth fully the principles which underlie the suggested model course. In the first place, the committee has endeavoured to exclude from the course all exercises which appear to be in the least likely to prove injurious to children of even weak physique. This was essential, as the course is intended for public elementary schools, and it must be remembered that the general average standard of physique in these schools is not high. The report further points out that there are children who from the condition of their health ought to be at times, or altogether, excluded from participation in these exercises. The suggestion is made that in future the teachers should receive instruction in the laws of health and in the outward signs of physical and mental weakness and that they should be taught to recognise probable deviations from normal health and normal physique. Teachers should be able to recognise the signs of defective nutrition and those defects of sight, hearing, and breathing which require medical attention and they should be familiar with the signs of fatigue, physical or mental. To attain this power of recognition of deviations from the normal a certain amount of practical training would be necessary for the teachers, for no amount of mere book-knowledge would suffice. Equipped with this capability of recognising the abnormal the teacher would be able to select the children who require further investigation which must be made by medical men and preferably by medical men who have specially studied the subject. We would suggest that it would be desirable that a medical man should now and then see a class during and immediately after a lesson in physical exercises, as he might thereby be enabled to detect abnormalities which had escaped the eye of the teacher. The report recognises that it is preferable that all physical exercises should be conducted in the open air but in this uncertain and very variable climate it is not practicable to make it a rule. The value of physical exercises depends in great part upon the regularity with which they are performed but the weather may make it necessary to suspend exercises in the playground for weeks together; therefore sometimes at least the exercises must be conducted within doors. In such cases, if possible, the windows should be open during the exercises so that as much fresh air as possible may be admitted into the room while the children are in active movement.

The report divides the effects produced by the exercises into "physical" and "educational." By the "physical" effect is meant the maintenance and improvement of the health and physique of the children. By the "educational" effect is meant the development in the children of the qualities of alertness, decision, concentration, and perfect control of mind and body. It is possible to distinguish between these two effects but they should be blended in every exercise, though in some one will preponderate and in some the other. The most important of the exercises producing a "physical" effect are those which have primarily a beneficial influence on respiration and circulation and as they thus improve nutrition they have been called "nutritive" exercises. These nutritive exercises include massive movements of the lower limbs, involving the whole bony and muscular structure of the body, and thus quickly and powerfully affect both respiration and circulation. Many exercises of this nature are to be found in the natural play movements, such as running, leaping, and skipping, and so far as possible these should be encouraged. Exercises which involve mainly the upper limbs and special breathing exercises tend to develop the and flavour. 2. Brut Royal: extractives, 2 87 per cent.; mineral matter, 0·12 per cent.; alcohol, by weight 12·77 per cent., by volume 15 77 per cent., equal to proof spirit 27·64 per cent.; volatile acidity reckoned as acetic acid, 0·054 per cent.; fixed acidity reckoned as tartaric acid, 0 53 per cent.; sugar, 1·31 per cent.; and volatile ethers reckoned as ethyl acetate, 0·023 per cent. This is an agreeably dry and sound wine which is practically free from volatile acidity. The bouquet and flavour are excellent. These wines are very good examples of sparkling saumur and there is no doubt that for invalid purposes they would serve as well as champagne. The restorative value of champagne wine is well known and there is no reason why sparkling saumur wines of this type should not be dietetically and medicinally as good. Where expense is a consideration sparkling saumur may be ordered with confidence for the same stimulating and restorative properties which qualify expensive champagnes.

"KUMA."

(Cosmo Chemical Co, Limited, 72, Farringdon-street, London, E.C)

We have been informed of the composition of this antiseptic fluid which is intended more particularly as a mouth wash although it may be used for other purposes in which a germicidal action is required. The formula is an excellent one containing well-known antiseptics, essential oils, and aromatics. It is free from harmful substances and is very pleasant to use. The vendors make no secret of the composition, so that medical men and dental surgeons may know exactly what they are employing. Our analysis has confirmed substantially the statement made in regard to the composition.

ALBUMENISED HUMANISED MILK.

(E. G. Cook, Ashford Farm, Ashford, Middlesex.)

We have received two samples of milk from the above farm which have been modified to meet the special requirements of infants. Sample No. 1 was made with cow's milk, cream, lactose, colostrum, water, and a small quantity of potash and bicarbonate of soda. Sample No. 2 was made by subtracting from cow's milk a part of the casein and then adding cream, lactose, a small proportion of alkali, and the yelk and white of an egg. Both samples are so treated as to split up the fat globules and prevent their separation; they are then bottled under pressure of carbon dioxide and oxygen gas and afterwards heated to 150° F. for half an hour. According to our analysis this process succeeds in bringing the composition of cow's milk very closely to that of human milk. Thus the analytical results given by Sample No. 1 were as follows: fat, 2·65 per cent.; proteid, 1·98 per cent.; lactose, 5·42 per cent.; and mineral matter, 0·41 per cent. Sample No. 2 gave the following results: fat, 2·82 per cent.; proteid, 2·24 per cent.; lactose, 6·27 per cent.; and mineral matter, 0 65 per cent. The mineral matter is in slight excess owing to the addition of a little alkali and bicarbonate of soda. This milk is stated to give excellent results in infant feeding and medical opinion is quoted in favour of its employment. An important feature of the milk is that the antiscorbutic qualities of the fresh milk are retained unimpaired.

"TABLOID" OPHTHALMIC DIONIN.

(Burroughs, Wellcome, and Co., Snow-hill Buildings, London, E.C.)

Dionin, or ethyl-morphine-hydrochloride, has been very favourably spoken of in ophthalmic practice. The drug possesses definite analgesic properties and is said to be free from the disabilities of morphine and its salts. So far no euphoric symptoms it is stated have been reported to follow the use of dionin. Moreover, with the single exception of codeine phosphate, dionin is the most soluble morphine derivative. It is used in iritis, keratitis, glaucoma, vitreous and corneal opacities, and in sympathetic ophthalmia. The tabloid contains 0 0005 gramme of dionin.

BORO-THYMOL.

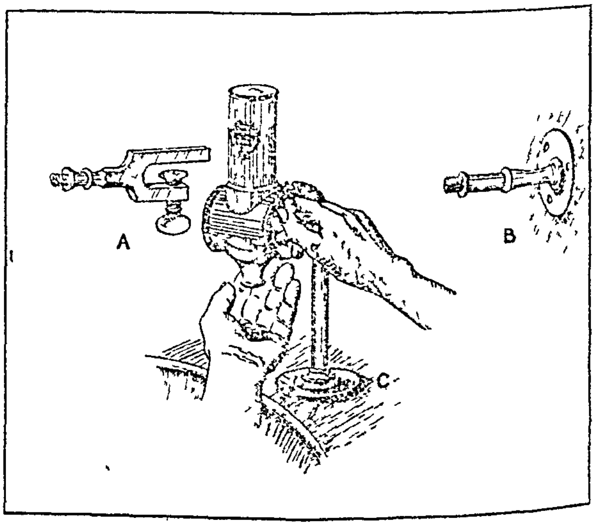
(Thos. Stephenson, 137, George-street, Edinburgh.)

The composition of this agreeable antiseptic fluid is simple, while the antiseptics employed, though powerfully germicidal, are neither injurious nor corrosive. We found alcohol present and a residue was obtained amounting to 2 37 per cent., consisting of boric and benzoic acids. In addition there were present the volatile substances thymol, menthol, eucalyptol, and oil of wintergreen. The preparation is useful for application to wounds, for douching the nasal cavities, or as a gargle for the throat. It may be taken also internally to check gastric and intestinal fermentation, while it affords a pleasant wash for the mouth and teeth.

New Inventions.

THE "ONDO" SOAP DISTRIBUTOR.

The principal object of the apparatus shown in the accompanying illustration is to avoid the use of one piece of soap successively by a number of persons and to provide a means by which each of them may have a separate portion of soap sufficient for purposes of ablution. Its principal parts are a reservoir for soap in the form of a loose powder and an arrangement for the delivery of this powder in quantities as required. The reservoir is an upright nickel-plated cylinder having a total length of about six and a half inches and an internal diameter of an inch and a half. The distributor is contained in the short horizontal cylinder, and when the four-armed cross shown at one end of it is turned small quantities of the soap powder are delivered from the opening at the lower end into the palm of the hand. Three methods of mounting the distributor are provided—namely, by means of a support clamped to a shelf, as at A; or by a horizontal arm fastened to a wall as at B; or by a vertical standard bent horizontal at its upper part as at C. The price (nickel-plated) is 12*s.* 6*d.* Soap "refills" are supplied at 4*s.* per dozen, antiseptic and either perfumed or plain as desired. The weight of the apparatus full of soap is about two pounds. The makers are Messrs. John Bolding and Sons, Grosvenor Works, Davies-street, London, W.



Bristol Children's Hospital Convalescent Home.—The tenth annual meeting of the subscribers to the Children's Convalescent Home at Weston-super-Mare, which is in connexion with the Bristol Children's Hospital, was held on May 7th under the presidency of Mr. R. E. Dickinson, M.P. The medical report stated that 338 children had been admitted during 1903, the average stay in the home being three weeks. The financial statement was satisfactory.

last year was only 16·3 per 1000, being less by 1·1 per 1000 than the low rate of the preceding year. As in previous summaries, a table is given on pp. 4 and 5 in which the death-rates in the several towns are corrected for differences in the age constitution of their populations, and in the last column will be found the "comparative mortality figure" for each town, by means of which the towns have been arranged in a series indicating their relative position at a glance. The comparative mortality figure of England and Wales being taken at 1000 the table shows that the towns with the lowest mortality are Hornsey with a comparative figure of 581, King's Norton of 676, and Leyton of 722. At the other end of the scale come Manchester with a comparative figure of 1430, Middlesbrough of 1522, and Wigan with a figure of not less than 1538, as against 1000 for the country generally. Amongst the causes of death small-pox appears to have been distributed more widely than usual during the year. This disease caused 415 deaths in the great English towns and 90 in the smaller. Of these, 137 belonged to Liverpool, 25 to Manchester, 23 to Oldham, 22 to Leeds, 21 to Leicester, 19 to Gateshead, 14 to Cambridge, 13 to London, 12 each to Birmingham and Bradford, 10 to Burnley, nine to Newcastle-on-Tyne, and smaller numbers to 99 other towns. Measles caused a mortality of 0·36 per 1000 in the great towns, 0·45 in London, and 0·29 in the smaller towns. Scarlet fever was fatal to 0·14 per 1000 of the population in the great towns, 0·08 in London, and 0·12 in the smaller towns. Diphtheria was fatal to 0·20 per 1000 living in the great towns, 0·16 in London and also in the smaller towns. For whooping-cough the rates were 0·33, 0·35, and 0·28 per 1000, for fever 0·12, 0·08, and 0·11 per 1000, and for diarrhœa 0·71, 0·64, and 0·43 per 1000 respectively. Infantile mortality, measured by the proportion of deaths under one year to each 1000 births, was equal to 144 per 1000 in the great English towns, to 131 per 1000 in London, and to 135 per 1000 in the 103 smaller towns. Of the total deaths there occurred in hospitals, workhouses, or other public institutions 22·7 per cent. in the great English towns and 35·4 per cent. in London. Coroners' inquests were held in respect of 7·9 per cent. of the total deaths registered in the 76 great towns and in respect of 10·2 per cent. in London, the proportion ranging among the several groups of metropolitan registration districts from 8·5 per cent. in the southern group to 14·8 per cent. in the eastern. Of the total deaths registered the proportion of uncertified deaths was 1·1 per cent. in the 76 great towns and 0·3 per cent. in London.

A useful addition to the summaries of the last few years consists in the insertion of a table showing the number of cases of infectious disease notified in the chief towns of England and Wales. With regard to small-pox, for example, we note that although only 13 deaths occurred in London as many as 416 cases of this disease were notified during the year, the greater part of which were isolated in hospital. In addition to the reported attacks of small-pox in the metropolis there were notified in Birmingham 254 cases, in Leicester 368, in Liverpool 1661, in Manchester 419, in Leeds 442, and smaller numbers in most of the other towns in the list. Reference to this table further shows the number of notified cases of scarlet fever, diphtheria, "fever," erysipelas, and puerperal fever. The only defect in this table seems to be that no statement is made of the total cases of the several infectious diseases that have been notified to the sanitary authorities concerned. This defect we hope to see remedied in future years.

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Sociology.

THE opening meeting of the new Sociological Society, as to which we made some observations recently, appears to have been well attended and successful; but we doubt whether anything deserving the name of sociology can at present be said to exist, or whether the scattered knowledge bearing upon the questions comprised under the term has at present been sufficiently systematised to be of the slightest practical value as a help either to the attainment of good or to the avoidance of evil. Mr. GALTON wishes us to aim at the improvement of the human race by the aid of "Eugenics"—that is to say, by the careful selection of the parents of future generations. But he has not clearly shown either upon what principle they are to be selected or by whom the selection is to be performed. The rough and ready methods which have hitherto prevailed do not satisfy him, but where are we to turn for reform? The methods in question already differ much in different countries, and it may be that some of them are better than our own. In England the chief cause of attraction between the sexes is undoubtedly propinquity, in the sense that young men and young women of the same class are very much cast in the same mould, and the question whether REGGIE shall fall in love with ROSE or with DORA (if we may borrow our names from the charming poem in which Mr. AUSTIN DOBSON has described a not uncommon series of events) is largely dependent upon the chances which may throw one or the other across his path at a critical moment. In France, on the other hand, the predilections of parents are often of more importance than those of the young people themselves, and questions of *dot* predominate over any which arise from appearance, from character, or from disposition. Can it be said that any results dependent upon the difference are distinctly traceable in the two countries, or that the experience of either of them is sufficient to establish a rational theory? We think not.

We must not, of course, be supposed for a moment to deny the existence of underlying principles which may be potent in shaping the destinies of humanity, but we deny that these principles have yet been discovered or clearly enunciated, and we protest against the premature acceptance of hypotheses which have been subjected to no sufficient examination. Dr. ARCHDALL REID is reported to have said at the first meeting of the Sociological Society that "at the root of every moral and social question lay the problem of heredity," and that "until a knowledge of the laws of heredity was *more widely diffused* the public would grope in the dark in its endeavours to solve many pressing difficulties." We have italicised the most important words in the above sentence because they seem to us to imply a proposition from which we entirely dissent, the proposition that the laws of heredity are known somewhere or by some persons, and that the chief requirement of mankind is for this knowledge to be diffused. We apprehend, on the contrary, that the chief requirement is for such knowledge to be gained and we are certain that this is Dr. REID's own opinion. The problems of heredity were as embarrassing to philosophers 250 years ago as they are to-day, and are apparently not much nearer to a complete solution. MALEBRANCHE wrote that some of the qualities of his contemporaries were clearly derived from "our first parents," and WEISMANN and his followers have done little more than suggest almost mechanical explanations of the way in which inheritance from remote ancestors may modify the natures of the men and women of to-day. We would earnestly warn sociologists against being tempted into hasty generalisations from insufficient data, and also against a tendency which too often besets the followers of nascent departments of science, a tendency to exaggerate the value and importance of the results which preliminary inquiries have appeared to indicate.

Mr. H. G. WELLS, a fascinating and suggestive prophet, is inclined to look to the sterilisation of failures, and not to the selection of successes, for improvement in breeding; and there can be no doubt that civilised nations are heavily burdened by the offspring of criminals and imbeciles who for the public good should be placed under restraint. The slums of all our big cities contain hundreds of people whose privilege it is to claim descent from a prostitute and a thief, and who are certain in their turn to be the parents of offspring inheriting the parental tendencies and qualities. The *proletarius* of old Rome was a citizen whose condition was so mean that the only service he could render to the State was to beget children for its defence. We cherish vast numbers of undesirables whose children are at once a danger and a disgrace; and yet we are beginning to feel the effects of a diminishing birth-rate. We commend this problem to the Sociological Society for consideration. It is difficult to suggest means for the sterilisation or segregation of the undesirables without giving too much offence to sentimental philanthropy; and the nation as a whole is in need of men. The society may do good service to the country by making representations on these matters which shall be weighty enough to attract the attention of the public.

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The Stockport Hospital Scandal.

WE have received several copies of a local newspaper, the *Stockport Advertiser*, containing a voluminous account of what is called "The Stockport Hospital Scandal." We have also received sundry communications upon the matter in question which presents many features calling for comment in a medical newspaper. It appears that at one of the Stockport hospitals for infectious diseases, under the jurisdiction of the Stockport town council, a charge-nurse was asked to resign for certain acts which were construed as insubordination, the circumstances being peculiar. The first act of insubordination, according to a statement made by her superior officer, the matron of the Stockport borough hospitals, was the reporting to the medical superintendent of the borough hospitals, Dr. MEREDITH YOUNG, who is also medical officer of health of Stockport, inefficiency in the management of the hospital. The second act of insubordination alleged against the charge-nurse was that, when she was blamed for having reported errors of administration at the hospital, she telephoned asking the medical superintendent to come to the hospital and settle the points at issue. The medical superintendent arrived upon receiving the summons and matters appear for the time to have been settled, but relations between the charge-nurse and the matron remained strained. The matron is stated by the charge-nurse to have refused to take telephonic communications between the hospitals from the charge-nurse about the patients' requirements, and the charge-nurse made other allegations against the matron; the hospital subcommittee sat on the matter and it was deemed advisable that the charge-nurse should be asked to send in her resignation. The complaints made by the charge-nurse were: (1) that the hospital in her charge had been left without domestic service from 9 A.M. to 5 P.M. at a time when there were severe cases; (2) that ice ordered by the medical superintendent at 11 A.M. did not arrive till 9 P.M. on the day following, the order having been transmitted through the matron; (3) that the soiled linen of a case of diphtheria had been left on the bed in the observation ward of the hospital under the matron's jurisdiction for five weeks; and (4) that practical joking, dancing, and general merriment of a sort which the circumstances made indecent had prevailed in that hospital without the knowledge or consent of the medical superintendent in the infected wards and in the neighbourhood of sick patients.

The hospital subcommittee met six times about the matter. The charge-nurse was not allowed to appear in substantiation of her complaints against the matron or in opposition to her own dismissal. But after dismissal unheard the committee invited her to come to the hospital and make her accusation against the matron, a course which she properly declined to take unless assisted by a solicitor. The hospital committee refused to accede to her request, and at the conclusion of a prolonged meeting held on April 18th, at which the matron and her witnesses only were heard, the following resolution was passed:—

"That it is the opinion of this committee that the matron has done the best she could in the interests of the hospital and the patients, but that there seems to be a need for a revision of the rules for the future guidance of the matron, and that in view of certain matters of an irregular nature that have been admitted by the matron, she be reprimanded by the chairman."

An amendment, moved by Councillor H. G. SMEETH, a medical man, seconded by Councillor A. G. WILKINSON, was lost.

"That, in the opinion of this committee, the serious charges that have been made against the matron of this hospital have been admitted in so far that this committee feels that it cannot do less than call upon her for her resignation."

The charge-nurse, being advised by solicitors, summoned the corporation for her wages, for board and lodging during suspension, and for legal expenses, and was paid.

The whole matter became public upon the report of the sanitary committee in endorsement of the action of the hospital subcommittee coming up for approval at a meeting of the town council. It having been moved that the reports as read be passed, confirmed, and adopted, a long debate followed on an amendment proposed by Dr. H. G. SMEETH, who evidently considered that the charge-nurse had been dismissed in an arbitrary manner unheard and that the matron had been whitewashed in an unsatisfactory way. Dr. SMEETH lost his amendment, the voting being practically upon political lines, but there are circumstances why it is not likely that the matter will rest here. A medical man named Dr. HYDE MARRIOTT, a town councillor of Stockport but not a member of the hospital subcommittee, who was not present at any of the meetings in which the conduct of the matron and the charge-nurse had been discussed, and who had therefore no knowledge of the various points in the matter save what he might have derived from hearsay, rose to defend the matron from Dr. SMEETH's amendment, basing his action on chivalry. He is reported in the *Stockport Advertiser* to have said that "the voice of scandal had no effect on an honest man, who had his remedy with his fist, but that with a woman it was very different." He owned that he had not been to the hospital himself, but he said that he had heard from the best authority possible that the matron was an excellent matron and he then proceeded to make charges against the medical superintendent, Dr. YOUNG, whom he found guilty of all the failings which the matron had admitted, because the medical superintendent was in general charge of the hospitals. He is reported to have said that the cause of the present trouble was that the medical superintendent was too fond of listening to tittle tattle, that the matron had plenty of work to do and would not think of looking whether "dirty things" (referring to the linen of the diphtheria patient) had been taken out of the observation ward. "Why did not the medical officer do it?" he asked; "he was equally responsible with the matron. It was his duty to look after that." He criticised the medical superintendent's treatment of a case and wound up by making, whilst sheltering himself behind unnamed authority, the statement that Dr. YOUNG had received a gratuity from a nurse who had been discharged for drinking.

We have no hesitation in saying that Dr. MARRIOTT made a grave professional error in behaving as he did at the Stockport town council. While accusing Dr. YOUNG of listening to tittle-tattle he made a speech based entirely upon hearsay in which he was betrayed into mendacious allegations of a most serious character. It is true that, later he apologised for the accusation which he had brought against Dr. YOUNG of receiving a gratuity from a drunken woman but he appears not to have been given an opportunity of doing so until after the voting upon the amendment had taken place, and no amount of apologies will put the matter right. A gentleman is not supposed to escape the responsibility of making vile accusations by a few words of confession of error. But not only was Dr. MARRIOTT guilty of a gross breach of ordinary manners but he has defaulted from professional standards by trying to hold up a professional brother to public contempt. The presence of medical men upon municipal bodies can be extremely valuable to the community and to the medical profession because they can explain to their lay colleagues in the municipality medical points, the proper jurisdiction of medical officers, the duties of house surgeons and nurses, the recognised ethical methods of the medical profession, and so on—matters which sometimes are puzzling for the layman to understand. What, however, are we to think of a councillor who uses his position on the town council absolutely to misstate what are the official duties of the medical officer of health of a borough and to do so in a speech which already contained a malignant innuendo? Dr. MARRIOTT should know perfectly well that it is not the business of the medical superintendent to see that dirty sheets are washed. It is the medical superintendent's business to give general orders with regard to disinfection, particularly when he is dealing with a matron whose nursing experience has not brought the point within her ken, but it certainly is not his business to spy into linen-baskets and washing books to see whether the linen is washed.

The story is an unpleasant one in every way and we strongly recommend those inhabitants of Stockport who are interested in their municipal government to think over what has happened. A charge-nurse has been dismissed unheard, her legal claim for wages, made by summons, having been paid later. A matron who admits charges of incompetency, who admits having been rude to the medical officer of health, and who plays jokes in sick wards remains in charge of a borough hospital. A valuable public official is accused in public by a professional colleague of taking a gratuity from a drunken woman. The votes which are to register the view of the town council upon certain aspects of these serious matters are given upon political grounds.

Annotations.

"Ne quid nimis."

THE AMENDMENT OF THE LUNACY ACTS.

AS we announced last week a Bill to amend the Lunacy Acts was introduced on Wednesday, May 18th, in the House of Commons by the Attorney-General and was read for the first time. We see no particular reason why its provisions should not become law at once, but even if this does not occur the advantage, at any rate, is gained that the subject will receive further discussion, from which medical men and those interested in the welfare of the nation will learn what are the public views on certain necessary reforms. The Attorney-General's Bill provides for the temporary care of incipient lunatics, a class who at the present time in England are allowed to remain a source of danger to others and misery to themselves until some overt act of insanity allows of their being dealt with by law. Sir Robert Finlay's Bill provides that if a medical practitioner certifies that a person is suffering from mental disease, the disease not being confirmed, and if the certificate states that it is expedient, with a view to the patient's recovery, that he should be placed under care for a period therein stated, not exceeding six months, then during that period a responsible person, whose name and address must be stated in the certificate, can take charge of the patient, the provisions of the existing Lunacy Act notwithstanding. The certificate must not be signed by the person under whose care the patient is to be placed, and where a medical practitioner signs any such certificate he shall, within one clear day after signing it, send a copy of it to the Commissioners in Lunacy that the commissioners may visit the patient to whom the certificate refers. The person who receives a patient under such certificate must also within one clear day after receiving the patient give notice to the commissioners of his reception; and if the patient dies, or the residence of the person receiving him is changed within the period mentioned in the certificate, notice of the death or change of residence must be given to the commissioners. At the expiration of the time mentioned in the certificate the consignee of the patient must report upon the patient's condition to the Commissioners in Lunacy under a penalty of £50. Only one patient may be received at a time. It is clear that such an amendment of our present procedure as this will be of the greatest value, as opportunity of observation will be afforded in cases where treatment as a lunatic might be mischievous, but where to do nothing is to take still greater risks.

ANNUAL REPORT OF THE MEDICAL DEFENCE UNION.

THE annual report for 1903 issued by the council of the Medical Defence Union affords interesting reading to all concerned in the welfare of the medical profession. During the year 1903 over 1000 cases have been brought before the council for consideration, in addition to which a large number have been directly dealt with by the general secretary. No case conducted by the union has been compromised. From a table of the expenses incurred by the union in medical defence for the last 14 years it is calculated that the average cost of legal proceedings per head works out at 4*s.* 10*d.*, while the total legal and general expenditure, including all office and working expenses, averages 9*s.* 1*d.* per member. The steady increase of members of the union proves that it is firmly established in the estimation of the profession. Concerning the attitude taken by the Medical Defence Union in regard to the British Medical Association undertaking medical defence, the council states that in its course of action it has only adhered to the opinions expressed in 1898 when the British Medical Association at the annual meeting held at Edinburgh decided by a considerable majority that medical defence should not be undertaken by the association. This decision rested almost entirely on the fact that the work of defence was carried on so ably already that there was no necessity to alter the memorandum and articles of association in order to provide for such work. The annual report contains an account arranged in a tabulated form of a great many cases dealt with by the union. Within the space of eight years there have been placed in the hands of the legal adviser of the union 1194 cases which works out at an average of 150 cases for each year. Mr. Hempson, the solicitor to the union, is of opinion that each succeeding year brings with it more conclusive testimony to the respectful regard and wholesome fear in which the union is held by speculative litigants. That the greatest risk and danger to which a medical man is exposed is that of libel and slander is borne out by the fact that during eight years out of a total of 1194 cases 322, or nearly a fourth, referred to this particular offence. The union is now said to possess an accumulation of retractions and apologies signed by offending parties against whom proceedings have been taken on behalf of members sufficient in number to paper entirely one of the walls of the union offices. A woman whom one member had been attending entirely from humane and charitable motives as her position and means did not permit of her paying professional fees accused him to his partner of having had immoral relations with her and stated that unless a specific sum was paid to her the matter would be ventilated. She further stated that in order to remove the evidences of his guilt the member had performed upon her an illegal operation and that as a consequence her general health and condition had been seriously impaired. The woman was threatened with proceedings on the member's behalf unless she immediately retracted the gross charges, signed a statement admitting that there was absolutely no foundation for them, and apologising to the member for having made them, and this was done by her. In the following account of a case dealt with by the union the value of its prestige is well shown. A medical man was threatened by a local solicitor with an action for malpraxis on the ground that he had treated in the hospital a patient with gross want of care and skill. The solicitor demanded the name of the solicitors who would accept service of process in default of his paying a certain sum of money. The member at once communicated with the union who placed the matter in Mr. Hempson's hands. He wrote to the solicitor justifying the member's treatment of the case in every way and intimating that he would accept service of process on the member's behalf. In his reply the solicitor stated that "having regard to the fact that the case would be defended by the union he did not propose to proceed further." The report affords in other places much evidence of the benefits which the profession has received as a result of the union's work in connexion with the suppression of unqualified practice, and the union is now probably as well known to unqualified practitioners as it is to the impecunious litigant and the mere sending of a letter from the union offices has been sufficient in most cases to secure from unqualified practitioners a cessation of their practices. The annual report of the Medical Defence Union deserves greater attention than is usually bestowed on publications of this kind.

THE RESTRICTION OF LICENSING.

TEMPERANCE legislation moves faster in Canada than with us. According to the latest temperance figures the number of licences in Ontario has fallen from 6185 in 1875 to 2957 in 1903, or, on the basis of population, from one licence for 278 persons to one for 740 persons. The greatest reduction has been effected in the larger centres—a significant fact. The exercise of local option which has been experimentally tried in many districts has had the effect of notably restricting the sale of liquor. In 1897 the age of prohibition for minors was raised from 18 to 21 years. The latest hour allowed for the sale of intoxicants is 11 o'clock. Concurrently with these changes the limit of population with regard to licensing has been extended and no public-house is allowed to be opened in the immediate vicinity of a church or a school. These reforms attract attention as much because of their purposeful and methodical progression as because of their thoroughness. The people of Ontario, having made up their minds to be temperate, have, step by step and Act by Act, attained a very substantial measure of success and apparently without seriously deranging the machinery of commercial prosperity. In this country we are moving in the same direction but we move more slowly and not so certainly. Nevertheless there is a fairly general and increasing agreement of public opinion that the retail trade in intoxicants has hitherto enjoyed a too indulgent sanction and that it will bear considerable restriction. This feeling is reflected in the terms of the two latest Licensing Acts. The frankness with which the feeling has been interpreted by local justices is probably in some degree accountable for the more cautious and defensive character of the latter of these two Acts. The principle of compensation, which is so carefully provided for by this measure, cannot be objected to on the ground of equity. If it is observed without prejudice and with an honest desire to reduce the number of licensed houses within the limits of public necessity it will not prove a serious hindrance to the progress of temperance reform. The withdrawal of the prohibitory power from local justices is a step of more dubious utility. A local magistracy would certainly appear to be the best judges in questions as to the rights and requirements of a community, while the quarter sessions bench would constitute a court of appeal from their decisions if required. Everything must, however, depend upon the spirit in which the new Act is administered. It is much to be hoped that in granting licences under its provisions regard will be had to the importance of encouraging temperance among the people.

PUBLIC AMBULANCES.

THE use of ambulances in cases of accident and sudden illness has recently been a subject of discussion in the columns of the *Manchester Guardian* and an important addition to the correspondence was made on May 23rd by a letter signed by Mr. R. H. Wolstenholme of Salford, chairman of the Manchester Medical Guild, and by the two honorary secretaries of the guild. Briefly stated, the guild is in favour of a municipal ambulance and first-aid system available for the public in general without distinction of class and providing not only for patients who would probably be treated at one or other of the hospitals but also for those who would prefer to be removed directly to their homes. Moreover, the first aid rendered before removal by ambulance ought to be far more efficient than it is at present. Unnecessary haste in removal of patients is generally to be deprecated. The guild judiciously recommends that the first aid should be as efficient as the resources of medicine and surgery can possibly make it, that it should therefore be carried out by a properly qualified medical man, and that it should be available at any part of the district with the least possible delay. In order to avoid the expense and complications inseparable from the appointment of special emergency medical officers and the creation of dressing stations the guild suggests that the police should be empowered and directed to obtain the attendance of the nearest available medical practitioner who already has a surgery fitted up for dealing with emergencies.

ENDOGENOUS PNEUMOCOCCIC INFECTION OF THE EYE.

MODERN researches have shown that lesions in other parts than the lungs are frequently produced by pneumococci. In the eye conjunctivitis and suppurative keratitis may result from infection of external origin. But ocular infection of internal origin, the pneumococci being conveyed to the eye by the circulation, has received little attention. At the meeting of the Société Médicale des Hôpitaux de Paris on April 29th M. P. Le Gendre and M. V. Morax related the following case. A woman, aged 47 years, was admitted to hospital on Jan. 17th in a delirious condition. At the beginning of the month she took to bed with a feverish illness which her medical attendant attributed to "pulmonary congestion," and on the day before admission she became delirious. At the apex of the left lung there were subcrepitant râles and an expiratory "souffle." She did not appear to see clearly but there were no signs of ocular inflammation. The delirium continued, the temperature was about 104° F., and auscultation gave rise to a suspicion of infectious endocarditis. On the 19th there were diffuse cloudiness of the right cornea and pus in the anterior chamber. The conjunctiva and episcleral tissue were moderately injected. In the left eye the symptoms were less severe; there were slight iritis and fibrinous exudation in the field of the pupil. On the following days the condition of the left eye did not alter much but the pus in the right anterior chamber increased considerably. On the 22nd the right eye was enucleated. Death occurred on the 25th. The necropsy showed in the whole extent of the left lung extremely thick pleural adhesions. Apart from slight congestion and œdema no other macroscopic pulmonary lesion was found. There were vegetative endocarditis of the mitral valve and infarcts in the kidneys and the spleen. Examination of the right eye after enucleation showed purulent exudation in the retina, the ciliary body, and the anterior chamber. Microscopic examination and cultures revealed the pneumococcus in pure culture in the exudation. In the aqueous humour the pneumococci were as numerous as in a culture. The vegetations on the mitral valve were infiltrated with pneumococci. The heart's blood yielded the pneumococcus in pure culture. Evidently pulmonary infection preceded the pneumococcic endocarditis and pneumococcic septicæmia to which the patient succumbed. The clinical characteristics of the iritis enabled the pneumococcic nature of the infection to be diagnosed before a bacteriological examination was made. In another case of pneumococcic iritis of uterine origin with cerebral abscess observed by one of the writers the iritis ended in the production of a similar fibrinous exudation in the pupil. In the pus of the cerebral abscess the pneumococcus was found in pure culture. Some writers have published cases of suppurative choroiditis in pneumonia. In 1853 Arlt described the case of a child suffering from lobular pneumonia who had metastatic meningeal abscesses and suppurative choroiditis. In 1874 Pilchaud observed suppurative choroiditis with spontaneous perforation of the sclerotic in a woman who died from pneumonia with empyema. Natanson and Eversbusch have reported cases of pneumonia during influenza with irido-choroiditis, unilateral or bilateral. When the part played by the pneumococcus in pneumonia was discovered it became possible to establish more precisely the connexion between the ocular affection and the pneumonia. In 1892 Herrnheiser first demonstrated the presence of the pneumococcus in the ocular pus. The patient was a man, aged 67 years, who was admitted to hospital on March 25th for pulmonary trouble. On April 2nd there was suppurative infiltration of both corneæ with hypopyon. On the 10th there was left panophthalmitis with perforation of the cornea. In the right eye there were slight infiltration of the cornea, iritis, hypopyon, and yellowish exudation on the posterior surface of the crystalline lens. Death took place four days later. The necropsy showed fibrinous pneumonia of the left lung, suppurative meningitis, and acute aortic endocarditis. Pneumococci were found in all the ocular and other lesions.

THE UNIVERSITY OF WALES AND MEDICAL DEGREES.

A WELL-INFORMED article in the *Cardiff News* of May 23rd sets out in much detail a variety of arguments in support of the view that the University of Wales should be authorised to confer degrees in medicine. Of course the chief centre of interest in such circumstances would be the Cardiff Medical School which would naturally bear to the University of Wales the same relation as the Newcastle-on-Tyne Medical School at present has to the University of Durham. The Cardiff school may be said to date from 1893, when chairs in anatomy and physiology and a lectureship in materia medica and pharmacy were established, thereby making it possible for students of medicine to learn the subjects included in the first three years of medical study as required by all universities and colleges in Great Britain. Attendance on this portion of the curriculum at Cardiff is recognised and accepted by all universities and colleges. During last year there were in the Cardiff school 55 students of medicine and 20 special students in the public health department, making a total of 75. In 1903 there were 15 medical students registered at the school, the corresponding numbers being 18 for University College, London, and also for the University of Birmingham. As mentioned in our issue of May 21st, p. 1465, the subject of a supplemental charter conferring various additional powers is already being considered by the University of Wales and the chances of the University obtaining what it seeks seem good.

MODERN PERAMBULATORS.

A CORRESPONDENT who has returned to this country after an absence of 20 years is much exercised to find that a new fad has arisen "which may have a most serious effect on the rising generation. I refer to the baby carriages now in general use in which the unhappy child is propelled through the world backwards." We do not think that our correspondent need distress himself. The modern perambulator is far superior to the old-fashioned arrangement in which the unhappy child was placed on a narrow seat and fastened in with a strap. A weakly child in such circumstances when he fell asleep always fell forwards and sideways and was mainly supported by the strap which pressed on the abdomen while the child's head lolled over the side. The modern perambulator in which the child can lie is far better and it is of no great moment whether the child faces in the direction in which he is travelling or no; in fact, if he faces towards his nurse he can talk to her when he pleases, which, given an intelligent nurse, is a very good thing. There is, however, a form of perambulator, or push-buggy, to give it its name in the country of its origin, which is most pernicious. It is a little mail-cart which runs near the ground and can be folded up at will. The child in one of these is far too near the ground, the seat is too small, and there is next to no support for the feet. It is more than probable that the indiscriminate use of such conveyances may seriously injure a child's nervous system but the reclining form of perambulator is harmless even though the child does face the opposite way to which it is going.

THE SUNSHINE OF ENGLAND AND SWITZERLAND COMPARED.

Dr. J. W. Cook, the medical officer of health of the Clacton urban district council, sends us a most interesting table in reference to our remarks upon the relative amounts of sunshine in England and Switzerland which appeared in THE LANCET of May 14th. It will be seen by this table that Clacton-on-Sea, even in the dismal years of 1902 and 1903, had a decided advantage over nearly every other place mentioned in the matter of sunshine.

Comparative Sunshine recorded in the Month of April at the Undermentioned Places in England as per the Meteorological Office Weather Report for the Three Years 1902, 1903, and 1904.

—	1902. Hours.	1903. Hours.	1904. Hours.
Clacton-on-Sea	213 6	180·1	208·7
Newton Reigny (Penrith) ...	181 6	109 4	—
Bath	160 8	160 0	143 7
Lowestoft	125·1	102·1	112·1
Hastings	179 2	160·9	172 5
Eastbourne	176 2	140 9	145 5
Brighton	161 9	139 0	139 6
Worthing	185 6	172·3	168 6
Llandudno	229 5	172 5	161·1
Rhyl	197 0	164 5	138 6
Southport	107·7	164 9	166 8

Dr. Cook says: "Doubtless when Englishmen know that such a large amount of sunshine can be had so near home, rather than going so far for it they will be inclined to keep their money in England instead of spending it in Switzerland." We rather doubt this, for to get the most advantage out of a holiday there is nothing like going abroad. A holiday depends not so much upon sunshine as upon a complete change of scene, change of surroundings, of food, and even of language. Moreover, a holiday spent abroad as a rule costs much less than in this country. A month spent in Brittany or Normandy can easily be done for 10 francs per diem and the Briton who sighs for the food of his native land will now find that French coffee is quite as bad as English, only about one-third of the price. But it is still comforting to know that our much abused climate can produce as much sunshine as that of countries lying further south.

THE DISTRIBUTION OF PLAGUE.

THE medical officer of health of the Cape Colony states that for the week ending April 30th only 1 case of plague was reported throughout the colony—namely, a Chinese male at Port Elizabeth. Plague-infected rodents were also found in the town. In the Cape Town and Harbour Board area 629 rodents were examined but none was affected with plague. As regards the Transvaal, Lord Milner, telegraphing on May 21st, states that the plague return for the week ending May 21st was as follows: total number of fresh cases reported since May 14, 7—namely, whites, 2; coloured persons, 5. Of the cases reported 3 have been found to be not plague—making the present total of suspected and proved cases 140, of which 24 occurred in whites and 116 in coloured persons. The number of deaths since May 14th is 2, both whites.

MEDICAL SCIENCE PAPERS AT THE BONN MEETING OF THE GERMAN BUNSEN GESELLSCHAFT.

THE German Society for the Study of Physical Chemistry, known as the Deutsche Bunsen Gesellschaft, has been holding its eleventh annual gathering in Bonn and on May 14th a whole session of its time was devoted to the reading and discussion of papers of medical interest. Dr. Schroeder of Bonn dealt with the importance of cryoscopy (or freezing-point determination) in its relation to health and stated that by such observations upon the blood and the urine valuable light could be thrown upon the activity of the heart and the state of the circulation. Professor Dreser of Elberfeld followed with a paper upon the same subject, while Professor Arrhenius of Stockholm dealt with the Chemical Mass Action of Toxins and Antitoxins. He has carried out a long series of laboratory investigations on this subject and has arrived at conclusions which are opposed to the generally accepted theories of the action of these bodies upon each other. Professor Arrhenius is convinced that toxins and antitoxins obey the ordinary laws of chemical action and that they react with one another in the animal organism as weak acids react with weak bases in chemical mixtures. Dr. Ehrlich of Frankfort led the opposition to the views of Professor Arrhenius and stated that his own experience of the action of poisons gained in the Institute of Experimental Therapy in Frankfort, of which he is the head, had convinced him that the ordinary laws of chemical action would not explain the interaction of toxins and antitoxins. In the case of diphtheria his view of the action of the antitoxin was that it reacted with the toxin produced by the bacteria characteristic of the illness, but that such reaction was far more complex and difficult to follow than was foreshadowed by the theory of Professor Arrhenius. A number of authorities and writers on this subject joined in the discussion and striking differences of opinion were manifested. The fourth paper of medical interest was by Professor Nernst of Göttingen and related to the action of the electric current upon the nervous system. Experiments with high-frequency alternating currents upon frogs had been conducted by him and the results had proved that the usually accepted views upon the action of these currents were incorrect. Such currents he considers penetrate the body and do not simply spread out over its surface, and the laws which govern the passage of electric currents through electrolytes and conductors are found to apply in this case also. The nerves, in fact, behave in such cases, in his opinion, as half permeable membranes.

THE SUPPLY OF ICE FOR DOMESTIC USE.

THE supply of pure ice in this country for domestic purposes is not as abundant or available as it should be, and it is absurd that practically the only shop where it may be obtained is that kept by the fishmonger who keeps it not for purposes of consumption but for cooling fish. The fishmonger's shop does not always represent an environment that is, sanitarily speaking, satisfactory, yet when ice is wanted in sickness or in health the only tradesman that can be found to supply it is the fishmonger, and his supply is usually limited. It seems ridiculous that in the English summer the demand for ice should not be sufficient to warrant the establishment of a special agency for its supply. We feel sure that if such a scheme could be organised it would be widely appreciated and would succeed as soon as the public realised how much better and healthier it is to have their food and beverages kept cool during the days of a hot and seasonable summer. As it is they have to be content with semi-liquid butter and mawkish lukewarm beverages which should be cold, especially those which are aerated. A cheap and abundant supply of pure ice for domestic purposes would give the housekeeper a chance of keeping a cool store-room in which meat, poultry, eggs, and other perishable articles of food could be preserved. Not only would waste of food be so prevented but the ravages of the putrefying agencies of hot weather would be checked and the food saved from becoming unwholesome if not positively dangerous. In fact, we imagine that nobody will deny the very great advantages derived from keeping certain foods cold in the summer and preserving them in a state fit for consumption and attractive to the eye and palate, and yet practically no steps are taken to supply such an important and very evident need. This looks to us like lack of enterprise.

FIFTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

THE Fifteenth International Congress of Medicine will be held at Lisbon in 1906 under the presidency of their Majesties the King and Queen of Portugal from April 19th to 26th inclusive. Membership of the Congress is confined to medical men and to other men of science introduced by the executive Portuguese committee or by the foreign committees. Subscription to the Congress is £1 or 25 francs or 20 marks for foreign members. The work of the Congress will be divided into 17 sections and the executive committee of the Congress is anxious to print all the official papers before the meeting, so they must be given in to the general secretary before Sept. 30th, 1905. Other papers sent in by authors wishing to read them at the Congress, if it is desired that they should be printed before the opening of the Congress, must be sent in before Dec. 31st, 1905. The official language of the Congress is French, but besides this tongue English and German may be used. Portuguese has been purposely excluded by the committee with the intention of diminishing the number of languages spoken and it seems to us that this somewhat self-sacrificing regulation is deserving of great praise. The president of the organising committee is Dr. M. da Costa Alemão and the general secretary is Dr. Miguel Bombarda, to whom all subscriptions must be sent at the Hospital de Rilhafolles, Lisbon. Any questions which deal with the scientific work of the sections must be addressed to the president of the committee of the particular section but anything that concerns the organisation of the general work of the committee must be addressed to the general secretary. The secretary for Great Britain is Dr. F. W. Pavy, 35, Grosvenor-street, London, W.

TWISTED PEDICLE OF AN OVARIAN TUMOUR THRICE REDUCED WITHOUT OPERATION.

IN the *Boston Medical and Surgical Journal* of April 7th Dr. C. A. Porter has published a case in which the twisted pedicle of an ovarian tumour was thrice reduced without operation. A woman, aged 35 years, had a normal confinement in May, 1900. On Dec. 22nd, 1903, she ate some unsound meat. She became sick in the night and vomited violently all the following day. After a severe attack of vomiting she was seized with sharp pain in the right iliac region. She saw and felt a lump there of the size of a small orange which disappeared after manipulation. The pain then ceased. On Jan. 5th, 1904, after carrying her child upstairs she had a similar attack of pain which lasted an hour. There was occasional vomiting. Menstruation had begun on the previous day more profusely than usual. On the morning of Jan. 11th she had a third attack. Menstruation still continued, although it usually lasted only three days. She vomited every 15 minutes. At 4 P.M. after an attempt at palpation the pain suddenly ceased. She was seen an hour later by her medical attendant who found a moveable globular tumour in the hypogastrium. On the inner side of the pelvic brim on the right side there was slight tenderness. Ovarian cyst the pedicle of which had become twisted, causing the three attacks of pain, was diagnosed. The point of tenderness appeared to indicate the position of thrombosed vessels due to the twisting of the pedicle. Immediate operation was advised on the grounds that the pedicle might become further twisted at any time with the production of gangrene. On opening the abdomen a purplish ovarian cyst in a moderate amount of fluid was found. It was rotated one-and-three-quarter times on its axis. The ovarian veins and the veins of the broad ligament were thrombosed at the site of the twist. A similar tumour was found on the left side. Double ovariotomy was performed but in view of the patient's age a little ovarian tissue was left.

JUVENILE TABES DORSALIS.

JUVENILE tabes has often been confounded by writers with Friedreich's ataxia, but if it is remembered that motor incoördination of the legs is ordinarily the first and the most striking manifestation of Friedreich's disease, whereas it is extremely rare in true tabes dorsalis, that the so-called pre-ataxic stage which is frequently, if not constantly, present in tabes dorsalis is never present in Friedreich's disease, and, finally, that the one disease (Friedreich's disease) has often a "family" character, while tabes dorsalis is by no means a family affection these, together with the differential symptoms recorded below, will serve to distinguish the two affections. In the *New York Medical Journal* of May 7th Dr. Alfred Gordon, instructor in neurology in the Jefferson Medical College, Philadelphia, deals with juvenile tabes dorsalis and calls attention to the following interesting points in the case recorded below which illustrates a new and as yet undescribed complication—viz., an attack of tabes dorsalis following after (but not due to) infantile paralysis. The case really shows that juvenile tabes is due to inherited or acquired syphilis, as juvenile general paralysis has long been known to be. In the great majority of cases acquired syphilis is the cause of tabes dorsalis in adults but in cases of juvenile tabes Dr. Gordon states that he could trace the causation to inherited syphilis, acquired syphilis being in this case excluded by careful inquiry. The case was that of a boy, aged 17 years, who at the age of 18 months had suffered from an attack of fever with convulsions and vomiting. After three days a total paralysis of the right arm was noted by the parents. The affected limb never recovered its power and could never be used again. The patient recovered from his illness and enjoyed good health after this until his fourteenth year, when he began to suffer from weakness and various paræsthesiæ of the left leg and numbness of the thigh and sole of the foot, so that he felt when he walked as though his feet "trod on soft cotton and not on the solid ground." Pains of a dull aching as well as lancinating pains were felt in the limb. A year later slight pains of a similar character developed in the right leg also. Hyperæsthesia of the bladder and some difficulty in expelling urine were noted. The remaining symptoms included feelings of "pressure and tightness" in the lumbar region and some weakness of vision. The right arm began to waste and wither away, the whole limb (except the hand) being much reduced in size. The skin was dry, flabby, and dulled to sensation and the reflexes were almost lost in this arm, while the muscles failed to respond to faradic or galvanic stimulation. In addition to these he showed various tabetic symptoms, such as "girdle" sensations and disturbances of the deep reflexes and of the sphincters, showing that the monoplegia of infancy was succeeded by the recent poliomyelitis. There were also loss of the knee-jerks, some inequality in the size and reaction of the pupils, and a slight ataxia of gait. These symptoms were undoubtedly due to tabes dorsalis and inquiry showed that when the mother of the child was pregnant with him she was infected with syphilis by the father. Dr. Gordon refers to the few rare cases of juvenile tabes recorded by Eulenberg, Morel, and a few others, showing that the influence of syphilitic infection in utero was a possible, as in this case it was a positive, etiological factor.

INDUSTRIAL EFFLUVIUM NUISANCES: YEASTS IN TANNING MATERIALS.

IN an annotation in THE LANCET of Nov. 1st, 1902, p. 1212, reference was made to an alleged nuisance arising from a tannery owing to the use of brewers' barm or yeast in the tanning process. It was stated that the presence of yeast in the waste liquors of a tannery strongly accentuates the offensive character of the effluent. The smell was described by residents and others as a "putrid offensive stench like that of highly decomposed animal matter." It would appear, however, that yeasts are present in all, or nearly all, of the vegetable materials used in the tanning industry, from which they can be isolated. Such, at any rate, is the conclusion arrived at by Dr. J. R. Carver who has just published the results of an investigation upon the subject undertaken in the Public Health Laboratory of the University of Manchester under the direction of Professor S. Delépine. During the course of an investigation upon the possible relations between the use of brewers' yeast in a tannery and the production of noxious gases Professor Delépine ascertained that various yeasts were present in all materials used in two tanneries as well as in all the liquors and effluents and that the fermentations to which they gave rise were not accompanied by the generation of noxious gases. Dr. Carver set out to ascertain firstly whether the various forms of yeast cells belonged to separate kinds or races of yeasts having distinct cultural characters or properties; secondly, the characters of the yeasts which could be isolated from the various tanning materials; and thirdly, if possible, whether yeasts played any useful part in the tanning process. It was found that yeasts are present in all of the materials, from which they can be isolated; they are present also in all the waste products but their isolation is difficult owing to the presence of a large number of bacteria. The yeasts in pure cultures do not produce any bad smelling gases and do not appear to contribute to the smell of the tan liquors. Finally, whatever share yeasts may have in the souring of ordinary tan liquors there was no clear indication of such action in any of the pure cultures studied and, moreover, in old tan liquors and waste products the yeasts did not seem to have increased in number equally with bacteria. On the basis of morphological and cultural characters Dr. Carver found it possible to recognise seven or eight varieties of yeasts but he is not able to state that these forms correspond to as many species, for after being grown for several generations in pure cultures some of the forms which at first appeared to be distinct gradually approached a common type.

THE SANDGATE SCANDAL.

ON various occasions attention has been directed in our columns[1] to the objectionable state of matters created by the homes for tuberculous patients which the late Mr. John James Jones established in Sandgate. From its situation on the coast of the English Channel Sandgate possesses many of the natural features suitable to a health resort and among the general residential population amounting to 1955 persons there were only 14 deaths during 1903. This mortality was, however, almost quadrupled by the deaths which occurred in various institutions or convalescent homes. Among visitors who had gone to Sandgate as patients in these establishments there were 50 deaths, 43 of which occurred among 881 tuberculous patients accommodated in the homes carried on by Mr. Jones. This influx of patients, among whom there was a death-rate of almost 5 per cent., could not fail to excite some uneasiness among the permanent residents in Sandgate, a feeling which found expression in an appeal made to the Local Government Board by Sir Edward Sassoon, Member of Parliament for the district. The reply received from the Board was unsatisfactory. It was to the effect that the Board had no power to move in the matter and that as Mr. Jones had recently died the time was inopportune for dealing with the question. Sir Edward Sassoon then brought the matter before the House of Commons on May 19th in an admirable speech, drawing the attention of the House to the increasing difficulties experienced by local authorities, and especially by small local authorities, in their efforts to restrict the establishment in populous districts of "consumptive homes" which did not enforce the precautions considered by the medical profession to be essential for the protection of the general public. The President of the Local Government Board, however, replied to the effect that no sufficient cause had been shown for the Board to take action. He said that a district could not be protected against infection by regulations, and that a consumptive patient in a home was less dangerous to the public than one who was not in a home, because in the latter case there was no restraint on his movements up to a late stage of his illness. With all due respect for these statements by the President of the Local Government Board we feel that to plant a colony of tuberculous patients in the midst of a small town is anything but an advantage for either the patients or the permanent residents. The Sandgate "Sanatoria" are not sanatoriums in anything but name. Leaving this point, however, aside a variety of reasons make it desirable that sanatoriums for the treatment of tuberculosis should not be in immediate proximity to centres of population. There are so many different phases to the question that it will be necessary to discuss it at greater length, particularly as a public health congress is about to meet at Folkestone, within two miles of these homes.

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[1] THE LANCET, August 22nd, 1903, p. 565; Feb. 20th, 1904, p. 527.

ON the retirement of His Majesty the King from the office of President of St. Bartholomew's Hospital the governors decided to commemorate that illustrious presidency, which had extended over a period of 34 years, by procuring, by subscription amongst themselves, a portrait of His Majesty. That portrait, with His Majesty's permission, has been painted by Mr. Luke Fildes, R.A., and is a replica of the well-known picture exhibited in the Royal Academy in 1901. It has been placed in the great hall of the hospital.

Mr. A. Forbes Sieveking, son of the late Sir Edward Sieveking, is requesting the loan of any of his father's letters to assist him in writing an extended biography of this distinguished physician. The letters, or copies of them, as well as any memoranda of a personal kind illustrating Sir Edward Sieveking's character, should be sent to Mr. Sieveking at 12, Seymour-street, Portman-square, London, W.

THE annual dinner of the West London Hospital will be held at the Trocadéro Restaurant on Saturday, June 25th, when Dr. J. Barry Ball will occupy the chair. All those connected either with the Post-Graduate College or by past and present service with the hospital will be welcome. Communications should be made to Mr. L. A. Bidwell.

A MEETING of the Royal Medical and Chirurgical Society will be held on Tuesday, May 31st, at 8.30 P.M., at 20, Hanover-square, London, W., when Dr. W. P. Herringham and Dr. W. A. Wills will read a paper on the Elasticity of the Aorta, being a contribution to the Study of Arterial Sclerosis, which will be followed by a discussion.

Sir Dyce Duckworth delivered an address before the British Balneological and Climatological Society at 20, Hanover-square, London, W., on May 18th on the subject of British Winter Resorts. The address was followed by the annual dinner of the society and a smoking concert at the Criterion Restaurant.

Sir William H. Broadbent, Bart., Dr. Nathan Raw, and Dr. A. P. Hillier have been appointed to represent the British National Association for the Prevention of Consumption and other Forms of Tuberculosis at the International Conference on Tuberculosis now being held in Copenhagen.

THE forty-fourth annual dinner of King's College, London, will be held at the Hotel Cecil, on Monday, June 20th, when the Marquess of Salisbury will occupy the chair. Communications should be made to Mr. John Chapman, honorary secretary of the committee, at King's College, London.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The authorities of this College have recently adopted regulations for academical costume. The general body of the Fellows are authorised to wear a black stuff Master of Arts gown, faced with a St. Patrick's blue Irish poplin border five inches in width, narrowing round the collar behind and extending to each end of the gown in front. Inside of the blue poplin there shall be a crimson Irish poplin lining five inches in width and of similar extent as the blue. The cap is black velvet with St. Patrick's blue and crimson tassel. The Licentiates' costume is similar but the poplin facings and linings are only two inches in width and the cap is black cloth with a black tassel. The gowns and caps may be worn at all public functions, College ceremonials, State and civic public meetings, and on all occasions when academical costume is worn by the Fellows of the Royal Colleges of Surgeons of England and Edinburgh.

EPIDEMIC OF PLAGUE IN JOHANNESBURG.

BY WALTER C. C. PAKES, M.R.C.S. ENG., L.R.C.P. LOND.,
MEDICAL OFFICER OF HEALTH, RAND PLAGUE COMMITTEE.

Previous Precautionary Measures.

PLAGUE having existed for many months on the south and east coasts of South Africa it was obvious to those who had charge of the public health in the Transvaal that sooner or later it was highly probable that the Transvaal would be visited by the disease. In order if possible to prepare for such an epidemic the medical officer of health of the Transvaal, the medical officer of health of Johannesburg, and the Government bacteriologist had all made arrangements for (1) preventing if possible the influx of plague into the Transvaal and (2) dealing with it should it arise.

These arrangements consisted of: 1 (as regards the *medical officer of health of the Transvaal*). The appointment of a special plague officer at Volksrust (the first town on the Natal line in the Transvaal), the establishment of an observation camp at Vereeniging, a general supervision of Asiatics, natives, and so on. 2 (as regards the medical officer of health of Johannesburg). It was felt that as Johannesburg was the point to which the vast majority of the traffic tended the first signs of plague would arise in that city whether in the human subject or in the rat. As early as February, 1903, the medical officer of health of Johannesburg sent out circulars to the local medical profession containing extracts from the Plague Memorandum, dated September, 1900, by Mr. R. H. Power. These circulars described the symptomatology of the disease and gave full directions for o[illegible] acterioscopic examination n[illegible] cases. He recommended and [illegible], in connexion with the Government, organised a plague camp within the confines of the Government lazaretto at Rietfontein in order that immediately upon the outbreak of plague all such cases as well as suspicious cases could be transferred at once. 3 (as regards the Government bacteriologist). The Government laboratories were specially developed in order to be able to undertake the bacteriological diagnosis of this disease even on a large scale. In January, 1903, the general manager of the Central South African railways was requested (1) to issue instructions to all his employés upon the lines of communication from the Cape, Natal, and the Portuguese borders to be on the look-out for any dead rats, and (2) to request the responsible officials where such were found to send them to the Government laboratories for diagnosis. The Johannesburg municipality appointed a professional rat-catcher and all dead rats found by him were sent to the laboratories for bacteriological examination and there examined.

The first intimation of the existence of plague in this colony was obtained by the Government laboratories in April, 1903, when a dead rat was sent to the laboratories from Johannesburg. This rat was shown to have died from plague. Between the previously mentioned date and the outbreak of plague in Johannesburg 13 rats were found to have died from plague. These rats came from different neighbourhoods in Johannesburg and the most careful inquiry failed to reveal the slightest connexion between any two spots from which dead rats had been obtained. The inevitable conclusion was that these rats had been imported singly from the coast in grain or forage. Each place from which a plague-stricken rat had been taken was visited by the rat-catchers and disinfectors and cleaned up. It is a noteworthy fact that it only once occurred that a second rat was obtained from the same place. The authorities did not confine their attention to rats; cats and dogs, and by chance ducks, fowls, and small birds, came under bacteriological observation, with the result that, although the rest proved negative, one cat was certainly found to have died from plague and this fact was also notified to the Government.

The Government laboratories had received from the Chamber of Mines a grant of money to be expended in [illegible] s of pneumonia occurring [illegible] rence to the deaths among [illegible] xamination of the rats and [illegible], in the human subject were [illegible] being carried on side by side in the same laboratory and by the same observers. It is practically impossible, therefore, as the Government laboratories were endeavouring to find the various causes of pneumonia in this country, that they should have failed to identify in the sputa which they were examining an organism which they were finding in the rats. It can therefore be asserted with confidence that no material from a case of plague in the human subject had been sent to the Government laboratories before March 19th, 1904. During the course of 1903 there was a scare of plague. This has been reported by the medical officer of health of Johannesburg in his annual report and this report has been sent to England. The Government laboratories certified these cases as cases of either streptococcal septicæmia or pneumococcal septicæmia. It may be suggested that the evidence of the bacteriologist was not sufficient and that the failure to isolate the plague bacillus from these cases was not conclusive evidence; but a careful consideration of the whole of the circumstances surrounding those cases (with two exceptions) showed that the bacteriological diagnosis coincided with the clinical and post-mortem appearances. The two cases in question were cases of natives who had suffered, according to the clinical and post-mortem reports, from adenitis. From these two cases an extremely pathogenic pneumococcus was isolated and the bacteriologist certified the cause of death as pneumococcal septicæmia. It may here be remarked that in this colony the pneumococcus produces conditions which are rarely met with elsewhere and many clinicians have found that in epidemics of pneumonia long prior to the introduction of plague into this country natives suffering from the usual pneumococcal disease did suffer from adenitis. The death returns showed that there was immediately preceding the outbreak of plague a slightly increased mortality from what was certified as pneumonia in the coolie location and the adjacent district of Burghersdorp. This was not altogether unanticipated either by the medical faculty or the health authorities since there had been three weeks of unprecedented wet, misty weather succeeded by a sudden fall in the temperature and cessation of rain.

The Present Epidemic.

Nothing of an alarming nature was brought before the health authorities of Johannesburg until the evening of March 18th, 1904, when the health inspector of the municipality informed the district surgeon of Johannesburg that he had found in the coolie location a large number of sick persons collected together. The assistant district surgeon was instructed to visit the place in question and he reported to the district surgeon that he found a number of sick Asiatics suffering from what appeared to him to be pneumonia in a house in the coolie location. At 6.30 A.M. on March 19th the district surgeon, the acting medical officer of health of Johannesburg, and the assistant bacteriologist for the Transvaal visited the house in the location. They found five corpses and 12 cases of sick in a four-roomed house.

The post-mortem examinations revealed nothing which could not be explained by death from pneumonia. There was not a single classical symptom of death from plague; the spleens were not enlarged and were not markedly hyperæmic; there were no ecchymoses or hæmorrhages; the organs, with the exception of the lungs, were normal. The lungs showed patchy pneumonic consolidation of the lobular type and although a very careful search was made for enlarged glands none were found. It is to be remarked that not even a single bronchial gland was found. Portions of the lung on bacteriological examination showed organisms morphologically identical with the plague bacillus. Owing to the insanitary condition of the coolie location and to the large and unknown number of cases in that location it was decided to cordon the whole area in order, if possible, to keep the actually infected people within a limited area. The cordon was formed at 4 A.M. on March 20th and on the same day at 9 A.M. an emergency meeting of members of the Johannesburg town council was held, when the acting medical officer of health and the district surgeon were instructed to take all necessary steps. By 9 A.M. on March 20th further deaths had taken place, making a total of 26 deaths in 36 hours. It is to be remarked here that not a single case of these showed any signs of buboes. On March 22nd the Government published plague regulations and constituted the Rand Plague Committee, composed of ten members from Johannesburg and representatives from the various local authorities within the Witwatersrand area. This committee was given plenary powers to deal with the outbreak within that area and to establish plague and isolation camps.

One of the first decisions arrived at by the plague committee was to remove the whole of the population of the coolie location to some site outside the town and the transfer of the population within the cordoned area to the segregation camp was completed on March 30th. This population consisted of 1600 Asiatics, 1358 natives, and 142 coloured people, making a total of 3100 transferred to the segregation camp. During the incubation period of the disease only one death from plague occurred. After 12 days' interval the inhabitants of the segregation camp were allowed to come and go under certain nominal restrictions. On April 8th the coolie location was burned to the ground. In order to prevent the escape of rats, cats, dogs, fowls, and other creatures a galvanised iron fence was put up round this location and the various animals and birds which had not been previously caught and destroyed were then caught, killed, and burnt in the fire.

Methods Adopted for Coping with the Epidemic.

The plague committee has carried out in the main the recommendations of the Durban Plague Congress. "Contacts" are not segregated; so far as possible they are kept under observation but their movements are limited to the least possible extent. "Suspects" are isolated as such in a suspect camp adjoining the plague camp at Rietfontein; with the exception of the medical officers the suspect and plague camps at Rietfontein are treated as separate entities. So far as possible the methods adopted are early notification, removal and complete disinfection of all suspects, and observation of contacts. The natives working on the mines within the Witwatersrand area are inspected daily by the compound managers and any natives who are found to be sick are at once examined by the mine medical officer. It has been made compulsory upon all employers of natives to have every sick native medically examined within 24 hours of his falling sick. In order to minimise the spread of the disease no Asiatic is allowed to travel by rail, even within the limits of the colony, unless he receives a clean bill of health from the medical examining officer. During the period from March 29th to April 19th there have been 14,010 natives brought under medical observation and one case of plague and seven suspects have been detected and transferred either to the plague or suspect hospital. The total number of deaths from plague recorded from March 18th to April 23rd in Johannesburg district and the Rand area was 76—namely, eight whites, 52 Asiatics, and 16 natives. How the disease originated has not yet been discovered but the following may be accepted as established facts: (1) There has not been up to the present moment anything approaching an epizootic; (2) it is unlikely that there were more than one or two bubonic cases preceding the epidemic for the reasons above mentioned unless there had been unrecognised cases of pestis minor; and (3) the disease might not have been diagnosed for many days after March 18th had there not been a sudden explosion which from a scientific point of view was almost as interesting as it was alarming.

ÉTABLISSEMENT HIVERNAL ET THERMO-MINÉRAL D'HAMMAM-R'HIRA (ALGÉRIE).

BY D. W. KEILLER MOODY, M.D., C.M. ABERD.

IN December, 1903, I was sent in charge of a patient who was ordered to winter in Algiers. While there, and on the advice of Dr. A. Thompson, the resident English medical man, I went to Hammam R'Hira to see the baths. I had never before heard of the place and I believe there are hundreds of medical men who can say the same. It has, however, been visited by several eminent medical men, and among others by the late Sir Morell Mackenzie, by Sir Lauder Brunton,[1] by Mr. G. D. Pollock who says: "I know of no place offering similar advantages within the same distance and as accessible to London"[2]; and by Dr. R. A. Gibbons who writes: "In mentioning the claims of Hammam R'Hira I am influenced by the fact that we have no place like it, or which can be in any way compared with it in this country or on the continent."[3] But as far as I can learn nothing has been written about it in English medical journals for many years. I propose, therefore, to give a brief account of my own personal experiences of the place, which I trust may be of service to those of my brother practitioners who have never had the opportunity of visiting it themselves and who may be glad to hear of a spot where there is perpetual sunshine and which is only three days' journey from London.

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[1] Practitioner, April, 1881.

[2] THE LANCET, March 5th, 1881, p. 362.

The best and quickest way to get to Hammam R'Hira is to travel *viâ* Paris to Marseilles and thence by means of the steamers of the Compagnie Transatlantique. They are about 2000 tons register and sail four times a week for Algiers, doing the journey across in about 26 hours. Those who do not care for the overland route and to whom time is no object can have a choice of several ways. They can go by either the Peninsular and Oriental or the Orient-Pacific steamship companies' vessels to Marseilles or Gibraltar and tranship at either of those places, or they can go direct to Algiers by the vessels of the British India Steamship Company. A night will have to be spent in Algiers and next day a three or four hours' journey by rail (according to train) to Bou-Medfa, 60 miles distant, will have to be taken, where a carriage from the hotel meets travellers, and thence there is a drive of one and a half hours through beautiful scenery which reminded me of the Highlands of Scotland, New Zealand, and the Rockies of America—really a combination of the whole three. The hotel is a very fine one, equalling any to be found on the continent of Europe. It is of immense size, cost a large sum to build, and is replete with every comfort for the invalid. It stands on the top of a hill 3000 feet above the sea level and is surrounded by a pine forest of 1800 acres and beautiful gardens and orange and lemon groves. It has the distinct advantage of being "Far from the madding crowd." No trippers or tourists are to be found here—the place is too quiet for them. Here also patients have no temptation to run contrary to the orders of their medical advisers. The tariff is such as to come within reach of those whose means are limited, the charges being from 11 francs per diem inclusive of wine and also the natural mineral waters.

I would recommend all who think of trying the place to go there between Feb. 1st and the end of April. Then one can be absolutely sure of continuous fine sunny weather. It is, however, open from Dec. 1st to June 1st. In December, however, I found it rather cold, especially in the morning and evening—the kind of weather one often meets with in the South of France.

The baths were known even to the Romans who built a town round them, remains of which are being continually unearthed. The Moors, who have separate baths, have great faith in them and theirs are constantly in use. The French, also recognising their therapeutic value, have established a military hospital close by. The baths are two large swimming ponds situated in the basement of the building and measuring 15 by 30 feet. The temperature in bath No. 1 is from 90° to 93° F. and in bath No. 2 from 104° to 110°, the reason for the difference being that the water in bath No. 2 comes direct through pipes from its source in the rocks, which is 200 yards away, whereas the water in bath No. 1 is merely the overflow from bath No. 2 The supply is very plentiful and as each bath fills it simply overflows. The constant flow thus insures cleanliness. Like Dr. R. Ottewell-Gifford Bennett,[4] on going into bath No. 2 I felt a scalding sensation which made me at once withdraw my leg. I, however, persevered and soon got used to the heat. One stays in each bath about ten minutes or as the physician orders. The waters are in their composition very similar to those of Bath. For those who so desire there are private baths, hot and cold douches, jets, shower bath, &c. Analysis of the hot springs shows that one litre of water contains:—

Carbonate of lime	0 207	Chloride of potassium ...	0 091
Carbonate of magnesium	0 030	Silicate of sodium	0 069
Sulphate of lime	1·303	Alum	0 002
Sulphate of magnesium	0·172	Peroxide of iron	Trace.
Sulphate of sodium ...	0 017		
Chloride of sodium ...	0 439	Total	2·330

Besides the baths there is also a cold aerated mineral water which contains saline and ferruginous salts and is of a pleasant taste. The iron is in such small quantity that one does not taste it. The water mixes well with claret or other light wines. Analysis of it is as follows:—

Free carbonic acid	0 8820	Sulphide of sodium ...	0 3425
Bicarbonate of lime ...	0 9411	Chloride of sodium ...	0 2801
Bicarbonate of magnesium	0 0314	Chloride of potassium ...	Trace.
Bicarbonate of strontium	Trace.	Silicate of sodium	0 0240
Bicarbonate of manganese	0 0008	Alum	0 0028
Bicarbonate of iron ...	0 0400	Organic matter	Trace.
Sulphide of calcium ..	0 5338	Arsenic and phosphoric acids	Trace.
Sulphide of magnesium	0 1623	Total	3 2408

These baths are undoubtedly of great service in the treatment of chronic rheumatism and gout, both muscular and articular. They are undoubtedly of great service also in neurasthenia, neuralgia, scrofula, hepatic and renal diseases, certain forms of paralysis (my attention was drawn to the remarkably good results obtained in an early case of locomotor ataxia), and some chronic uterine affections. The mineral waters are very useful in anæmia, dyspepsia, hepatitis, and constipation; they have also been recommended in cases of renal calculus. In early cases of pulmonary consumption this is an excellent place on account of its equability of temperature, its dryness, and its fairly high altitude

There is plenty of outdoor exercise for those who are physically intact. Horse riding through a beautiful and hilly country is to be had, while tennis, croquet, cricket, and beautiful drives and walks are available for those so inclined. In the way of sport there are plenty of hares, rabbits, partridge, quail, and wild boar to be had, with perhaps an occasional panther. There is a long verandah (100 yards) where patients can sit the whole day and the hotel provides an excellent band. From what I have seen of the place I can honestly recommend it. "We live in a nervous age." I consider it an excellent place for those suffering from "brain fag," of which so much has been heard lately.

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[3] THE LANCET, June 10th, 1883, p. 1126.

[4] Extracts from the Journal of British and Foreign Health Resorts, March, 1891.

MR. ION PERDICARIS AND SANITARY REFORM AT TANGIER.

THE capture of Mr. Ion Perdicaris and Mr. Cromwell Varley by the brigand Raisuli is a matter of more than ordinary and personal concern. Tangier is within five days' journey from London. It possesses so many natural and climatic advantages that its popularity as a health resort was likely to increase more and more. From time to time we have described some of these advantages.[1] Morocco, however, belongs to decadent Moors and to more or less wild and savage tribes of Berbers, Riffians, Bedouins, and a sprinkling of negroes from the Soudan. These people feel that they cannot compete against European mechanical appliances and manufacturing processes. Consequently they have very consistently and logically resisted to the uttermost any attempt to Europeanise their country. The Sultan himself has been won over to European ideas. He takes interest in photography, motor-cars, and other contrivances calculated to disturb the contemplative repose that suits so well the dignified Moor. Therefore the people have taken alarm and have rebelled against their Sultan. A sort of civil war has prevailed for now more than two years. Thus the hope that Tangier and perhaps other places on the coasts of Morocco might become useful resorts for the climatic treatment of disease has been thrown back indefinitely unless it be that night is darkest just before daybreak.

The fact is that considerable progress, to use the term in a European sense, had been accomplished of late years at Tangier. Under the leadership of Mr. Ion Perdicaris the European residents had constituted themselves into a sort of borough, elected a municipality, and duly proceeded to impose taxes on each other. They used the money thus collected to build some sewers, to pave some streets, and in fact to introduce sanitary improvements which rendered the place more inhabitable. Therefore, more visitors came, land increased in value, and so many new and European houses were built that had this continued the picturesque character of the place would soon have been destroyed. Then people would cease to go to Tangier and then all this building would have proved useless and a dead loss. But the Moors rebelled. They did not, perhaps, greatly object to the improvements made at Tangier, particularly as for the moment it brought in a golden harvest, but they could not tolerate European ideas at the court of their own Sultan and in the interior of the country. Little by little the Sultan has lost his authority and the country has fallen into a state of anarchy. The culminating point of this disorder is surely reached when so respected a resident as Mr. Perdicaris can be surrounded and captured in his own house, though it is situated but three miles from the embattled walls of Tangier. It is not probable that even Raisuli and his wild men would willingly do Mr. Perdicaris or Mr. Varley any bodily injury, but Mr. Perdicaris is not in good health and at his age the rough existence he will be forced to lead may produce evil results. Perdicaris all his life has been devoted to good deeds. No one could be more popular among the Moslem Moors whom he has defended over and over again from the extortions of Jew and Christian usurers, acting under the cover of the *protégé* system. It will go hard with Raisuli and his tribe if they injure him. To the European Mr. Perdicaris has also been a constant friend and the leader in all practical useful works. It was Mrs. Perdicaris who organised the soup kitchens when there was danger of cholera, so that the want of food should not prepare the way for the outbreak of the disease. In all public works that have contributed to render Tangier clean and healthy Mr. Perdicaris was the principal initiator and donor. The cause of public health has in him its first and most useful champion, while in regard to the cruel abuses practised under the *protégé* system he has been instrumental in bringing about reforms. We cannot believe him in danger, but the episode is none the less disconcerting, as other Europeans not well-known and respected may be similarly treated. What is so pleasant and health restoring at Tangier is the facility for obtaining horses and mules, or even camels if preferred, and going for long rides over the hills and wild roadless country. With Raisuli and his men on the warpath this is evidently not possible now. If they do not respect even Mr. Perdicaris certainly no one else is safe. In these circumstances, and in view of the treaty recently concluded between England and France, it may well be that this is the beginning of the end. The European intervention so long deferred may soon be at hand. It will not be an unmixed blessing. It may put an end to the special charm that Morocco possessed which was useful, not only to the artist in search of the original and beautiful, but also to the physician anxious to provide a complete mental change for his patient. On the other hand, it will be more easy to get the necessary sanitary works carried out and it is to be hoped that brigandage will be suppressed. Thus the ordeal Mr. Perdicaris is now enduring may prove beneficent to the community among whom he has lived for more than 30 years. It will have served, in any case, to show him how extensive and profound is the admiration his life's work has evoked. The press throughout Europe and America and his numerous personal friends have manifested the keenest sympathy and appreciation, and this also should give strength and consolation to his wife and family during this moment of trial and danger.

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[1] THE LANCET, May 7th, 1897, p. 955, and June 18th, 1898, p. 1721.

THE MEDICAL, SURGICAL, AND HYGIENIC EXHIBITION.

THE eighth annual exhibition was opened in the Queen's Hall, Langham-place, W., on May 24th. The fact that this annual exhibition has now reached its eighth year shows that a very general interest in it on the part of visitors has been maintained, and judging from the attendance of medical men, hospital nurses, and others it has evidently supplied a distinct want to those whose opportunities of inspecting the latest examples of progress in regard to drugs, foods, and medical and sanitary appliances are limited to exhibitions that take place within the metropolitan area. It is not surprising, therefore, that disappointment was generally expressed at the fact that the number of exhibits this year was decidedly smaller than on previous occasions, though in one or two sections there was a slightly increased representation. With few exceptions the examples of food preparations shown were quite well known to the profession and a great many of the exhibits comprising drugs were also familiar. In the sanitary section there were some novelties which we may briefly notice.

The preparation of the Denver Chemical Manufacturing Co. (110, Cheapside, London, E.C.) known as antiphlogistine was well represented. We have already pointed out in our analytical columns the composition of antiphlogistine. As a preparation for use externally in inflammatory conditions it has the advantage of being at the same time an antiseptic, a non-conductor of heat, and a vaso-motor stimulant. It is, in fact, a considerable advance on the ordinary poultice, its composition being based upon a better knowledge of the condition and requirements of swollen and sensitive tissues. It further possesses physical advantages over old methods and the theory of its therapeutic action is sound. Messrs. Burgoyne, Burbidges and Co. (12 and 16, Coleman-street, London, E.C.) exhibited an interesting series of preparations, including Von Heyden's pharmaceutical products. Amongst the latter may be mentioned creasotal (creasote carbonate) and duotal (guaiacol carbonate), which while exerting powerful germicidal effects are non-poisonous and non-corrosive and may therefore be safely administered internally. These preparations have been used with considerable benefit in the early stages of phthisis. The exhibit included some interesting antiseptic preparations of silver and acoine, a local anæsthetic of some repute. Ovo-lecithin (Billon, 16, Water-lane, Great Tower-street, London, E C.) has already been described in our columns since which further experience has been gained of its value in disorders of nutrition, neurasthenia, and the like. The exhibit included examples of therapeutic serums and calf vaccines prepared by the Institut Pasteur (Lille, France). The serums exhibited were antivenum serum, antitetanus serum, and anti-diphtheritic serum. The Angier Chemical Co. (32, Snow-hill, London, E.C.) exhibited its emulsion and throat tablets; the composition of both preparations is based upon a specially purified petroleum. It is probable that the petroleum acts as a vehicle, while no doubt it is a sedative and demulcent and therefore is useful in inflamed or ulcerated conditions. The emulsion consists of petroleum with hypophosphites of lime and soda and pure glycerine. Messrs. C. de Trey and Co. (52, Shaftesbury-avenue, London, W.C.) exhibited specimens of somnoform manufactured by Mr. A. Rousseau, Bordeaux, which is described as a quick, simple, and safe anæsthetic. It consists of 60 per cent. of chloride of ethyl, 35 per cent. of chloride of methyl, and 5 per cent. of bromide of ethyl. It is said to have no action on the heart and not to produce asphyxia or cyanosis nor seriously to disturb respiration. Messrs. F. Newbery and Sons (27 and 28, Charterhouse-square, London, E.C.), exhibited the well-known pharmaceutical preparations of Messrs. W. R. Warner and Co., the list including an excellent series of granular effervescent salts and the malt preparations of Professor Trommer. Messrs. Cooper and Co. (80, Gloucester-road, South Kensington, London, W.) had a very attractively decorated stall on which were displayed their pure oxycarbonated mineral waters in porcelain-lined syphons as well as in ordinary bottles. The waters are prepared under pressure of both carbonic acid and oxygen gases, very pure distilled water being employed for the purpose. Besides soda, seltzer, and potash waters the following drugs may be employed in this pure aerated water: lithia, lisidin, lycetol, phenocoll, piperazine, and urotropine. The exhibit included a very excellent emulsion of cod-liver oil with lactophosphates and a preparation also of oxy-carbonated fluid magnesia.

As has already been said, many of the food preparations were old and trusted friends as, for example, the preparations of the Peptenzyme Co., the Marmite Food Extract Co., the Shredded Wheat Co., Maltova, Limited, the Protene Co., the Maltine Manufacturing Co., Messrs. Van Abbot and Sons (diabetic foods), International Plasmon, Limited, Mr. Henry Nestlé (condensed milk and food), Messrs. Cadbury Bros. (cocoa), Messrs. Callard and Co. (starchless foods), Bovril, Limited, and Virol, Limited, the Hovis Bread and Flour Co., Cerebos, Limited, Liebig's Extract of Meat Co., and the Anglo-Swiss Milk Co. A comparatively recent introduction, however, is the preparation known as "galak" dried milk of the "Galak" Milk Products Co. (118, Fenchurch-street, London, E.C.). In this process milk is distributed thinly and evenly between heated cylinders and emerges in a thin, slightly damp film which dries on cooling. The film is then passed through sieves by which it is reduced to a white flaky or granulated powder. On analysis it shows the composition of complete milk solids, including the whole of the fat. The preparation is said to be sterile and to give excellent physiological results. The preparation seems to be an important innovation, but evidence is wanted, we think, as to whether it possesses the anti-scorbutic properties of raw milk. Judging from the method of preparation, in which considerable heat is employed, it is not possible to conceive that the milk powder when dissolved in water has the same physiological properties as fresh uncooked milk.

Sanitary preparations were fairly well represented and amongst novelties may be mentioned the sphagnol preparations of the Peat Products Co. (71A, Great Russell-street, London, W.C.). Sphagnol is described as a combination of the antiseptic and emollient vegetable tars and oils obtained by the distillation of peat. It has been used with advantage in skin diseases. Amongst other preparations containing sphagnol were suppositories which are said to be serviceable in hæmorrhoids, an ointment used in eczema, a soap for ringworm, and other preparations helpful in the treatment of many conditions. The Pearson's Antiseptic Co., Limited (254A, High Holborn, London, W.C.), exhibited a number of antiseptic preparations which possess merits already pointed out in our analytical columns. The Jeyes' Sanitary Compound Co., Limited (64, Cannon street, London, E.C.), exhibited a number of antiseptic preparations the basis of which is "cyllin," formerly known as creolin. Bacteriological experiments have shown this coal-tar disinfectant to be a powerful germicide, whilst its toxic and caustic properties are relatively inappreciable. Similar claims are made for izal, which is the basis of a number of disinfectant preparations made by Messrs. Newton Chambers and Co. (Thornecliffe, near Sheffield). Petol, Limited (86, Cannon-street, London, E.C.), exhibited a number of articles, such as soaps, ointments, and suppositories, containing petol which is described as a vegetable base derived from peat. As an antiseptic and healing agent it has been employed in skin diseases.

A considerable assortment of surgical and hospital appliances was exhibited by the Holborn Surgical Instrument Co. (26, Thavies Inn, Holborn-circus, London, E.C.), while the Hospitals and General Contracts Co. (33, Mortimer-street, London, W.) exhibited aseptic aluminium tables for operating theatres or wards, besides also some sterilisers, one form being heated by means of the electric current. The Sanitary Wood Wool Co. (26, Thavies Inn, Holborn-circus, London, E.C.) exhibited its wood-wool preparations and the Cellular Clothing Co., Limited (72 and 73, Fore-street, London, E.C.), submitted to view various applications of its aertex cellular cloth; this material is porous besides being an excellent insulator. Mineral waters were represented in the exhibit of Camwal, Limited (112, Pembroke-street, Caledonian-road, London, N.), and in a very excellent display of pure waters prepared with great care as regards purity by Idris and Co. (Camden Town, London, N.W.). Arabella water has been comparatively recently introduced by Arabella, Limited (2, Hay-hill, Berkeley-square, London, W.). A feature of this water is that while it contains a large proportion of the sulphates of sodium and magnesium it is not so objectionable to the taste as are many bitter purgative waters. Amongst electrical apparatus may be mentioned the Gaiffe coil with the Carpentier-Gaiffe platinum interrupter shown by the Medical Supply Association (228, Gray's Inn-road, London, E.C.), and high-frequency and x-ray apparatus by Harry W. Cox, Limited (9, 10, and 11, Cursitor-street, Chancery-lane, London, W.C.). An interesting exhibit was that of Reinheimer and Co. (Surbiton, Surrey), who showed specimens of non-alcoholic wines which not long ago were analytically examined with favourable results in THE LANCET laboratory. Messrs. Greenlees Bros. (29 and 31, Commercial-street, London, E.) exhibited a miniature model of a pot still, but we could not gather whether they made any special claim for their whiskies as being all malt or blends.

Finally, several well-known medical publishers exhibited examples of recent medical and surgical literature on their stalls.

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 27, 1826.

FOREIGN DEPARTMENT.

Discovery of Two Canals in the Vagina and Uterus. By Dr. GARTNER, of Copenhagen.—(*Annali Univ. di Med., March*, 1826.)

Dr. Gartner, in dissecting the uterus of the cow, found two singular canals, of which modern anatomists make no mention. They commence in the neighbourhood of the fallopian tubes, and open into the vagina near the meatus urinarius. They exist also in the sow; neither age nor gestation makes any difference; they are always present. In the sow, these canals commence by two openings situated on the sides of the orifice of the urethra, run obliquely from within outwards in the substance of the parietes of the vagina, and also a little upwards, thus describing a curve; in this course they receive lateral branches, coming from the neighbouring glands, the union of which forms a mass rather analogous in its external appearance to the pancreas; they diminish successively in size as they receive fewer of these small lateral ducts, and especially in the part of the parietes of the vagina which is continuous with the cornua of the uterus. They are always present, but their appearance varies; they appear more developed a short time after conception. In a sow, the uterus of which enclosed some fœtuses from two to three inches in length, the diameter of these canals was more considerable, and they extended, even in the substance of the broad ligaments, to within a few inches from the ovaries, where they apparently terminated in several small glandular granulations. The prolongation of these canals in the broad ligaments was very evident; their appearance was white and opaque, but it was easy to inject them with quicksilver; in some points they were considerably contracted, and appeared in some others completely obliterated.

In the cow, the vaginal orifice of these canals is larger, situated more in front, on the side of the meatus urinarius; these canals are continued the whole length of the lateral parietes of the vagina, nearly to a level with the orifice of the uterus, where they appeared all of a sudden to terminate; but an attentive examination showed, that they penetrate into the substance of the tissue of the neck of the artery, and re-appear on the uterus, on the surface of which, they, as it were, insensibly recover their existence, and are continued superiorly to the cornua of the uterus, and along their surface, to within a few inches from the ovaries. These vessels, or canals, are invariably to be found in the course which we have just mentioned. In some young cows, the uterine portion of these canals is so extremely fine, that it appears impermeable; in others, on the contrary, it is more or less dilated, and filled with a gelatinous and tenacious fluid, which presented the appearance of hydatids in the small dilatations. The portion of these canals which corresponds to the neck of the uterus is subject to several varieties, resulting principally from the age and the state of the gestation of the animal. The vaginal and uterine portions are both generally isolated, but the communication appears to be established through the medium of small glandular bodies, situated on the neck of the artery; sometimes, instead of these granulations, a real canal, laterally dilated, is found, in the parietes of which numerous vessels ramify, bearing some analogy to a common excretory duct. This disposition is very apparent in the adult cow. The distensions of a glandular appearance which are observed in this region, are sometimes very prominent, and filled with a gelatinous fluid. It is very rare that the canals which we have just described are alike in both sides of the neck of the uterus; most frequently a duct is found on one side only, and on the other glandiform granulations.

It is very probable that these two canals, or to use a better expression, these two organs, exert some influence on conception. Galen (in the article entitled, *de dissect. vulva* ch. ix.) appears to indicate something analogous to this anatomical fact. De Graaf (*opera omnia*) probably suspected the existence of similar organs in the uterus of the woman; perhaps the fasciculi of muscular fibres found by M. le Baron Cuvier in the cow, extending from the ovaries to the neck of the uterus, bears some relation to these canals. Haller says nothing precise on the subject, but Malpighi (Epist ad Spont. p. 26.) expresses himself in such a manner, as to induce him to think that he understood these organs.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8570 births and 4532 deaths were registered during the week ending May 21st. The annual rate of mortality in these towns, which had been 16·3, 14·9, and 16·1 per 1000 in the three preceding weeks, had declined again to 15·5 per 1000 last week. In London the death-rate was 15·1 per 1000, while it averaged 15·6 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 6·9 in Northampton, 7·1 in Hornsey, 7·9 in Handsworth (Staffs.), 8·0 in Walthamstow, 9·4 in King's Norton, 9·6 in Reading, 10·1 in Plymouth, 10·5 in Croydon, and 10·6 in Willesden; while the highest rates were 19·6 in Manchester, 20·0 in Leeds, 20·4 in Preston, 20·5 in Blackburn, 20·6 in Tynemouth, and 21·7 in Norwich and in Birmingham. The 4532 deaths in these towns last week included 528 which were referred to the principal infectious diseases, against 527, 514, and 525 in the three preceding weeks; of these 528 deaths 182 resulted from measles, 182 from whooping-cough, 57 from diarrhœa, 45 from diphtheria, 30 from scarlet fever, 28 from "fever" (principally enteric), and four from small-pox. No death from any of these diseases was registered last week in Hastings, Bournemouth, Reading, Ipswich, Aston Manor, Wigan, Stockton-on-Tees, or Tynemouth; while among the other towns the highest death-rates from the principal infectious diseases were recorded in Brighton, Birmingham, Warrington, Manchester, Salford, Burnley, Blackburn, and Leeds. The greatest proportional mortality from measles occurred in Croydon, Walthamstow, Brighton, Manchester, Burnley, Leeds, and Hull; from scarlet fever in Hanley and in Warrington; from diphtheria in Great Yarmouth and in Merthyr Tydfil; and from whooping-cough in Birmingham, Coventry, Grimsby, Derby, Birkenhead, Warrington, Bury, Salford, Blackburn, and Leeds. The mortality from "fever" and from diarrhœa was not excessive in any of the large towns. Of the four fatal cases of small-pox registered in these towns last week one belonged to Nottingham, one to Oldham, one to Gateshead, and one to Cardiff. The number of small-pox patients remaining under treatment in the Metropolitan Asylums hospitals, which had been 104, 88, and 99 on the three preceding Saturdays, had declined again to 96 on Saturday last, May 21st; 18 new cases were admitted during the week, against 12, 14, and 26 in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital was 1630 at the end of last week, against 1541, 1590, and 1600 at the end of the three preceding weeks; 222 new cases were admitted during the week, against 185, 242, and 239 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 224, 193, and 231 in the three preceding weeks, had declined again to 210 at the end of last week and were 26 above the number in the corresponding period of last year. The causes of 63, or 1·4 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Bolton, Leeds, Newcastle on-Tyne, Cardiff, and in 43 other smaller towns; the largest proportions of uncertified deaths were registered in Portsmouth, Reading, Norwich, Birmingham, Liverpool, St. Helens, Manchester, Rochdale, Blackburn, Sheffield, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 20·0, 18·0, and 17·9 per 1000 in the three preceding weeks, increased again to 18 7 per 1000 during the week ending May 21st, and was 3·2 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 13·0 in Leith and 16·2 in Aberdeen, to 20·0 in Perth and 23·2 in Greenock. The 619 deaths in these towns included 21 which were referred to whooping-cough, 16 to measles, 13 to diarrhœa, four to scarlet fever, two to small-pox, and two to diphtheria, but not any to "fever." In all, 58 deaths resulted from these principal infectious diseases last week, against 71, 64, and 75 in the three preceding weeks. These 58 deaths were equal to an annual rate of 1·8 per 1000, which was also the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 22, 25, and 28 in the three preceding weeks, declined again last week to 21, of which ten were recorded in Glasgow, four in Aberdeen, three in Edinburgh, and three in Dundee. The deaths from measles, which had been 16 and 17 in the two preceding weeks, declined again to 16 last week and included 10 in Glasgow and three in Greenock. The fatal cases of diarrhœa, which had been 13, nine, and 15 in the three preceding weeks, decreased again last week to 13, of which seven occurred in Glasgow and three in Dundee. The four deaths from scarlet fever corresponded with the number in each of the two preceding weeks and included three in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 121, 100, and 90 in the three preceding weeks, rose again last week to 97, but were slightly below the number in the corresponding period of last year. The causes of 22, or nearly 4 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 20·8, 23·1, and 21·6 per 1000 in the three preceding weeks, rose again to 21·9 per 1000 during the week ending May 21st. During the past four weeks the death-rate in Dublin has averaged 21·9 per 1000, the rates during the same period being 15 5 in London and 17·4 in Edinburgh. The 159 deaths of persons belonging to Dublin registered during the week under notice were slightly in excess of the number in the preceding week and included 13 which were referred to the principal infectious diseases, against eight, 18, and 17 in the three preceding weeks; of these, five resulted from whooping-cough, two from measles, two from "fever," two from diarrhœa, one from scarlet fever, and one from diphtheria, but not any from small-pox. These 13 deaths were equal to an annual rate of 2·0 per 1000, the death-rates last week from the same diseases being 1·7 in London and 0 9 in Edinburgh. The fatal cases of whooping-cough, which had been three, 11, and ten in the three preceding weeks, further declined last week to five. The deaths from measles, which had been two, four, and two in the three preceding weeks, were again two last week. The fatal cases of "fever," which had been one, two, and three in the three preceding weeks, declined again last week to two. The 159 deaths in Dublin last week included 20 among children under one year of age and 41 among persons aged 60 years and upwards; the deaths both of infants and of elderly persons showed a considerable decline from the respective numbers recorded in the preceding week. Five inquest cases and three deaths from violence were registered, and 66, or more than two-fifths, of the deaths occurred in public institutions. The causes of three, or nearly 2 per cent., of the deaths registered in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING APRIL, 1904.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 5·1 per 1000 of the population, estimated to be 4,648,950 persons in the middle of the year. In the three preceding months the rates had been 5·1, 4·8, and 4·9 per 1000 respectively. The rates were considerably below the average in Paddington, Kensington, Chelsea, the City of Westminster, Hampstead, and Woolwich; while they showed the largest excess in Finsbury, Shoreditch, Bethnal Green, Stepney, and Poplar. The prevalence of small-pox during April was slightly less marked than it had been in the preceding month; among the various metropolitan boroughs this disease was proportionally most prevalent in St. Marylebone, Stoke Newington, Shoreditch, Bethnal Green, Stepney, Poplar, and Bermondsey. The Metropolitan Asylums hospitals contained 104 small-pox patients at the end of last month, against 21, 31, and 126 at the end of the

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING APRIL, 1904.

(*Specially compiled for* THE LANCET.)

		NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.													
CITIES AND BOROUGHS.	Estimated population in the middle of 1904.	Small pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.	Deaths from all causes.	Death rate per 1000 living.	Deaths of Infants under one year to 1000 births.
LONDON...	4,648,950	100	811	518	—	79	2	15	283	—	1808	5·1	7	308	31	53	212	—	13	1	59	684	1·9	5784	16·2	118
West Districts.																										
Paddington	146,975	2	17	6	—	—	—	—	12	—	37	3·3	1	3	—	1	—	—	1	—	2	8	0·7	139	12·3	87
Kensington	179,236	1	6	13	—	2	—	1	8	—	31	2·3	—	13	1	2	3	—	—	—	2	21	1·5	206	14·9	147
Hammersmith	117,412	—	17	15	—	2	1	—	15	—	50	5·6	—	13	—	2	2	—	1	—	2	20	2·2	132	14·7	105
Fulham	152,482	—	20	16	—	3	—	—	4	—	43	3·7	—	7	1	2	8	—	1	—	6	25	2·1	191	16·3	140
Chelsea	74,329	—	9	6	—	—	—	—	4	—	19	3·3	—	—	—	—	5	—	—	—	1	6	1·1	90	15·8	125
City of Westminster	177,321	2	17	12	—	3	1	—	8	—	43	3·2	—	1	—	2	3	—	1	—	5	12	0·9	180	13·2	97
North Districts.																										
St. Marylebone	130,337	5	21	7	—	3	—	—	12	—	48	4·8	—	12	2	2	3	—	—	—	2	21	2·1	159	15·9	55
Hampstead	86,663	1	5	4	—	1	—	1	—	—	12	1·8	—	2	—	—	—	—	—	—	—	2	0·3	64	9·6	83
St. Pancras	236,936	—	63	32	—	2	—	—	7	—	104	5·7	—	17	3	4	12	—	1	—	3	40	2·2	283	15·6	116
Islington	341,044	4	54	30	—	8	—	1	12	—	109	4·2	—	25	4	1	10	—	2	—	3	45	1·7	402	15·4	114
Stoke Newington	52,445	4	8	3	—	—	—	—	1	—	16	4·0	—	1	—	—	3	—	—	—	—	4	1·0	54	13·4	77
Hackney	226,266	2	31	37	—	8	—	1	10	—	89	5·1	—	12	2	3	10	—	—	—	3	30	1·7	257	14·8	107
Central Districts																										
Holborn	57,161	1	8	5	—	3	—	1	3	—	21	4·8	1	5	—	—	—	—	—	—	—	6	1·4	87	19·8	60
Finsbury	98,958	1	31	10	—	4	—	—	4	—	50	6·6	—	3	3	2	3	—	—	—	3	14	1·8	175	23·1	119
City of London	23,482	1	1	1	—	1	—	—	3	—	7	3·9	—	—	—	—	1	—	—	—	—	1	0·6	39	21·7	143
East Districts.																										
Shoreditch	117,033	5	42	12	—	2	—	—	10	—	71	7·9	—	8	1	3	5	—	—	—	2	19	2·1	187	20·8	116
Bethnal Green	130,207	18	48	43	—	—	—	—	10	—	119	11·9	1	11	1	3	6	—	—	1	1	24	2·4	171	17·1	114
Stepney	303,791	24	77	37	—	1	—	1	28	—	168	7·2	2	29	2	4	24	—	—	—	5	66	2·8	454	19·5	128
Poplar	169,905	13	35	51	—	4	—	1	10	—	114	8·7	2	21	2	5	9	—	—	—	1	40	3·1	261	20·0	148
South Districts																										
Southwark	207,937	—	35	26	—	4	—	—	20	—	85	5·3	—	37	1	4	21	—	1	—	2	66	4·1	363	22·8	166
Bermondsey	129,39	6	31	8	—	2	—	—	12	—	59	5·9	—	20	—	1	11	—	—	—	1	33	3·3	205	20·7	131
Lambeth	310,359	5	43	28	—	6	—	2	22	—	106	4·5	—	14	3	2	15	—	—	—	2	36	1·5	383	16·1	97
Battersea	175,465	—	29	14	—	3	—	1	10	—	57	4·2	—	8	—	2	5	—	—	—	1	16	1·2	177	13·2	130
Wandsworth	257,448	1	36	36	—	8	—	1	14	—	96	4·9	—	6	—	5	2	—	2	—	3	18	0·9	258	13·1	89
Camberwell	263,364	2	59	19	—	3	—	2	13	—	93	4·6	—	20	1	1	20	—	1	—	2	45	2·2	312	15·2	146
Deptford	113,509	1	27	9	—	1	—	—	10	—	48	5·5	—	13	1	—	10	—	—	—	3	27	3·1	182	18·6	124
Greenwich	101,651	—	8	19	—	1	—	1	6	—	35	4·5	—	2	1	1	11	—	1	—	3	19	2·4	101	13·0	140
Lewisham	140,401	—	18	15	—	3	—	1	11	—	48	4·5	—	—	1	1	5	—	1	—	—	8	0·7	140	13·0	98
Woolwich...	123,416	1	15	4	—	—	—	—	4	—	24	2·5	—	5	1	—	5	—	—	—	1	12	1·3	153	16·2	106
Port of London	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

three preceding months; the weekly admissions averaged 24, against four, six, and 31 in the three preceding months. During the period under notice no fewer than 2000 cases of chicken-pox were notified in London. Scarlet fever showed a slightly increased prevalence last month, the greatest proportional prevalence occurring in St. Pancras, Finsbury, Shoreditch, Bethnal Green, Stepney, Bermondsey, and Deptford. The number of scarlet fever patients under treatment in the Metropolitan Asylums hospitals, which had been 1626, 1560, and 1546 at the end of the three preceding months, had further declined to 1515 at the end of April; the weekly admissions averaged 173, against 182, 153, and 160 in the three preceding months. The prevalence of diphtheria was rather greater during April than in the preceding month; among the various metropolitan boroughs this disease was proportionally most prevalent in St. Pancras, Hackney, Bethnal Green, Poplar, Wandsworth, and Greenwich. The Metropolitan Asylums hospitals contained 718 diphtheria patients at the end of last month, against 752, 782, and 786 at the end of the three preceding months; the weekly admissions averaged 97, against 97, 107, and 94 in the three preceding months. Enteric fever, which had shown a continuous decline in the four preceding months, was still further reduced during April; the greatest proportional prevalence of this disease was recorded in St. Marylebone, Hackney, Holborn, Finsbury, Poplar, and Wandsworth. The number of enteric fever patients in the Metropolitan Asylums Hospitals, which had been 246, 166, 125, and 86 at the end of the four preceding months, had further declined to 62 at the end of last month; the weekly admissions averaged nine, against 30, 16, 15, and 11 in the four preceding months. Erysipelas was proportionally most prevalent in Hammersmith, St. Marylebone, the City of London, Southwark, Bermondsey, and Deptford. The 15 cases of puerperal fever notified during the month included two in Lambeth and two Camberwell.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan boroughs, the deaths occurring in public institutions having been distributed among the various boroughs in which the deceased persons had previously resided. During the four weeks ending April 30th the deaths of 5784 persons belonging to London were registered, equal to an annual rate of 16·2 per 1000; in the three preceding months the rates had been 17·2, 18·2, and 16·7 per 1000. The lowest death-rates in London last month were 9·6 in Hampstead, 12·3 in Paddington, 13·0 in Greenwich and in Lewisham, 13·1 in Wandsworth, 13·2 in the City of Westminster and in Battersea; and 13·4 in Stoke Newington; the highest rates were 20·0 in Poplar, 20·7 in Bermondsey, 20·8 in Shoreditch, 21·7 in the City of London, 22·8 in Southwark, and 23·1 in Finsbury. The 5784 deaths from all causes in London last month included 684 which were referred to the principal infectious diseases; of these, seven resulted from small-pox, 308 from measles, 31 from scarlet fever, 53 from diphtheria, 212 from whooping-cough, 13 from enteric fever, one from simple continued fever, and 59 from diarrhœa. The lowest death-rates from these diseases were recorded in Paddington, the City of Westminster, Hampstead, the City of London, Wandsworth, and Lewisham; and the highest rates in Bethnal Green, Stepney, Poplar, Southwark, Bermondsey, Deptford, and Greenwich. Of the seven fatal cases of small-pox registered last month two belonged to Stepney, two to Poplar, and one each to Paddington, Holborn, and Bethnal Green. The 308 deaths from measles were slightly in excess of the average number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Hammersmith, St. Marylebone, Stepney, Poplar, Southwark, Bermondsey, and Deptford. The 31 fatal cases of scarlet fever showed a decline of 15 from the corrected average number; among the various metropolitan boroughs the highest proportional fatality from this disease occurred in St. Marylebone, St. Pancras, Islington, Finsbury, and Lambeth. The 53 deaths from diphtheria were less than one-half of the average number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Finsbury, Shoreditch, Bethnal Green, Poplar, Southwark, and Wandsworth. The 212 fatal cases of whooping-cough showed a decline of 19 from the corrected average number; among the various metropolitan boroughs the greatest proportional mortality from this disease occurred in Chelsea, Stepney, Southwark, Bermondsey, Camberwell, Deptford, and Greenwich. The deaths from "fever," which had averaged 27 in the corresponding periods of the ten preceding years, numbered only 14 last month; the highest death-rates from "fever" were recorded in Paddington, Hammersmith, Fulham, Islington, Greenwich, Lewisham, and Wandsworth. The 59 fatal cases of diarrhœa were 10 in excess of the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in Fulham, the City of Westminster, Finsbury, Deptford, and Greenwich. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases was nearly 15 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 118 per 1000. The lowest rates of infant mortality were recorded in Paddington, St. Marylebone, Hampstead, Stoke Newington, and Holborn; and the highest rates in Kensington, Fulham, the City of London, Poplar, Southwark, Camberwell, and Greenwich.

Obituary.

ÉTIENNE J. MAREY,

PROFESSOR IN THE COLLÈGE DE FRANCE, PARIS, AND MEMBER OF THE INSTITUTE.

BY the death of Professor Marey, which took place at Paris on May 16th, the scientific world is the poorer. Physiology has lost one of its brightest ornaments, a worker who did much to extend its boundaries and added much to the means whereby man is enabled to analyse the secrets of nature, and, above all, to investigate the phenomena of motion as manifested in "organised beings." Marey was the occupant of the chair entitled "The Natural History of Organised Beings" in the Collège de France. He was born in 1830 in the department of the Côte d'Or. He, however, pursued his studies in Paris and after competition he became an *interne* in the Paris hospitals. In his thirtieth year in the fiftieth volume of the *Comptes Rendus*, he published a modest but very important paper, entitled "Recherches sur la forme et la fréquence du pouls au moyen d'un nouveau sphygmographe ou appareil enregistreur des pulsations." This same subject formed his graduation thesis. This year marks the invention of Marey's sphygmograph and this invention at once brought his name before the scientific world.

The graphic method was founded before 1850. Ludwig had invented his kymograph. Helmholtz in 1850 had measured the velocity of a nerve impulse in the motor nerve of a frog and previously he had recorded and analysed a muscle curve. Vierordt had made an attempt to record the pulse by means of a complicated heavy instrument constructed of three levers, on the principle, as Marey described it, "of the parallelogram of Watt" which he called a sphygmograph. Vierordt had also tried to estimate the velocity of the blood in the arteries. The kymograph of Ludwig, as Marey pointed out, requires a vivisection. Marey's endeavour was to construct an instrument whereby not only the frequency but also the form of the pulse-wave could be determined. He did so and retained for it the name invented by Vierordt. Vierordt's apparatus on account of its inertia did not follow the changes of form of the pulse-wave at each beat; it gave merely the sequence or frequency of the beats. The use of a light lever applied to an accessible artery and kept applied to it at a given pressure by means of a spring is the principle of the lever of the sphygmograph of Marey who was fortunate in finding in Paris in Breguet, the famous clock-maker, some one to construct the recording apparatus on which the lever made its trace. The graphic method from 1860 onwards was greatly extended by Marey. He applied himself to the study of the phenomena of the circulation and respiratory movements, and invented various forms of cardiograph to record the heart's impulse, manometers to measure the blood pressure, besides pneumographs, stethographs, thermographs, and myographs. By using tambours filled with air which were applied over a moving part—receiving tambours—he was able to transmit movements in tubes filled with air to recording tambours

PROFESSOR E. J. MAREY.

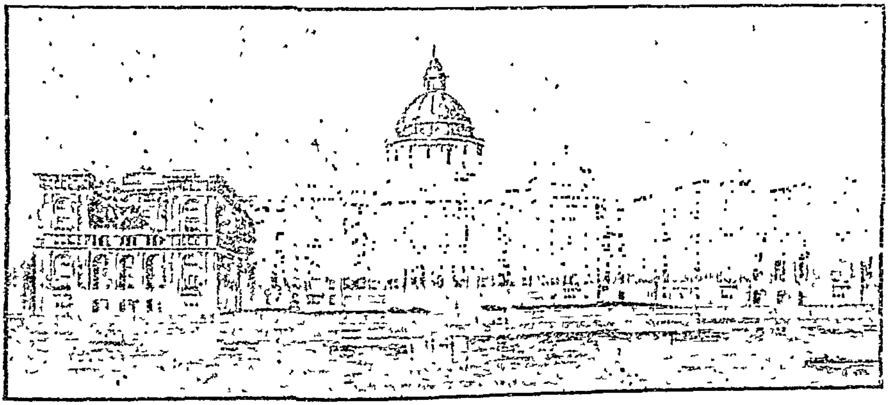
and thus to register movements at a distance. The cardiographic records of the beat of the heart obtained by Marey and Chauveau in 1863 are to be found in every text book of physiology. They introduced a "cardiac sound" through the external jugular vein of a horse and by means of a series of air filled ampullæ were able to record the rate, sequence, force, and duration of the events that make up a cardiac cycle. Thus, as Marey pointed out, movements inaccessible to touch and sight were made visible and could be recorded. Muscular contraction was also studied by means of a simple myograph and so were the movements of man and animals, the mechanism of walking, and all forms of progression; the flight of birds and insects was submitted to accurate scientific analysis by means of this method.

Marey had the great merit of introducing into France the *graphic method in its application to biological problems.* He developed and extended its usefulness and made a method of the laboratory the common property of every clinician and medical practitioner. In 1875 Marey made the important discovery of the refractory period of the heart. Bowditch had shown the phenomenon of the "treppe," or staircase, and had previously defined adequate and inadequate stimuli for the heart by means of a frog manometer. Marey arrived at his results by recording the beat of the frog's heart by means of a special *pince cardiaque.* He published many papers in the various journals and in the *Comptes Rendus.* His works on the "Circulation of the Blood," on "Movement," "Animal Mechanism," and "The Graphic Method" are familiar to every physiologist. He applied the photographic method extensively for the study of movements, as in the flight of birds and progression in man and animals. With him instantaneous photographs became the handmaiden of analytical science.

Marey, although trained as a physician, soon diverted to the study of physiology or at least to that department of it which he cultivated with such success. He was elected to the chair in the Collège de France in 1867 previously held by Flourens, and this enabled him to pursue his studies in his own way. His investigations were made chiefly on physical lines; he left out of count the chemical problems and those of histology. Some years ago he ceased to lecture, though he continued his investigations, his lectures being undertaken by François-Franck. For over a year Marey had but indifferent health; he suffered from gall stones and also from phlebitis. Throughout his illness he, however, still maintained his interest in the affairs of the Collège and in those of the Académie des Sciences. Marey, by his character, by his personal attraction, by his work, by his discoveries, and by his modesty, was a man who was beloved by all who had the pleasure of knowing him. His fame will rest on his successful endeavour to apply the graphic method to the investigation of biological science.

THE PROPOSED NEW BELLEVUE HOSPITAL IN NEW YORK CITY.

BY the courtesy of the editors of the *New York Medical Journal* and of the *Philadelphia Medical Journal* we have been favoured with advance proofs of a description of the proposed new Bellevue Hospital and with an illustration of the same which we reproduce. The following details give the salient points of the proposed building. It is designed to occupy three full city blocks, from Twenty-sixth to Twenty-ninth streets and First Avenue to the East River. It is claimed that it will be the largest, handsomest, and most completely equipped hospital in the world and will accommodate some 2500 patients. Quarters are to be provided for over 100 physicians. The building material is to be Harvard brick with light stone trimmings. The building is to be H-shaped and from the prospectus that has been prepared by the architects is not in general outline unlike the Capitol in Washington. The main part of the building will be 150 feet or more back from the river, and the wings running out on each side will form a large court. The 13 pavilions will be under one roof, but between them will be covered arcades to allow a free circulation of air. Only four of the pavilions will face on First Avenue, and they will be used for the alcoholic, insane, and other psychopathic patients, leaving to the others the benefit of the view and the air on the river. With the exception of the dome over the main part of the building and the curved roofs over four of the pavilions, which the architects, it is said, have added to accentuate the pavilions and to lend architectural support to the dome, all the roofs are flat. Roof gardens will be used by convalescent patients who will be carried directly to the roof in seven elevators. These roof gardens will have temporary wards which will accommodate 100 patients. The roof will be surrounded by a parapet four feet in height. The five upper floors of the south wing will contain the medical wards. The limit of each ward will be 25 patients, but several rooms will be connected with each and may be filled with beds if necessary. The service rooms connected with every ward will be complete and modern in equipment. A pavilion which will be near the present entrance to the hospital will have the three lower floors given over to the ambulance department and carriage house. The upper part will contain the medical amphitheatre with accommodation for 200 students. The five upper floors of the north wing



Eastern front of proposed new Bellevue Hospital.

will contain the surgical wards. The surgical amphitheatre will be equipped with ten small operating rooms all within easy access of the various wards and complete in every detail. The hydropathic department, designed to surpass that of any public or probably even private institution and to contain bathrooms for both employés and patients, will be on the ground floor of the central pavilion. It will be equipped with all modern apparatus for the treatment of disease by water and will be one of the most remarkable new features of the hospital. There will also be an elaborate system of balconies on all sides of the hospital. Each of the 92 wards will have either an open or an inclosed balcony of sufficient size to accommodate all the patients in each ward at one time. Two enormous covered arcades facing the river will accommodate all the patients in the hospital at one time if necessary.

THE SERVICES

Royal Navy Medical Service.

In accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet Surgeon John Dowson has been placed on the Retired List (dated May 14th, 1904) and Fleet Surgeon Henry Harries has been placed on the Retired List at his own request (dated May 21st, 1904).

Royal Naval Volunteer Reserve.

The undermentioned appointments have been made:—Robert Meredith Littler to be Surgeon. Honorary Surgeon Charles O'Brien Harding to be Honorary Staff Surgeon (dated May 17th, 1904).

Royal Army Medical Corps.

Lieutenant N. E. Dunkerton, from the Seconded List, to be Lieutenant (dated May 2nd, 1904). Lieutenant-Colonel R. C. Gunning retires on retired pay (dated May 25th, 1904). Lieutenant-Colonel J. T. Carey retires on retired pay (dated May 25th, 1904). Surgeon-Major W. C. Beevor, C.M.G., from the Scots Guards, to be Major, with seniority next below R J. A. Durant (dated May 25th, 1904).

Indian Medical Service.

The King has approved of the following promotions among officers of the Indian Medical Service made by the Government of India:—Captains to be Majors (dated Jan. 30th, 1904): *Bengal Establishment:* Bruce Gordon Seton. *Madras Establishment:* Robert Henry Elliot, Robert King Mitter, and Wilfred Ernest Arbuthnot Armstrong. Lieutenants to be Captains (dated Jan. 29th, 1904): Charles William Francis Melville, Robert McCarrison, James Masson, Norman Septimus Wells, William Morris Anderson, Edmund Hamilton Blake Stanley, William Hugh Leonard, Andrew Watson Cook Young, James Graham Goodenough Swan, Robert McLauchlan Dalziel, James Jackson Robb, Shaik Abdur Ruzzak, and Robert Basil Boothby Foster.

The King has also approved of the retirement from the service of the undermentioned officers: Colonel Christopher William Carr Calthrop (dated April 2nd, 1904) and Lieutenant-Colonel Thomas Henry Pope (dated March 1st, 1904).

Army Medical Reserve of Officers.

Surgeon-Major J. Adam to be Surgeon-Lieutenant-Colonel (dated May 3rd, 1904). Surgeon-Captain J. H. G. Whiteford to be Surgeon-Major (dated May 7th, 1904).

Volunteer Corps.

Rifle: 2nd Volunteer Battalion the Northumberland Fusiliers: Supernumerary Surgeon-Lieutenant (Honorary Lieutenant in the Army) J. Clay to be Surgeon-Captain (dated May 21st, 1904). 1st Volunteer Battalion, the Northamptonshire Regiment: William Peart Thomas to be Surgeon-Lieutenant (dated May 21st, 1904).

Royal Army Medical Corps (Volunteers).

The Manchester Companies: Lieutenant W. R. Matthews to be Captain (dated May 21st, 1904), and Harry Washington Pritchard to be Lieutenant (dated May 21st, 1904).

The Royal Military Tournament.

The Royal Military Tournament, now being held at the Agricultural Hall, Islington, N., has become one of the events of the London season and this year promises to eclipse all previous exhibitions excellent though they have been. The pageant represents the rise of the Royal Artillery from the days of the Black Prince to the present time, and for novelty there is "push-ball" with mounted players. A very satisfactory feature of the present tournament is the wider scope which has been allowed to the Navy to exhibit its wonderful agility and smartness, qualities which the public are never tired of witnessing. Surgeon-Lieutenant-Colonel W. R Crooke-Lawless of the Coldstream Guards is the Principal Medical Officer.

The War in the Far East.

Amid the various rumours and often conflicting statements that are being published in the press of this and other countries it is extremely difficult, if not altogether impossible, to form any adequate idea of what is actually taking place in the Far East We know little or nothing of the numerical strength of the Russian forces (except that they are big) or of what has become of the vast reinforcements alleged to have been sent east along the Siberian railway; and with regard to the strength and disposition of the Japanese forces in the field we can only form a very rough approximate estimate, while we know next to nothing of their strategical movements. The situation must always be read by the light of accomplished facts in the past and with the aid of maps and the exercise of a good deal of the "scientific imagination." The educated classes in Russia are said to have lost all faith in the official reports from the scene of war, but at the present time we are nevertheless learning more of the whereabouts of the Japanese from Kouropatkin than from Japanese sources. Whatever may have been the losses which the belligerent armies of both sides have suffered up to the present time, it is scarcely conceivable that these should not mount up to a grave total as the war goes on and the heat increases. We must remember possible outbreaks of epidemic sickness, the privations incident to warfare, and the neglect of hygienic precautions or, what amounts to the same thing, the impossibility of carrying them out under the conditions of such a war as that now going on. General Kuroki reports that the exact number of Japanese casualties in the battle of the Yalu was 318 killed, including five officers; and 783 wounded, including 33 officers. The Russian dead buried by the Japanese numbered 1363, whilst there are 613 prisoners. There does not seem to have been any fighting on a big scale since that on the Yalu and to be decisive in character in such a war as this big fighting must occur. Losses in affairs of outposts and reconnaissances are to be expected, but they only serve at best to indicate the preliminary movements of the belligerents and the possible site of a coming battle.

Information is forthcoming from the chief military medical committee that the organisation of measures to combat possible outbreaks of infectious diseases in the Russian army in the Far East is completed. Disinfecting chambers are already at the theatre of war and a large quantity of vaccine lymph has gone forward. Between the outbreak of war and May 1st there have been only three cases of small-pox at Chita, 14 at Verchneudinsk, and 15 at Ailanae. Orders have been issued that all spring waters used by the troops are to be carefully guarded, and if water must be taken from wells such water must first be tested by medical men.

On May 14th a gathering of medical men in St. Petersburg entertained and fêted Dr. M N. Chrabrostina and Dr. M. L. Banschikova of the ill-fated warships *Variag* and *Koreetz* respectively that were destroyed by the Japanese at Chemulpo. Accompanied with appropriate compliments they were presented with gold medals inscribed "To the honoured guest."

The *Novoe Dnya* of Kieff reports that of the 30 medical men of the reserve forces just called up in the Kieff military district 26 were Jews.

On May 14th, according to the *Novosti*, there were in the Red Cross hospitals in the Far East 6200 beds, whilst 2070 were on the way and 2700 were in preparation.

The *Novoe Vremya* reports an outbreak of fire at the headquarters of the Russian Red Cross Society in St. Petersburg on May 16th. The fire, which broke out at 7 P.M., was checked by the firemen on the third floor where it broke out.

A *Times* telegram states that Dr. Hashimoto, the Emperor of Japan's physician, Dr. Sato, and Dr. Kikuchi have been appointed superintendents respectively of the Tokio, Hiroshima, and Matsuyama military hospitals.

The Tibetan Mission.

In the *Times* of May 24th a special correspondent resumes his interesting description of the advance of the Tibetan Mission to Gyargtse and in doing so pays a tribute to the work of the Indian Medical Service. After the recent fight at the Hot Spring General Macdonald remained for three days at Thuna, says the writer, and then moved on to Guru, "passing over the scene of the sudden climax of the previous Thursday. There were, indeed, still some ugly traces of the tragedy, but everything that was possible had been done to restore the quiet shores of the Bam Tso to their usual quiet aspect, and it reflects no small credit upon the management of the Indian Medical Service that the wounded of the enemy were already so well cared for that numbers of wounded Tibetans had of their own motion applied for treatment by ourselves at Guru and the Hot Spring. Only the night before one or two had evidently been unable to drag themselves further and had fallen and died within a few hundred yards of our outposts. Many of the prisoners declined to accept their freedom and have remained at their own urgent request as coolies or dhooly-bearers in our service." Describing Kala Tso, which is the remnant of a vastly greater lake, the *Times* correspondent says: "The most remarkable thing was the evidence of a very large population in earlier days which the almost continuous string of ruined walls and villages supplied. For a space of nearly two miles the hillside of the road—which clings still to the mountains in avoidance of the now vanished lake—is marked by a wilderness of great round building pebbles dropped from the walls and houses of a lost civilisation, and still marked by lines of crumbling structure held together in the semblance of their first shape by dry layers of mud mortar. As with most things in Tibet, there are many reasons suggested for this wholesale desertion. Small-pox, the subsidence of the lake, the Mongol invasion, the ultimate inability of the inhabitants to adjust themselves to so wretched and inhospitable an environment, perhaps also the closing of the trade routes over the Sikkim passes—all may have had their effect."

THE AMIR OF AFGHANISTAN'S LATE INJURY.

The political value and importance attaching to the professional services which medical officers in India have from time to time rendered occupy a place in the past history of that country. The latest instance to be added to the record is that connected with the Amir of Afghanistan. His Highness wounded his left hand last month by the accidental explosion of a firearm and the injury was followed by the formation of an abscess, a process which was naturally attended with considerable pain. The Amir applied for the services of a European surgeon, whereupon Major R. Bird, the surgeon attached to the staff of the Viceroy of India, journeyed to Cabul and did all that was surgically speaking necessary for the rapid relief of the patient, who has expressed the greatest gratification for the services rendered.

THE PRIVATE FEES OF GOVERNMENT MEDICAL OFFICERS IN INDIA.

On page 1538 of our present issue our Special Correspondent in India gives the text of a notification of the Governor General in Council regarding the remuneration of medical officers for attendance on native chiefs, nobles, and native gentlemen of high position in a native State. The notification is one having an important bearing.

The latest report of the Sanitary Commissioner of India states that 29 per cent. of the mortality of the Indian European Army is due to enteric fever.

DEVON AND EXETER BENEVOLENT SOCIETY.—At the annual meeting of this society held at Plymouth on May 12th under the presidency of Dr. E. B. Thomson grants were made to four widows who applied for assistance. This society was founded in 1806 for the benefit of widows and orphans of medical men who have practised in the city of Devon and who have failed to leave adequate provision for their families upon their decease. The annual subscription is small and the benefits are great. Canvassing for votes is not necessary. All urgent cases are immediately relieved. At the next annual meeting such claims are considered and a yearly grant is made which is regulated according to the available funds of the society. There is a

give further information respecting the society upon request.

Correspondence.

"Audi alteram partem."

THE TENURE OF OFFICE OF THE MEDICAL OFFICER OF HEALTH.

To the Editors of THE LANCET.

SIRS,—The letters upon the above subject which have been appearing in recent issues of THE LANCET disclose conditions which ought not to be allowed to continue and I echo the sentiment of one correspondent in hoping that you will assist us in securing reform. As one of the honorary secretaries of the Incorporated Society of Medical Officers of Health I have perhaps exceptional opportunities for knowing how much the public generally suffer in some districts because the medical officer of health has to trim his reports to suit the whims of members of the council which elects him. The President of the Local Government Board is, I believe, in sympathy with us to a certain extent, but I cannot think he is altogether aware how much public health administration in small towns and rural districts is handicapped owing to the ease with which a medical officer of health who is not sufficiently complacent can at present be got rid of. If Mr. Long would institute a confidential inquiry among medical officers of health I am convinced that he would realise that some alteration ought to be made not solely in the interests of the medical officer of health but so that the Public Health Acts may be administered in a less lax manner than is the case now in many parts of England and Wales.

I am, Sirs, yours faithfully,

Hereford, May 24th, 1904. HERBERT JONES.

To the Editors of THE LANCET.

SIRS,—My own experience on this subject may be of interest to your readers. In March, 1901, I was appointed medical officer of health to a large combined district for a period of three years. The area comprises four urban and five rural districts. The appointment was a whole-time one but carried with it the post of medical superintendent to a joint hospital board. My predecessors have been appointed or reappointed for periods of either three or five years. About three weeks before the expiration of my term of office delegates from the various councils met to consider my reappointment. The delegate from *one* of the councils at once informed the committee that the council which he represented would refuse to remain in the combination should the reappointment be made for more than one year. No reason was assigned for this action. The other delegates thought it better to agree rather than run the risk of breaking up the combination. The Local Government Board professed to be unable or unwilling to interfere but expressed the hope that a longer term would be substituted at the next reappointment.

I am, Sirs, yours faithfully,

May 18th, 1904. X. Y. Z.

MEDICAL DEFENCE: A PARALLEL.

To the Editors of THE LANCET.

SIRS,—A parallel occurs to me:—

"A good deal has been said to-day about the man who is not a member of the British Medical Association. I venture to say I have no sympathy with him; he

of the British Medical Association.

Sec. Watch: How if a' will not

together, and thank God you rid of a knave.—*Much Ado ab Nothing*, act iii., scene iii.

I am, Sirs, yours faithfully,

May 23rd, 1904. F. BACON.

A WORD OF THANKS.

To the Editors of THE LANCET.

SIRS,—May I through the medium of THE LANCET thank all those who sent me votes for Mrs. Georgina Skinner for the Royal Masonic Benevolent Institution for the Widows of Freemasons and for their response to the appeal which was published in THE LANCET of April 30th? The election took place on Friday last and our candidate was successful with 3809 votes, being third of the 35 (from a list of 63 candidates) who were elected to receive the benefits of the institution.—I am, Sirs, yours faithfully,

HAROLD S. SINGTON,
Secretary, St. Luke's Medical Lodge of Instruction.
St. Mary's Mansions, W., May 23rd, 1904.

A SLIP.

To the Editors of THE LANCET.

SIRS,—I shall be much obliged if you will kindly insert the following statement in your next issue. In my address to the Royal College of Physicians on March 28th I inadvertently spoke of Dr. George Oliver, who has recently founded and endowed the Oliver-Sharpey lectureship at the Royal College of Physicians of London, as *formerly* of Harrogate, an expression which may, I am afraid, lead the Fellows of the College and others who may see my address to conclude that Dr. Oliver has left Harrogate. He informs me that he has no intention of leaving and that he will in the future, as during the last 15 years, reside and practise as a consulting physician in Harrogate during the summer months from June to October. Regretting the mistake I made and the annoyance I fear it has occasioned to our benefactor,

I am, Sirs, yours faithfully,
Belford, Northumberland, May 24th, 1904. W. S. CHURCH

SEPTIC CONJUNCTIVITIS.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Nov. 7th, 1903, you published some clinical notes I had made on a condition I described as "septic conjunctivitis." My attention has recently been drawn to an article by Parinaud on Infective Conjunctivitis and a review thereof in the May number of the *Ophthalmic Review*. The description given corresponds exactly with what I gave in my paper—constitutional disturbance, resemblance to trachoma, ptosis, non purulent discharge, affection of the preauricular glands, usually uniocular, therefore probably not very contagious, suggestion of animal infection, and slow complete recovery. No one reading the two accounts could doubt for a moment that the same condition was being described. The point to which I wish now to draw attention is that it is by no means so rare a condition as is suggested by the article in question which states that 20 cases only of this disease have been hitherto recorded, for even in my own practice I have had certainly over 20 cases. The explanation is that this disease is not, as I have before pointed out, differentiated in the English text-books on ophthalmology, so far as I have read, and I venture to suggest that those responsible for future editions would do well to give attention to this point.

I am, Sirs, yours faithfully,
Weymouth-street, W., May 24th, 1904. ROBERT W. DOYNE.

BURNING FROM THE X RAYS.

To the Editors of THE LANCET.

SIRS,—In the recent trial of the case of Smith *v.* Pare it was stated that the burns caused by the x rays are the most intractable known. In my experience at this hospital I have not found it so, although at first I certainly had some difficulty in curing them. But since I have used the following ointment I have found them amenable enough to treatment and the dermatitis soon disappears. Formula: Plumbi oxidum, one drachm; zinci carbonas, two drachms; glycerinum, one drachm; oleum olivæ, half a drachm; adeps benzoatus, to one ounce. The ointment to be applied freely.

I am, Sirs, yours faithfully,
H. LYLE,
Senior Surgeon to the Liverpool Hospital for Cancer and Skin Diseases.
May 24th, 1904.

THE OLD HARDSHIP OF LONDON MEDICAL STUDENTS.

To the Editors of THE LANCET.

SIRS,—In reply to your correspondent "Hard Lines" in THE LANCET of May 21st, I should like to point out that, though everyone will sympathise with him in his inability to pass all the final subjects at one time and more especially on account of the untoward circumstances which prevented him taking the examination at a time when he would perhaps have found it easier to do so, the position really only emphasises the greater amount of sound knowledge required for the degrees of those universities where the system of requiring all the final subjects to be passed at the same time obtains. It is comparatively easy to cram up one subject, to pass in that, and then while partially forgetting this to go on to another. It is surely most important that a man should be able to retain a good knowledge of all the final subjects and those who have shown themselves able to do so, whether from harder work, longer study, or greater ability, have a right to have the fact recognised to some extent

I am, Sirs, yours faithfully,
JUSTICE TO ALL.
May 23rd, 1904.

THE GERMAN CONGRESS OF INTERNAL MEDICINE.[1]

(FROM OUR BERLIN CORRESPONDENT.)

THE German Congress of Internal Medicine met this year at Leipsic from April 18th to 21st, Dr. MERKEL (Nuremberg) being in the chair. The official subject of discussion was

Arterio sclerosis.

Professor MARCHAND (Leipsic) said that arterio-sclerosis was a degenerative process, although inflammation or production of new tissue might sometimes happen. A distinction must be made between arterio-sclerosis, hypertrophy of the media, and syphilitic arteritis. Arterio-sclerosis was caused by functional hyper-exertion of the vessels and by accidental general or local causes, such as general impairment of nutrition, toxic and infectious processes, heredity, and influence of temperature. A certain form of sclerosis of the aorta, especially of the media and intima, was caused by syphilis and in some cases gumma might develop in the walls of the aorta; this form was termed meso-aortitis productiva (Chiari). Superficial atheromatous degeneration of the intima of the aorta in youthful individuals must be regarded as a symptom of the process. The degeneration of the elastic elements produced a more or less diffuse extension of the walls of the artery. Arterio-sclerosis was not seldom associated with hypertrophy of the left ventricle as a sequel to the general increase of resistance in the circulation. The process should be termed athero-sclerosis or sclero-atherosis of the arteries.

Professor ROMBERG (Marburg) said that the most important alteration of sclerosed arteries was the deficient elasticity which was somewhat overcome by aneurysmal dilatation of the lumen; the circulation was also hindered by the narrowing and lengthening of the sclerosed arteries. A slight hypertrophy of the left ventricle was somewhat rare and was present only in marked sclerosis of the aorta and the splanchnic arteries. With regard to the symptoms of arterio-sclerosis he said that sclerosis of the coronary arteries might produce angina pectoris and cardiac asthma; sometimes the disease showed only the uncharacteristic symptoms of chronic cardiac failure. The kidneys were sometimes affected with chronic interstitial inflammation complicated by insufficiency of the hypertrophied heart. The effects produced on the nervous system included neurasthenic troubles which occurred in the primary stage and might eventually lead to insanity. Diseases of the sensory organs and of the gastro-intestinal canal were rare. The resulting disorders of the nerves of the extremities and the general vaso motor neuroses were very interesting; intermittent claudication might be the first symptom of arterio-sclerotic gangrene. For the localisation of the disease in the different parts of the body the functional effects were important and not merely the anatomical lesions. Apart from general bodily over-fatigue substances which acted injuriously on the nervous system might cause the disease; over indulgence in tobacco, spirits, coffee, and tea was especially prejudicial because they produced considerable alterations in the tonicity of the blood vessels. Arterio-sclerosis was not due to senility but to exhaustion. Everything which tended to diminish the strength must therefore be avoided. Sufficient sleep and rest, with limitation of tobacco, spirits, coffee, and tea, should be recommended and residence in the country was desirable. Meat should be eaten sparingly. With regard to spa treatment, alkaline waters and those containing chloride of sodium were the most advisable. The administration of potassium iodide was excellent in the *early stages of the disease, in attacks of angina, and in* cardiac failure. It must, however, be remembered that the drug was unable to cure the anatomical lesions. It should be given in small doses for a somewhat long time. There were no other medicines of much use in arterio-sclerosis. Nitrites and nitro glycerine only relieved symptoms. Digitalis and strophanthus might be given but in small doses only. Bathing in water charged with carbonic acid gas was beneficial in the beginning of cardiac insufficiency or in partial recovery after serious attacks. Gymnastic methods of strengthening the heart were useful only during convalescence or in the case of corpulent patients.

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[1] For this report we wish to tender our thanks to the editor of the *Deutsche Medicinische Wochenschrift*, through whose courtesy it has been forwarded to us by our correspondent.

Professor KLEMPERER (Berlin) directed attention to the fact that arterio-sclerosis was prevalent in the medical profession because the work of the medical man often prevented him from having sufficient rest and regular meal times.

Professor VON NOORDEN (Frankfort) recommended a 5 per cent. alcoholic solution of nitro-glycerine in cases of arterio-sclerosis with high blood pressure. He saw sometimes the pressure decrease from 200 to 120 millimetres of mercury, the effect lasting for from eight to 14 days. The recommendation made by Dr. Rumpf—namely, the exclusion of calcium salts from the food—was in his opinion unsound when regarded from a therapeutic point of view and hardly possible to carry out in practice.

Dr. SCHOTT (Nauheim) insisted on the coincidence of arterio-sclerosis and insufficiency of the aortic valves. Tobacco, wine, and strong beer were, he said, the principal causes of the disease. He was opposed to the dietetic prescriptions of Dr. Rumpf because they often produced neurasthenia. Temperate habits and a mixed diet of good quality were the best therapeutic agents. Carbonic acid

never injurious. A 1 per

sometimes beneficial.

xpressed the opinion that neurasthenia was not so often a cause of the disease as was believed by Professor Romberg. Neurasthenia was, on the other hand, the first symptom of arterio-sclerosis. Spirit-drinking must be avoided entirely but tobacco-smoking in moderation might be allowed. *Iodine might be prescribed* but digitalis would better be avoided.

Professor FRAENKEL (Berlin) discussed the influence of infectious diseases and especially of their toxins on the genesis of arterio-sclerosis. The thrombosis which occurred in the course of infectious diseases might be a symptom of toxic alterations of the walls of the blood-vessels. He had never observed arterio-sclerosis in children. Referring to the "dysbasia angio sclerotica," described by Professor Erb, he directed attention to the so-called "dysphagia angio-sclerotica" which was characterised by meteorism, severe pains in the abdomen, giddiness, and fœtid stools. In asthma a combination of digitalis and morphine was recommended.

Professor SATTLER (Leipsic) spoke of the localisation of arterio-sclerosis in the retinal arteries. In grave cases hæmorrhages and emboli of the central artery were frequently present.

Dr. ERB, jun. (Heidelberg), said that Dr. Nissel and himself had made experiments on the artificial production of arterio-sclerosis by injections of adrenalin. He found, as had been stated by French authors, that after a few injections white spots in the walls of the vessels, small aneurysms, and real atheromatous ulcers were produced. On microscopical examination hyperplasia of the endothelium, formation of cartilaginous tissue, and rupture of the elastic fibres were found.

Dr. BAHRDT (Leipsic) reported that in a Leipsic life insurance company during the past 11 years the mortality from arterio-sclerosis and its sequelæ (apoplexy, gangrene, &c.) was 22 per cent. of the insured in general, the mortality from tuberculosis being only 7 per cent.; the latter disease was steadily decreasing whilst arterio-sclerosis had a tendency to increase.

Dr. HOPPE SEYLER (Kiel) read a paper on the pathological conditions of the pancreas in arterio sclerosis. He said that the acini of the gland became atrophied by hyperplasia of the connective tissue.

Dr. GRODEL (Nauheim) read a paper on the value of determinations of the blood pressure in the treatment of arterio-sclerosis. In 500 cases of well marked arterio-sclerosis he found that in 35 per cent. there was no increase of the blood pressure and that in 18 per cent. the pressure was very slightly increased. In the cardiac insufficiency of persons suffering from arterio-sclerosis when the blood pressure was normal digitalis and carbonic acid baths might be administered just as to other patients suffering from cardiac diseases. When the blood pressure was increased small doses of digitalis might be given for a somewhat long period. The carbonic acid baths, though not of the same advantage as in cases of normal blood pressure, were nevertheless useful; they must, however, be of short duration. It was only in cases where the cardiac insufficiency was very great and a tendency to apoplexy and embolism was present that they were absolutely contra-indicated.

(To be continued.)

CHOLERA IN MESOPOTAMIA AND PERSIA.

(FROM THE BRITISH DELEGATE TO THE OTTOMAN BOARD OF HEALTH.)

IT is a matter for sincere congratulation that there has been so far no revival in the present year of the outbreak of cholera which was the cause last year of so many deaths in the Syrian and Aleppo vilayets of the Turkish empire. Rumours have been current from time to time of the reappearance, or of the continued existence, of the disease in Aleppo and elsewhere but they have never been substantiated. In Mesopotamia, on the other hand, and in the adjoining portions of Persia there can be no doubt that an epidemic of considerable, though by no means alarming, proportions is in progress.

Since the date of my last letter[1] there has been no diminution of the disease in Basra, while it has made its appearance in several places on the Tigris and Euphrates and has slightly extended its area of prevalence in Persia. In Bagdad there has been no known case of cholera since April 6th and it is believed that the outbreak is truly at an end there. The river quarantine at Garara and the land quarantines imposed by the local authorities at Khan-beni-Said, at Mahmudie, and at Feloudja have been suppressed.

The following statistics for Basra are in continuation of the table in my last letter:—

From April 11th to April 14th ...	13 cases	17 deaths.
„ „ 15th „ „ 23rd ...	34 „	31 „
„ „ 24th „ „ 26th ...	18 „	17 „
„ „ 27th „ May 5th ...	37 „	35 „
On May 6th	7 „	4 „
„ „ 7th	3 „	2 „
„ „ 8th	9 „	9 „
„ „ 9th	11 „	4 „
„ „ 10th	8 „	2 „

The total number of known deaths in one month was consequently 121. The difficulty met with by the local authorities in obtaining knowledge of all the cases which occur is shown by the fact that of this total of 121 deaths no less than 69 only became known to them after death had occurred.

Cholera appeared at Samawa, on the Euphrates (south of Kerbela), on or about April 17th. Between that date and the 23rd 11 cases and eight deaths were reported to have occurred there. No fresh news was received thence until the 29th, when 1 case and 5 deaths were reported; on the 30th there were 4 cases and no deaths; on May 1st 4 cases and 1 death; from May 2nd to 4th one case and three deaths; and from the 5th to the 8th seven cases and ten deaths. The outbreak is apparently increasing rather than decreasing at Samawa. On April 29th the disease appeared at Nasrieh, a place on the Euphrates about half way between Samawa and the junction of the river with the Tigris. Up to May 7th there had been 17 cases and ten deaths there. On May 10th an imported case occurred at Gourna (? Korna, at the junction of the two rivers) in the person of a marine who had come from Basra and died after 14 hours' illness.

Cholera has also been reported from Djivarir, Hamar, and Remineh, places which are not marked on the maps at my disposal but which are certainly in the neighbourhood of the places already mentioned. At Djivarir (also called Ivdjivar) 14 cases and eight deaths occurred between April 28th and May 1st. At Hamar four cases and five deaths were reported between April 30th and May 1st; and at Remineh 11 cases and three deaths on May 2nd and 3rd.

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[1] THE LANCET, April 23rd, p. 1153.

Unfortunately little is known of the course of the disease on the Persian side of the Turco-Persian frontier. All that is known so far is that it appeared at Kermanshah in the first week of April, that six cases and four deaths had occurred there before the 9th of that month, that one more death was recorded in the week ending on April 19th, and that on the 20th five cases and four deaths were reported. No later news has been received from the sanitary officer there, but on May 2nd the Turkish Consul telegraphed that no further cases had been observed at Kermanshah, but that at Kenadir 19 cases and nine deaths had occurred. The last named place is difficult to identify. Possibly it is the same as Kengover where it was reported on April 26th that up to that date 28 cases and 16 deaths had occurred in the preceding 18 days. At another obscure place called Heyaver in the telegrams five cases with five deaths were said to have occurred on April 20th. It is obvious from these irregular and scanty sources of information that cholera is slowly extending its area of prevalence in Persia, though, as already stated, it has not as yet assumed the proportions of an alarming epidemic.

Constantinople, May 14th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Medical Officers and Native Chiefs: Government Order.—The Plague Epidemic.—A New Disinfectant for Plague.—The Accident to the Amir of Afghanistan.

THE following notification is published by the Home Department:—"The Governor-General in Council is pleased to direct that the following shall be substituted for paragraphs 3 and 4 of the Home Department Notification No. 437, dated July 25th, 1893, amended by the Home Department Notifications of 1900 and 1901, regarding the remuneration of medical officers for attendance on native chiefs and nobles and native gentlemen of high position in a Native State. The native chief or gentleman may offer any medical officer of the Government attending him such fee as he thinks fit to make and it will be reported by the medical officer to the political agent or other officer of the Government exercising political functions in the State of which the said chief, noble, or gentleman is a resident for the consideration of the local government within whose jurisdiction the native state is situated. This report will state the period during which he was in attendance and the number of visits paid. The medical officer will at the same time submit to the administrative medical officer or inspector general of hospitals to whom he is subordinate a full medical statement of the case showing the nature and extent of the relief afforded, the importance of the case from a professional point of view, and the circumstances in which he attended the patient. The local government is required to satisfy itself that the fee proposed is not out of proportion to the relief afforded and to the circumstances of the case and has authority to sanction the acceptance of a fee not exceeding Rs.2000. In considering these questions it will if necessary refer to the administrative medical officer or inspector-general of civil hospitals as the case may be. If the proposed fee exceeds this sum the matter will be submitted with a full report by the local government for consideration and orders of the Government. The reports prescribed in the preceding paragraph will not be required from a medical officer when the fee does not exceed Rs.50 a visit or Rs 1000 in the aggregate for repeated visits in the course of a year." It is difficult to see what reasons have determined the Government to exercise this interference with the private practice of civil surgeons. The new order reflects severely upon medical officers of the Government, and no reasons are given for it. It will lower the estimation in which the Indian Medical Service has hitherto been held by the natives of India. The following quotation from an important native paper in Calcutta gives some idea of the views of the natives on this new order. "The recent regulations regarding fees charged by medical officers for attendance upon native chiefs possibly contain more than meets the eye. It is difficult to conceive of the necessity for promulgating such restrictions unless on the assumption that some residency surgeons had taken advantage of their position to charge exorbitant fees for attendance or to take to intriguing under cover of professional visits. In some native States the residency surgeon exercises an influence which is not wholly traceable to his professional skill and we therefore welcome the new regulations which are designed to impose a limit upon the self-seeking of those sons of Æsculapius who are either too extortionate or too intriguing." The base insinuations conveyed in these paragraphs can be ignored but they express an animus against British officials which has been shown far too commonly of late. The profession will undoubtedly regard this new order as the essence of grandmotherly fussiness and when the absurdly small limits for fees are considered there seems to be ample justification for this opinion.

The plague returns for the week ending April 23rd show a satisfactory fall of about 8000 in the plague mortality throughout India. The figures are still very high, the total deaths for last week being 38,748. The principal returns are: Punjab, 24,714 deaths, as against 26,961 for the previous seven days; United Provinces 4279, as against 6197; Bombay *Districts 3723,* as against *5128; Bengal 1439, as against* 1942; Rajputana 1072, as against 1055; Central Provinces 498, as against 704; Central India 732, as against 1288; Bombay city 563, as against 706; Calcutta 440, as against 500; and Karachi 249, as against 294. Kashmir reports 578 deaths. Later reports show that the disease is rapidly declining in Calcutta and Bombay city.

A new form of disinfectant has lately been advocated for plague in a liquid hydrocarbon obtained as a by-product in the manufacture of gas. It can only be used on buildings not easily set on fire. It is a yellow oily-looking fluid, highly combustible, and volatile. In using it all apertures are first closed, then the fluid is sprinkled on the floor and ignited. It blazes up furiously and gives off a thick black smoke. Its virtue is said to be in its destructive power against vermin and obnoxious insects. Rats quit the building and if they cannot escape they die asphyxiated. The great danger attending its use will obviously prohibit its general employment.

For the recent accident to the Amir of Afghanistan the services of the Government surgeon were asked for and Major R. Bird, I.M.S., has proceeded to Cabul. It appears that the Amir had one finger of the left hand severely lacerated by the bursting of his gun. This was the main reason for his asking for surgical assistance from India as the other injuries to his hand were comparatively slight.

May 5th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Hospital Saturday Fund.

THE twenty-fourth annual collection in warehouses, workshops, and other industrial establishments on behalf of the medical charities of the city took place on May 14th. The boxes have not all been sent in yet to the treasurer of the fund, but the amounts received to date (£4416) represent an increase of £800 on the receipts of the same week in last year. Through the agency of the Hospital Saturday Fund the local charities have benefited to the extent of £123,750 during the last 23 years. This sum falls far short of supplying the growing demands of the hospitals and the hope of the committee lies in enlisting widespread sympathy and active coöperation, particularly in organising in each place of employment a regular system of weekly contributions of pence and halfpence. This system has been attended with the most satisfactory results where it has been adopted.

A New Honorary Appointment at the Royal Infirmary.

The committee of the Royal Infirmary has adopted a resolution recommending the appointment of an honorary assistant gynæcologist to the Thornton wards. The post has become a necessity owing to the growth of work in the out-patient department. The election will be made on the same lines as in the other honorary appointments and will be in the hands of the election committee.

The New Chair of Physical Chemistry at the University of Liverpool.

Mr. F. G. Donnan, Ph.D., M.A. Dub., has been appointed to the new chair of physical chemistry at the University of Liverpool.

Health of Liverpool.

During the week ended May 14th 241 deaths were registered, being equivalent to an annual mortality of 17·3 per 1000. There were 472 cases in the city hospitals, including three of small-pox, 315 of scarlet fever, 29 of typhoid fever, 16 of measles, and 49 of diphtheria. In the Brownlow Hill Workhouse Hospital there were 1391 patients.

May 24th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Sanitary Inspection in Rural Districts.

Mr. Wyndham Randall, the medical officer of health of the rural district of Penybont in Glamorganshire, has upon several occasions drawn attention to the need of more systematic sanitary inspection in his district. At the end of last year an inquiry was made for the Local Government [illegible] each to be in the charge of an [illegible] as surveyor. The area of the [illegible] acres and the population is over 1[illegible] decided on May 7th to carry out the proposal of the Board, one member only, a clergyman, expressing the opinion that it was not desirable to appoint another inspector. Hitherto the Local Government Board has opposed the combination of the offices of nuisance inspector and surveyor even in country districts where the duties of the latter officer are often merely those of a road foreman, so that the course taken in connexion with the Penybont district may be a precedent to be followed in other districts.

Failure of Proceedings against a Butcher.

A carcass of meat alleged to be tuberculous was recently seized in Cardiff and proceedings were taken against a butcher for exposing the meat for sale. The stipendiary magistrate dismissed the case because he was not satisfied that there was anything more than technical "exposure for sale." It is now reported that the butcher is claiming damages against the corporation under Section 308 of the Public Health Act, 1875. In the event of arbitration following the result will be of interest if only because a different decision has been arrived at in each of the principal cases which have hitherto been the subject of similar proceedings—those at Birkenhead, Brighouse, and Rhondda.

Winsley Sanatorium.

A meeting of the West of England and South Wales branch of the Incorporated Society of Medical Officers of Health, under the presidency of Mr. J. Tubb-Thomas, medical officer of health of the county of Wiltshire, was held on May 19th at the Winsley Sanatorium near Bath. Dr. L. A. Weatherley described the buildings which contain accommodation for 60 patients. The site of the institution is 600 feet above sea level and commands a magnificent view over Salisbury plain with the Westbury white horse clearly visible 15 miles distant. The buildings are constructed of Bath stone quarried from the estate. Each patient is to have a separate bedroom, which is heated with hot-water pipes on the low-pressure system. The aim of the designers to avoid all angles and ledges has been very well carried out and the sloping of the window-sills and bevelling of the sides of the windows are distinct features in all the rooms. Where so much care has been exercised in connexion with details it is disappointing to find that no cross ventilation has been provided for the water-closets and lavatories; even in modern hotels this very necessary precaution is taken. The cost of the buildings is not by any means excessive; it works out at a little over 6*d.* per cubic foot.

Scarlet Fever Isolation in Cardiff.

At the same meeting Dr. Edward Walford contributed to the discussion which is now going on with regard to the desirability of isolating cases of scarlet fever. He gave the experience of Cardiff and contended that if the question was to be considered from a statistical standpoint it would be safer to rely upon the statistics of one town, comparing the results in that town at different periods according to the amount of hospital isolation carried out. As illustrating the fallacy of comparing one town with another he cited the experience of Swansea, which town has been held up as an instance where very little scarlet fever accompanied little or no isolation and he compared it with the Rhondda urban district where there was also no isolation but where there was an attack rate of 8·7 per 1000 in the five years 1897–1901 and of 16 3 per 1000 and 12·1 per 1000 in 1900 and 1901 respectively. The experience of Cardiff during three epidemics showed that in 1884, when there were no patients isolated, the attack rate was 28 per 1000; in 1892 there were isolated 13 per cent. of the cases and the attack rate fell to 13 per 1000; while in 1902, with 48 per cent. isolated, there was a still further fall in the attack rate to 8 per 1000. The same diminution in the death-rate from the disease occurred in the three periods specified—namely, 1·36 per 1000, 0·65 per 1000, and 0·21 per 1000 respectively. Dr. Walford deprecated the aggregation of acute and convalescent cases in the same ward and for the latter he advocated the provision of separate wards.

"Westrumite" in Swansea.

Swansea is the first place in South Wales where "westrumite" has been used for laying the dust upon roadways. The portion of the Mumbles road which was selected for treatment has been noticeably free from dust and when a motor-car passes along the road the portion untreated can be only too readily distinguished.

Small-pox.

There is one case of small-pox in the Barry Hospital and there are four cases in the Cardiff Hospital from two houses. The last patient to be attacked in Cardiff was infected from a house in which there were four unrecognised cases. The youngest patient from this house was an unvaccinated baby who died in the hospital.

Diphtheria in Bristol.

A systematic search for "carrier" cases is now a part of the routine work of the Bristol health department whenever a particular district of the city is threatened with diphtheria. But as the medical officer of health (Dr. D. S. Davies) has pointed out, the first effect of the house to-house visitation is apparently to magnify the extent of the epidemic, for cases come to his knowledge which he would not otherwise hear of; the ultimate result, however, is a considerable shortening of the epidemic. An outbreak of the disease occurred in Fishponds early in May and 20 unsuspected cases which would probably have been "carriers" followed the investigations made by Mr. J. C. Heaven, the deputy medical officer of health. Some of the local practitioners and others advocate the closing of the schools attended by the children affected, but Dr. Davies's method is distinctly more scientific and he declares it to be more effectual.

Memorial to the late Mr. Joseph Harper of Barnstaple.

The Bishop of Crediton on May 16th dedicated a new choir vestry at St Mary Magdalene's Church, Barnstaple, which has been erected by public subscriptions as a memorial to the late Mr Joseph Harper, L.R C.P. Lond., M R C S. Eng., who for 16 years served as churchwarden.

May 23rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The University of Glasgow and the Thomson Bequest.

AN interesting ceremony took place in the anatomical department of the University of Glasgow during the afternoon of May 18th when a tablet in brass repoussé work was unveiled in commemoration of the grant made by the trustees of the J. B. Thomson bequest which had enabled the University Court to build and to equip the new anatomical department. [illegible] ledged the [illegible] the Thomson [illegible] enabled the [illegible] way an impo[illegible]

[illegible] Bellefield Sanatorium, Lanark.

It has now been definitely arranged that the new sanatorium erected in the Bellefield estate near Lanark by the

Glasgow and District branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis will be formally opened on June 7th. A special train will convey the guests to Cleghorn from which station they will drive to Bellefield. At the conclusion of the opening ceremony a reception will be held, after which the company will have an opportunity of inspecting the grounds and buildings of the sanatorium.

British Medical Association: Annual Dinner of the Glasgow Branch.

The annual dinner of the Glasgow and West of Scotland branch of the British Medical Association was held on the evening of May 20th in St Enoch's Station Hotel, under the presidency of Dr. J C. McVail, the guest of the evening being Mr. Andrew Clark, F.R.C S. Eng., chairman of the Council of the Association. In replying to the toast of "The British Medical Association," proposed by Dr. Ebenezer Duncan, Mr. Clark pointed out that when the Association was founded in 1832, under the name of "The Provincial Medical Association," there were only 50 members on the roll. Now the membership numbered 19,000. There were 37 branches in the United Kingdom and 26 in the colonies and he believed that before long they would have branches in the Orange River State and in the Transvaal. Dr. D C. McVail, in replying to the toast "Other Scottish Branches," proposed by Professor McCall Anderson, referred to the prevalence of quackery and stated that last year the Government pocketed £330,000 for "quack" medicine stamps and that next year the sum would be greatly increased on account of many wholesale makers of medicines being compelled to put stamps on preparations hitherto unstamped. This was a serious question and indicative of the condition of the public mind who were nevertheless kept in ignorance of the progress of medicine and surgery. With the exceptions of the meetings of the British Medical Association medical bodies did not permit reports of their doings to be inserted in the daily press How, therefore, could the public be educated and how were they to know the difference between true medicine and quackery? That was a question for the Association to consider.

Opening of Kingseat Asylum.

Kingseat Asylum, Aberdeen, having been duly licensed by the General Board of Lunacy for the accommodation of patients, was formally declared open on May 14th. Mr. George Murray, chairman of the Aberdeen City District Lunacy Board, performed the ceremony at the close of an inspection of the buildings by the asylum committee of the board. Mr. Murray, in declaring the institution open, said that the cost of the new asylum had frequently been commented upon but it had to be borne in mind that whether the Royal Asylum directors, or the Lunacy Board, or the parish council had to provide accommodation for lunatics the cost had to be met and money had to be expended. The Lunacy Board had decided wisely in advising the construction of an asylum on the newest principles and on the most approved methods, the number of patients being limited to 500 or 700 From Mr. Spence, the secretary of the General Board of Lunacy for Scotland, the following congratulatory letter had been received:—

> I am directed by the board to inform you that on the 11th inst. they made [illegible] the asylum at Kingseat and found that the [illegible] that they were of substantial and econ[illegible] re admirably adapted to their purpose, that they were provided with suitable and comfortable furniture, that the arrangements for heating, lighting, and generally for carrying on the work of the asylum were efficient, that the arrangements for a water-supply, for the extinction of fire, and for the disposal of sewage were satisfactory, and that the asylum was provided with a suitable and adequate staff. The board accordingly resolved at a meeting subsequently held to approve of and adopt the asylum as a district asylum for the Aberdeen city lunacy district.

On May 16th 50 male and 50 female patients were despatched to Kingseat from Aberdeen Royal Lunatic Asylum, 32 male and 34 female patients from the West Poorhouse, and 45 male and 50 female patients from the East Poorhouse.

The late Mr. William Heathe Ferrier.

Mr. William H. Ferrier of Kyle, Ross shire, whose death from a very acute illness is announced, commenced medical study somewhat later in life than is customary, having previously been for ten years engaged in the scholastic profession. It is stated that he was at one time offered, but did not accept, an appointment as private secretary to a nobleman well known as a colonial governor. Mr. Ferrier's medical education was partly received in Glasgow, and in 1895 he became qualified as L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg. He has left a widow and one child.

May 24th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Sir Charles Ball, M.D. Dub., F.R.C.S. Irel.

THE King has been pleased to appoint Sir Charles Bent Ball, Regius professor of surgery, University of Dublin, to be one of His Majesty's honorary surgeons in Ireland in the room of Sir Philip Crampton Smyly, deceased.

The Poor-law Dispensary System in Ireland

The annual general meeting of the Leinster branch of the British Medical Association was held in the Royal College of Physicians of Ireland, Kildare-street, Dublin, on May 19th, when the outgoing president, Dr. J. Magee Finny, delivered an address dealing with the Poor-law dispensary system. He referred to the short-sighted political economy which induced the conclusion of the Local Government Board that the greater the reduction in the population the fewer should be the number of the medical officers. As to the necessity for some form of promotion within the service, he said that two forms appeared to be feasible and desirable, first the natural movement from less lucrative districts to those with richer populations or easier work, and, secondly, a movement from executive to administrative positions. But he entirely disagreed with the idea of making the Poor-law medical service practically a Government department as had been suggested. He was of opinion that the highest administrative posts in the service should be open to the Poor-law officers of Ireland and to a larger extent than at present, and that the system of inspectors of the Local Government Board as now existing is not the best for the service or for the country.

Irish Medical Association.

The annual meeting of the Belfast and District branch of the Irish Medical Association was held in the Medical Institute, Belfast, on May 20th. After the transaction of the ordinary business the following were elected office-bearers for the year 1904-5:—President: Professor J. W. Byers Vice Presidents: Mr. S. B. Coates and Mr. H C. Manley. Secretary and treasurer: Dr. A. G. Robb. Council: Mr. H. D. Osborne, Mr. R Hall, Dr. J. St. C. Boyd, Dr. J. C. Ferguson, Dr. R J. Munn, Dr. W. R. Davison, Dr. A. Mussen, Dr. D. P. Gaussen, and Mr. J. G. Jefferson.

Monaghan and Cavan Asylum.

At a meeting of the Monaghan and Cavan Asylum board on May 19th the resident medical superintendent (Mr. E. Taylor) submitted the thirty-fifth annual report. 1001 patients had been under treatment during the year 1903 82 had been discharged, 61 died (7 1 per cent. of the average number in residence), and there was a high percentage of 34 caused by pulmonary tuberculosis. At the close of the year there were ten patients less than at the beginning. The expenditure had been £22,213 16*s*. (£19,203 12*s*. 10*d*. for maintenance and £3010 3*s*. 2*d*. in repayment of loans). The net cost per head for maintenance had been £21, which was £1 7*s*. 11*d*. less than for the previous year.

May 24th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Nascent State and the Properties of Drugs.

AT the meeting of the Academy of Medicine held on May 9th M. Albert Robin read a most interesting paper. He stated that the therapeutical action of certain synthetic remedies and the special properties of chemical bodies when set free by contact with the tissues are greatly exalted, as indeed are those of all bodies in the nascent state. Solution of hydrogen peroxide is a typical example and has a marked action by means of the oxygen which it gives off. Willstätter has stated that solution of hydrogen peroxide acts like water of crystallisation and forms combinations which will break up into oxygen on the one hand and the crystalline body on the other. Thus it is possible to combine with acetate of sodium 23 parts per 100 of its weight of oxygen, and even alum will combine with solution of hydrogen peroxide. The peroxides are specially interesting as regards the subject of the paper; for instance, the peroxides of calcium or of magnesium set their oxygen free on coming into contact with the gastric juice, or if administered in a keratin capsule the decomposition will be delayed until the intestine is reached. The antiseptic action on the intestinal contents is very marked, especially upon fermentation, and in this way the drug is useful in certain forms of diarrhœa. Unna has employed sodium peroxide in affections of the skin in the form of an ointment of from 3 to 5 per cent. strength. Peroxide of zinc acts in the same way, the action of the nascent oxygen and the nascent zinc being mutually increased. Of other combinations, hypnol or mono-chloral antipyrin containing 45 per cent. of chloral and 55 per cent. of antipyrin acts well in doses of one gramme. Aspirin or aceto acetyl salicylic acid has an analgesic effect much more powerful than either of its two constituents. Quinofortine or quinate of urotropine and sudoral or quinate of piperazine act, on the one hand, by giving up benzoic acid which is changed into hippurate and, on the other, urate of piperazine which is formed in the body and is extremely soluble. These drugs when given so as to be absorbed in the nascent state act very well and it is quite unnecessary to give big doses as is the custom in Germany; small quantities are quite sufficient. Iodide of sulphur has an analogous action. M. Prunier has shown that sulphur and iodide will combine according to the formula $S_{18}I$ and that this drug when administered sets free its iodine by contact with the gastric juice so slowly that no toxic effects are produced. It may be given so as to act in the intestines by being admininistered in keratin capsules. Very small doses, such as from 10 to 30 centigrammes, will lessen gastric fermentation and fœtor of the breath. The acids due to fermentation are markedly reduced Iodide of sulphur acts well in gaseous fermentation but not in cases of butyric fermentation, while in surgery it is useful in the treatment of ulcers of the leg. The double iodide of bismuth and cinchonidine, known under the name of "erythrol," if applied to a wound decomposes into iodine and cinchonidine. It is an admirable disinfectant of putrid wounds, especially such as are cancerous, or in cases of wounds of the mouth. Again, by combining alkaloids such as morphine or cinchonidine with various substances different medicaments may be obtained suitable for varying conditions which will act excellently well owing to the nascent state in which their constituents are given off when they are decomposed.

Occupation Neuritis in a Coachman.

At the meeting of the Neurological Society held on May 5th M. Raymond and M. Courtellemont showed a patient suffering from Polyneuritis of both Hands and Synovitis of the Wrist-joints. There were present among [illegible] ypo-æsthesia, [illegible] were painful [illegible] owing to his occupation as coachman to keep the reins tightly stretched for many hours a day and the paralysis was due to fatigue. The injury was caused in two ways—one by pressure on the nerves from the muscles of the hand and forearm and two by compression of the nerve twigs by the synovitis. M. Raymond and M. Courtellemont concluded their demonstration by pointing out that the signs in this case enabled a diagnosis to be made between a true acroparæsthesia and the symptomatic or false acroparæsthesia which is so often present in cases of peripheral neuritis.

Medical Cases in the Law Courts.

Three cases of medical interest have recently been decided by the courts. The first case which came before the Third Chamber of the Civil Tribunal was shortly as follows. The Baroness de H. engaged Dr. N. as body physician in June, 1902 An agreement was signed for one year, Dr. N. receiving 750 francs per mensem, exclusive of board, lodging, and incidental expenses. After seven months had expired the baroness suddenly dismissed Dr. N. in Paris, through which town she happened to be passing. Dr. N., therefore, promptly summoned the baroness before the court for breach of contract and for summary dismissal, claiming damages to the amount of 5130 francs. The court reduced the damages to 1748 francs, holding that the baroness had a right to dismiss Dr. N. even according to the contract but that the summary manner in which she had chosen to dismiss him was prejudicial to his career as a medical man. The second case which came before the Tenth Chamber was concerned with a medical man who was helped in his consultations by a somnambulist. The point was whether both he and the somnambulist were guilty of the illegal practice of medicine. The Syndicate of Medical Men of the Seine decided that both were guilty and prosecuted Dr. L. and the somnambulist. The court, however, took a different view. Dr. L., they argued, was properly qualified and as he alone was consulted he had committed no offence. But Madame E., the somnambulist, had no right to prescribe and had thus committed an offence. The question then came up, as the [illegible] were they both innocent or both [illegible] came to see Dr. L. he put the [illegible] she dictated a prescription which Dr. L. read over and signed. The patient then took the prescription to the dispensing druggist in the usual way. The accused were fined 200 francs respectively and the court in addition allowed the Syndicate of Medical Men of the Seine 200 francs costs. In the third case a medical man sued a patient for the amount of his bill. The patient replied that on account of the bill having run for two years the debt was statute barred. The court, however, decided that each visit constituted a separate debt and that although some of the visits were statute barred yet some were not. The patient, therefore, was ordered to pay what he owed for such of the visits as were within the period of two years.

May 22nd.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

THE seventy-ninth session of the General Medical Council was opened on Wednesday, May 25th.

The regular day for the summer meeting of the Council is the fourth Tuesday in May but owing to the fact that this year that day directly followed Whitsun Monday the opening of the meeting was postponed until the Wednesday.

The changes in the *personnel* of the Council are due to the retirement of Mr. Bryant and to the appearance for the first time of a representative of the University of Liverpool. Mr. Bryant is succeeded by Mr. Henry Morris as the representative of the Royal College of Surgeons of England, and Dr. Richard Caton of Liverpool is the representative of the University of that city.

Mr. Bryant's period of office as representative of the Royal College of Surgeons of England upon the Council expired last March and he decided not to seek re-election. For many years Mr. Bryant has been one of the most persistent workers on the Council. He has been joint-treasurer, chairman of the Examination Committee, and member of the Executive Committee, and in the discharge of the duties involved he has displayed administrative energy and an unfailing genial courtesy. The medical profession will be glad to learn that Mr. Bryant's connexion with the Council has not quite ceased as he has consented to act as inspector of examinations for the Council during the present year. On personal and on professional grounds, as well as because of his close familiarity with the subject, Mr. Bryant, who will be accompanied by a Fellow of the Royal College of Physicians of London as a visitor, will fill the post admirably and we confess that we are a little astonished to find Sir Victor Horsley objecting to his appointment as he is understood to have done.

WEDNESDAY, MAY 25TH.

The seventy-ninth session of the General Council of Medical Education and Registration opened in the Council

Chambers, 299, Oxford-street, London, W., to-day, Sir WILLIAM TURNER, the President, being in the chair.

An Absent Member.

While the roll was being called the PRESIDENT said he was sorry to intimate that he had had a letter from Mr. Tomes who was so ill that he was not able to attend the meeting of the Council. He thought that they should express their regret.

This was agreed to.

New Members.

Official notification was made of the appointment of Mr. Henry Morris and Dr. Richard Caton as members of the Council, the former by the Royal College of Surgeons of England, in place of Mr. Bryant, retired, and the latter by the council of the University of Liverpool. Mr. Morris was introduced by Dr. Norman Moore and Dr. Caton by Mr. Young.

The President's Address.

[The PRESIDENT commenced his address by welcoming Mr. Morris and Dr. Caton to the Council and by expressing his warm appreciation of the work done by the retiring member, Mr. Bryant, as one of the treasurers, as chairman of the Examination Committee, and as a member of the Executive Committee. He also announced that Mr. Bryant had most kindly consented to undertake the duties during the present year as inspector of examinations in the place of the late Sir George Duffey. He continued :]

At the meeting of the Council on Nov. 27th a committee was appointed to consider the report of the Examination Committee on the questions raised in the reports of the inspector and visitor of the preliminary scientific examinations of the three Conjoint Boards and the Apothecaries' Society of London. Before the termination of that session the committee adjusted the terms of a letter which I addressed to all the licensing bodies in the United Kingdom and to the scientific teaching institutions recognised by them and approved by the Council. During the winter replies were received from the great majority of the bodies and institutions. These replies were summarised in the office by the Registrar, assisted by two of the clerks, and a proof in type was submitted to me early in April. It was obvious, if a report were to be drawn up by the committee, circulated amongst members of Council, and properly considered during the present session, that it would be necessary to call the committee together before the meeting of the Council and to frame a report in which should be embodied the recommendations to be submitted to the Council. This was accordingly done and the report has been for some days in your possession. As two or three additional replies have been received since the report was circulated I propose to hold a meeting of the committee this afternoon, when the Council rises, to make a final adjustment, but I do not think that any material change will be made in the character of our recommendations. All the licensing bodies have now sent in answers to questions. Having an intimate bearing on this report is the amended scheme of professional study for students of the first year and the subjects of and mode of conducting the first professional examination of the Conjoint Board in England which has been adopted by the Royal Colleges of Physicians and Surgeons in London and was intimated to the Council three weeks ago. I do not propose to anticipate the statement which the representatives of the two Colleges intend doubtless to make on the amended scheme further than to say that the report of the Council's visitors to the first professional examination of the Conjoint Board has obviously been carefully considered by the Colleges, and that the suggestions made therein have been in several particulars adopted.

Certain Bills have been introduced into Parliament which bear on the Medical Acts. General Laurie has this session introduced into the House of Commons a Bill to meet the difficulty occasioned by one of the provincial Legislatures in Canada declining to renounce its present power of independent legislation and to consent to the formation of a Register for the whole Dominion, as is provided for, subject to the consent of the local legislatures, in the Canada Medical Act, 1902. This Bill provides that His Majesty may, if he thinks fit, declare by Order in Council that where any part of a British possession is under a central any somew al legislature, as is the case in Canada and previously been fees, the part under the local legislature shall fession. It is stat f the Medical Act, 1886, be deemed a did not accept an session. Should General Laurie's Bill nobleman well known of the Medical Act, 1886, could be medical education wa. applied to any province in Canada which, in the opinion of His Majesty, should afford to registered medical practitioners of the United Kingdom such privilege of practising in the province as to His Majesty might seem just. Bills have also been introduced during the present session of Parliament to facilitate the adoption of metric weights and measures in this country in substitution for our present methods. The interest which as a Council we have in such Bills is in connexion with the British Pharmacopœia and it is not unlikely that the Pharmacopœia Committee may refer to the subject in its report. Mr. Jackson has also given notice of a motion calling the attention of the Council to this matter.

[The PRESIDENT then referred to a statement privately circulated by him concerning the financial position of the Council, and also to certain offers to purchase the Oxford-street property of the Council which are to be considered *in camerâ*. He continued :]

Copies of a decision of the High Court of Justice in Ireland on a question submitted to the Court, whether the word "person" in Section 3 of the Dentists Act, 1878, means exclusively natural person or includes an artificial person, such as a corporation or company have, I understand, been sent to each member of the Council. The question arose in connexion with the case of O'Duffy *v.* Jaffe, when it was contended that the practice of dentistry could not be pursued by a company entitled *Jaffe, Surgeon Dentists, Limited.* The court decided that the Dentists Act as worded is directed against a natural person only and not against a company. The effect of this judgment is to show that a company practising dentistry cannot be prosecuted under the Dentists Act. Since the judgment in the case of O'Duffy *v.* Jaffe was given another case relating to the practice of dentistry by companies has been before the High Court of Justice in Ireland. The case arose on an application for the issue of a mandamus to compel in Ireland the Registrar of Joint Stock Companies to register under the Companies Act, 1862, the memorandum of a company to be styled "S. G. Rowell, Dentist, Limited." An elaborate judgment on the case was delivered by Chief Baron Palles who, with his colleagues, declined to grant the *mandamus*. The questions involved in these cases before the High Court of Justice in Ireland will be brought before the Council by Sir Charles Ball, who will move that the Council take action in terms of his motion. The Council will receive during the session reports from the Executive, Education, Finance, Public Health, Pharmacopœia, and other Committees. Thursday, May 26th, is set aside for the consideration of cases which have been under the consideration of the Penal Cases Committee, and it is satisfactory to note that in all probability they will not occupy more than one day of our sitting.

The President having been formally thanked for his address the Council proceeded with the business of the session.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At the examinations held in May the following candidates passed in the subjects indicated :—

Surgery.—C. W. S. Boggs (Section I.), Leeds; E. Morris, St. Bartholomew's Hospital; M. B. Potts (Sections I. and II.), Leeds; F. P. Rose, London and St. Mary's Hospitals; J. P. B. Snell (Section I.), Middlesex Hospital; M. C. Vivian (Sections I. and II.), Royal Free Hospital; and P. B. Whitington (Sections I. and II.), London Hospital.

Medicine.—A. J. Ambrose (Sections I. and II.), Westminster Hospital; W. S. Gibson (Sections I. and II.), Manchester and Middlesex Hospital; F. W. Higgs (Sections I. and II.), St. George's Hospital; M. B. Potts (Sections I. and II.), Leeds; G. W. Rogers (Sections I. and II.), Cardiff and St. George's Hospital; and A. B. S. Todd (Section I.), Leeds.

Forensic Medicine.—A. J. Ambrose, Westminster Hospital; J. B. Barnes, Manchester; L. F. Cope, St. George's Hospital; A. Lazar, Vienna and St. Mary's Hospital; M. B. Potts, Leeds; G. W. Rogers, Cardiff and St. George's Hospital; H. P. Shanks, St. Bartholomew's Hospital; A. B. S. Todd, Leeds; and S. H. R. Welch, Charing Cross Hospital.

Midwifery.—T. R. Roberts, London Hospital; and L. Sells, St. Thomas's Hospital.

The diploma of the Society was granted to the following candidates entitling them to practise medicine, surgery, and midwifery: W. S. Gibson, F. W. Higgs, and F. P. Rose.

TRINITY COLLEGE, DUBLIN.—At the final examination in surgery held at Trinity term the following candidates were successful :—

James G. Wallis, Herbert St. M. Carter, Henry M. Crawford, Wright Mitchell, Arthur W. Goldsmith, Charles J. Coppinger, David Gray, [illegible] ompson, Frederick W. Bury, John Harold T. Marrable, Wilfred L. [illegible]

Royal College of Surgeons in Ireland.—Fellowship Examination.—The following candidates having passed the necessary examination have been admitted Fellows of the College:—

L. E. Hardy, M.S. Edin.; J. P. L. Keegan, L.R.C.S. Irel.; R. H. Keenan, M.Ch. Dub.; J. C. Lavertine, L.R.C.S. Irel.; J. M. S. Lewis, L.R.C.S. Irel.; J. J. O'Hagan, L.R.C.S. Irel.; and H. Stevenson, B.Ch. R.U.I.

The following candidates passed the primary part of the examination.

E. H. F. Gilligan, H. M. Harrison, T. T. O'Farrell, G. Petit, and G. Sheppard.

Remarkable Vital Statistics of St. Petersburg.—An examination of the hygienic statistics affecting the city of St Petersburg discloses a most striking feature. Russia's capital from its rise down to the year 1884 appears as an "expiring community" and it is only since that happy year that the mortality became less than the births, which improvement has continued up to now. For the year 1903 the births of the St. Petersburg population amounted to 45,657 as against deaths 38,537. Since the filtering of the water-supply typhoid fever has attacked a much smaller number of people.

Sewage Purification Works at Davyhulme.—A report showing the progress made by the Manchester corporation at the works in connexion with sewage purification at Davyhulme was presented at the last monthly meeting of the Mersey and Irwell Joint Committee. The corporation desires to place second contact beds at Davyhulme and land which has been purchased at Flixton will be retained in order to carry out extensions if required. The corporation claims, moreover, that the volume of sewage per head of the population is much higher than in other towns, owing to water which has been used at works for cooling purposes getting into the sewers. Steps are now being taken to keep it out and so to lessen the volume of sewage. Manchester has had to bear much strong language and many fines for her delinquencies or *shortcomings as regards the purification of her sewage*, but she has done much with persistent perseverance towards removing this cause of reproach. This is agreeably shown by the change in the attitude of the joint committee towards the corporation, for it was unanimously decided to instruct the clerk to inform the corporation "that the joint committee are prepared to refrain from applying to the court for a period of six months if the corporation of Manchester will continue to make satisfactory progress in carrying out the scheme." It is also evidenced by the fact that the two bodies are now on visiting terms. The clerk of the joint committee said that he had received from Sir Bosdin Leach, chairman of the Manchester rivers committee, an invitation to the joint committee to inspect the works at Davyhulme, "which are by far the largest of the kind in the world," and it was arranged that the visit should be made early in June.

University of Oxford.—The Reader in Pathology gives notice that an election to a Philip Walker studentship in pathology will take place in the end of June next. The studentship has been founded "for the furtherance of original research in pathology." It is of the annual value of £200 (payable quarterly in advance) and is tenable for three years. The student may be of either sex and need not necessarily be a member of the University of Oxford nor be legally qualified to practise the profession of medicine. [illegible] of the student must be devoted [illegible] rch; no business or profession [illegible] d nor any educational or other work engaged in which in the opinion of the Reader in [illegible] Reader in Pathology but the student is bound to pursue these [illegible] least three terms of his [illegible] irement may, however, [illegible] If the work done by any student be of exceptional promise the studentship may be extended for a second period not exceeding two years. Intending candidates are requested to send letters of application, along with three testimonials (one of which should vouch for the candidate's personal character and general education), so that these shall be delivered to "The Reader in Pathology, University Museum, Oxford," on or before June 20th; ten copies of these papers must be submitted. Testimonials should be framed with a view to setting forth the candidate's capacity for undertaking research work. In the letter of application the candidate should state age, training, and particulars of any posts already held. Published records of work done may be submitted, but the previous prosecution of original research by a candidate is not essential to success. The full text of the regulations relating to the studentship will be found in the *Oxford University Gazette* of Feb. 2nd, 1904, and copies of these regulations can be had on application to the Reader in Pathology.

Association for Promoting the Training and Supply of Midwives.—A meeting of the council of this association was held by kind permission of Mrs. Charles Schwann at 4, Princes-gardens, London, S.W., on May 17th. The chair was taken by Miss Wilson, president of the Midwives Institute and member of the Central Midwives Board. Several well-known ladies and gentlemen were present. Mrs. Wallace Bruce, the chairman of the executive committee, stated in her report that Mr. Arthur A. Leon, L.C.C., had consented to become treasurer of the association and that Mr Cosmo Bonsor (treasurer of Guy's [illegible] r. R. N. Salaman [illegible] ance committee. [illegible] had been drawn up to secure midwives for nursing among the poor. Free or assisted training was given by the association to candidates willing to bind themselves to district midwifery for a definite period. Training vacancies [illegible] mittee at Queen Charlotte's [illegible] York road, the East End [illegible] Maternity Hospital, and the [illegible] Home. Reference was made [illegible] Ham in connexion with th [illegible] started by the association last year. Since the opening of the home in November, 1903, 189 infants had been under the care of the midwife-in charge and the pupils under training and more than 4000 visits had been paid. An immense *amount of good* had been done to many mothers and infants and it had proved an excellent training ground for the pupils. The cost of 16 weeks' training, with board and lodging, is £19 6*s*. 8*d*. It was stated that the question of finance was one of great anxiety to the executive committee. The sum of £1000 would train 50 midwives and it was felt that a direct appeal must be mad [illegible] nucleus of a training fund. [illegible] encouraged by some generou [illegible] had been [illegible] with local authorities various m [illegible] and other [illegible] nd it was resolved, on the motion of Lady Balfour of Burleigh, "that a large public meeting be held in the autumn." This was seconded by Dr. Salaman, who considered that healthy infants were the mainstay of the nation and as needful as an efficient army. The annual meeting of subscribers and friends of the association will take place early in 1905. The office of the association is at 12, Buckingham-street, Strand, W.C.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Manufacture of Serum.

When the House of Commons reassembles after the Whitsuntide recess Mr. Robert Cameron will ask the Home Secretary whether his attention has been called to the report of the Lister Institute of Preventive Medicine, in which it is admitted that the injection of antitoxin causes a large number of rashes, inflammation of joints (ascribed to something inherent in the serum of the horses or other animals), and also an increased number of cases of paralysis; and whether, in view of this statement, he will consider the advisability of taking steps to prohibit the manufacture of serum in laboratories licensed under the Vivisection Acts.

Medical Examination of School Children.

Sir Hugh Shaw Stewart proposes to move the insertion of a new clause in the Education (Scotland) Bill when that measure gets into committee, giving power for the public health inspection and supervision of schools and the medical examination and supervision of school children. The proposed clause reads as follows: "It shall be the duty of each local authority acting within a school board area to cause a systematic supervision to be exercised over the health conditions of the schools within their district which are under the jurisdiction of the school board, and it shall be the duty of the medical officer of the local authority, in addition to any special reports which may be required, to report in the month of January in each year to the local authority as to the health conditions of the schools within their district, and particularly as to (*a*) the lighting; (*b*) the heating and ventilation; (*c*) the condition as to cleanliness; (*d*) the sanitary conveniences; and (*e*) any action which he has taken in the course of the preceding 12 months with respect to infectious disease in connexion with schools. The local authority shall forthwith transmit to the school board and to the Education Department a copy of this report. It shall be the duty of the local authority to carry out a system of medical examination and supervision of the children on the registers of the schools within their district upon such lines and in such a manner as the Education Department may prescribe, and to supervise the health conditions of the schools, and it shall be the duty of the local authority to appoint such medical inspectors as may be necessary for the proper medical examination, inspection, and supervision of the children and schools, and such examination, inspection, and supervision shall be carried out under the supervision of the medical officer of health. The local authority shall forthwith transmit the reports of the medical inspectors to the school board. In consideration of the inspection and supervision of the health conditions of schools and of the medical examination and supervision of school children thus devolving upon the local authority, the Education Department shall each year pay to the local authority out of the education fund such sum as shall adequately meet the cost involved, upon a scale to be fixed by the Secretary for Scotland, having regard to the particularity of the medical examination required and the amount of work involved, on the basis of a payment per pupil upon the registers of the schools within the district of the local authority, always provided that the Education Department may withhold such payment if the department is of opinion that the inspection and supervision of the schools and school children within the district of any local authority has been inefficient. It shall be the duty of the school board to report forthwith to the local authority all cases in which the reason assigned for the absence from school of a child is the existence of infectious disease in the household."

The New Lunacy Bill.

As stated in THE LANCET of May 21st the Attorney-General was prevented from explaining the provisions of the Lunacy Bill which he introduced on Wednesday, May 18th, owing to the operation of one of the new rules of procedure. On Thursday Dr. FARQUHARSON drew the attention of the House to the inconvenience thereby caused. He remarked that he had never known legislation to follow so quickly on a debate in the House, but the Attorney-General could not "condescend to particulars," as they said in Scotland. The Bill provided a great improvement in the treatment of lunacy, its object being to assimilate the English law to the Scottish, to enable patients to be treated in a better way and to give them a chance to return to sanity. The Attorney-General—who, Dr. Farquharson reminded the House, is a graduate in medicine of Edinburgh as well as a lawyer—afterwards told the honourable Member that he regretted he had not had an opportunity of describing the Bill, which "would create almost a beneficent revolution."

HOUSE OF COMMONS.

WEDNESDAY, MAY 18TH.

Alleged Violation of the Lunacy Act.

Mr. CORRIE GRANT asked the Home Secretary whether he was aware that Mrs. Helen Meredith was detained in Bethlehem Royal Hospital from August 17th to Sept. 25th, 1903, without being taken before or visited by a judicial authority as prescribed by Section 8 of the Lunacy Act, 1890, although she signed immediately on her admission on August 17th, 1903, a notice of her desire to be taken before or visited by a justice, judge, or magistrate having jurisdiction in the district within which she was detained; and, if so, whether he would say who was responsible for this violation of the Lunacy Act [illegible] take to prevent a repetition of it.—Mr. [illegible] I understand on inquiry that the facts are [illegible] but the delay was due to a cause for which the hospital authorities were not responsible. They forwarded the notice given by the lady in question without delay to the clerk to the justices and it was in his proceedings for procuring the attendance of a justice that the difficulty and delay occurred. I am making further inquiries with the view of ascertaining whether any steps can be taken to prevent the recurrence of such a case.

THURSDAY, MAY 19TH.

The Case of Dr. Kirwan.

Mr. SLOAN asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been called to the fact that, at a meeting of the committee of management of the Ballinasloe District Asylum, held on May 9th, a letter was read from the Lord Lieutenant asking to be informed why, in electing Dr. J. St. L. Kirwan to the vacant office of resident medical superintendent, they had passed over the senior assistant medical officer of the asylum; whether information was refused to the Lord Lieutenant; and if so, what action, if any, he intended to take in the matter.—Mr. WYNDHAM replied: The effect of the Lord Lieutenant's letter is correctly stated in the first part of the question. The request for information was not refused. The committee of [illegible] the right of the Lord Lieutenant to invite it [illegible] ated that Dr. Kirwan, the junior assistant, b[illegible] ted by it. Section 84 (4) of the Local Govern[illegible] provides that the resident medical superintendent shall not be appointed without the concurrence of the Lord Lieutenant. The statement that Dr. Kirwan was duly appointed by the committee is, therefore, inaccurate inasmuch as it is incomplete. The right vested in the Lord Lieutenant of granting or withholding his concurrence is unconditional. In exercising that right his Excellency discharges a duty imposed upon him by statute and that duty is not limited to ascertaining whether the candidate whose appointment is submitted is possessed of the statutory qualifications for the post. The circumstances of each case must be considered. The committee has declared that Dr. Kirwan was elected because, in its judgment, he was considered to be the fittest for the position. The selection of a junior officer, however well qualified, is of doubtful expediency, but in view of the fact that promotion by seniority is not laid down in the Act, and though of general is not of universal advantage, his Excellency does not feel called upon to express an opinion on the view put forward by the committee which is primarily responsible. In these circumstances his Excellency is not prepared to withhold his statutory concurrence in the appointment and the committee has been informed accordingly.

Advice as to Vaccination.

Mr. WEIR asked the President of the Local Government Board whether he was aware that, although forms were framed by the Local Government Board for distribution to the parents of newly born infants, the vaccination officer of Brighton had induced the superintendent registrar to issue a form in which the vaccination officer gave his private advice in regard to vaccination; and, if so, whether steps would be taken by the Local Government Board to insure its forms being issued intact.—Mr. LONG replied: I understand that the guardians of the parish of Brighton recently had this subject before them and resolved that the vaccination notice should be issued in the form previously in use in the parish with the omission of a notice printed on it to the effect of its being advisable that children should be vaccinated between the second and third months after birth. I am not aware of any sufficient reason for objecting to the document as altered and I do not propose to interfere in the matter.

Vivisection.

Mr. WEIR asked the Home Secretary whether he had yet received the report of the committee appointed by the Royal College of Physicians to ascertain whether, in its judgment, experiments on living animals before classes were necessary for the education of medical students; and, if so, whether he would state the nature of the opinion expressed.—Mr. AKERS-DOUGLAS replied: I presume the honourable Member refers to the special consideration which the Royal College of [illegible] to the question whether experime[illegible] anæsthetics) were necessary for the [illegible] I have received the opinion of the [illegible] to the effect that science can only be adequately taught with the aid of demonstrations which involve, in the case of physiology and pharmacology, experiments on living animals.

Uncertified Deaths in Scotland.

In the general discussion that arose [illegible] adjournment Mr. WEIR called attention [illegible] tified deaths in Scotland.—Mr. GRAHAM MURRAY [illegible] be a useless expenditure of money to insist by law that every death should be certified by a medical man. There was ample protection against crime in the inquiries of the procurator-fiscal.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BRUNTON, Sir LAUDER, F.R.S., has been elected Consulting Physician to the Infants' Hospital, London, N.W.

CHASTEL DE BOINVILLE, VIVIAN, M.B., Ch.B. Edin., has been appointed Assistant Director of Cancer Research, Liverpool University.

CLARKE, J. JACKSON, M.B. Lond., F.R.C.S. Eng., has been appointed Surgeon to the North-West London Hospital.

MACKENZIE, JOHN ALEXANDER, M.A., M.B., Ch.B. Aberd., has been appointed Resident Medical Officer at the General Infirmary, Oldham.

SIBLEY, W. KNOWSLEY, M.D. Camb., M.R.C.P., has been appointed Physician to the North-West London Hospital.

SUTHERLAND, G. A., M.D. Edin., F.R.C.P. Lond., has been appointed Physician to the North-West London Hospital.

TE[illegible] F.R.C.S. Eng., has been appointed [illegible] don Hospital.

WA[illegible] been appointed Clinical Assistant to [illegible] n.

WIL[illegible] B.S. Lond., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed District Medical Officer and Public Vaccinator to the Walsham-le-Willows District of the Stow Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ARMY MEDICAL SERVICE, War Office.—Examination for not less than 30 Commissions in the Royal Army Medical Corps.

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.C.—
House Surgeon. Salary at rate of £50 per annum, with board

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HULL ROYAL INFIRMARY.—Fourth House Surgeon. Salary £50, with board and apartments.

INDIAN MEDICAL SERVICE, India Office.—13 Commissions in Indian Medical Service.

KENT AND CANTERBURY HOSPITAL.—House Physician, unmarried. Salary £90 a year, with board and lodging.

LEICESTER Salary £80 per annum,

NORTH-EAST ney-road, Bethnal Green, E. Physician, all for six months. Salaries at rate of £60 per annum, with board, residence and laundry.

PARISH OF ST. LEONARD, SHOREDITCH.—Senior Resident Assistant Medical Officer. Salary £150 per annum, with rations, apartments, and washing.

PERTH DISTRICT ASYLUM, Murthly.—Assistant Physician. Salary £120 per annum, with board, apartments, washing, &c.

RADCLIFFE INFIRMARY, Oxford.—Honorary Assistant Surgeon and

Salary

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Medical
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House

SEAMEN'S HOSPITAL SOCIETY BRANCH HOSPITAL, Royal Victoria and Albert Docks, E.—House Surgeon. Salary £50 per annum, with board, residence, and washing.

SETTLEMENT OF WOMEN WORKERS MEDICAL MISSION HOSPITAL, Canning Town, E.—Senior Resident Medical Officer (female). Salary £100 per annum. Also Assistant Doctor. Board and residence only.

Surgeon, un-
and washing.
n Pathology.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Surgeon for six months. Honorarium of £25, with board and

Assistant
&c.
nd House
Surgeon, unmarried. Salary £80 per annum, with board, residence, and laundry.

Births, Marriages, and Deaths.

BIRTHS.

the wife of F. Douglas Turner, M.B., of a son.

DEATHS.

EARLE.—On Wednesday, April 20th, 1904, at Holyrood, Black River, Jamaica, B.W.I., Lydia Isabel, wife of Edw. R. C. Earle, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond., Government Medical Officer, and second daughter of Charles Earle Isaacs, Esq., J.P., Malvern,

et, Cambridge, Thomas

Moreton-in-Marsh, John

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE "OPHTHALMIC OPTICIAN."

WE have received a little leaflet sent out by that enterprising advertiser Chas. F. Forshaw, M.S.A., or Forshaw and Co., or Dr. Forshaw, for he gives himself all three titles. From it we learn that "Dr. Forshaw has absolutely nothing antagonistic to say against the qualifications of Country Opticians generally but he desires to point out...... that ours is an extensive and up-to-date Optical practice and we mean to keep it so." Forshaw is an amusing quack and has managed to get a testimonial from four Bradford medical men. Three of these—namely, Mr. A. Ramage, Mr. W. J. Mullany, and Mr. J. Bradley—we have been able to find in the Medical Directory and in the Register, but the fourth, Dr. C. McDowell, is neither to be found in the Directory nor the *Register*. Forshaw was dispenser at the Bradford Eye and Ear Hospital for some 16 months and the four medical men *imply* that this appointment gave "Dr. Charles Forshaw great experience in diseases of the eyes," while another testimonial from the Hon. F. H. Pollexfen, who states that he is a notary public and a master *extraordinary in the High Courts of Chancery*, besides being a member of the Spectacle Makers' Company, mentions that Forshaw's "experience as dispenser at the Bradford Eye Hospital is unique in the annals of optics." We cannot find Mr. Pollexfen's name in the Law List, but then he may be a colonial notary. His Grace the Archbishop of Armagh also gives a testimonial, but whether this confiding cleric is the prelate of the Church of Ireland or the Roman Catholic Archbishop there is nothing to show. Finally, Forshaw states with pride that he is ophthalmic optician to his Lordship the Marquis de Leuville. Forshaw has learned wisdom in one point. He does not put drops into the eye. But why he should be allowed to call himself doctor and why any medical man should give him a testimonial we cannot understand.

A CHINESE PHYSICIAN.

THE contrast between precept and practice in the Far East is sometimes puzzling to the Western mind. We have heard much of late

physicians to be little better than savage medicine men. Our quotation is from Colonel Yule's notes on Marco Polo's "Voyages":—"In my own town," says the Buddhist writer cited by Colonel Yule, "there lived a physician by name Chang-yang-ming. He was a man who never took payment for his treatment from anyone who was poor; nay, he would often make presents to such persons of money or corn to lighten their lot. If a rich man would have his advice, and paid him a fee, he never looked to see whether it was much or little. If a patient lay so dangerously ill that Yang-ming despaired of his recovery, he would still give him good medicine to comfort his heart, but never took payment for it. I knew this man for many a year, and I never heard the word *money* pass his lips! One day a fire broke out in the town and laid the whole of the houses in ashes, only the house of the physician was spared." Colonel Yule comments thus on this passage: "Of such as this physician the apostle said: 'Of a truth I perceive that God is no respecter of persons, but in every nation he that feareth Him and worketh righteousness, is accepted with Him.'"

ENTERPRISE.

To the Editors of THE LANCET.

SIRS,—As the writer of the letter in THE LANCET of May 7th headed "Enterprise" my inquiry was directed to a point of professional etiquette only. I had no desire to question the qualifications and *professional status of the specialist referred to*, and if any words of mine have caused annoyance or injury to this gentleman I regret them and apologise

I am, Sirs, yours faithfully,
H. I. L.

May 21st, 1904.

THE "METBAIN" COVER.

WE have received from the "Metbain" Cover Company of Accrington a specimen of a contrivance invented by them which they are putting on the market and which would enable each user of a public water-closet to place a fresh sheet of tissue paper on the seat as a seat cover. A number of sheets of tissue paper cut in crescented form with the horns of the crescent folded the one over the other are inclosed in a U-shaped metal cover, to one end of which the papers are fastened in the centre by a flap, thus securing them firmly in the centre to the cover. This metal cover with its contents is to be suspended by a metal bracket or handle, to be screwed to the under and front side of the wooden seat of a pedestal closet in such a way that the case in no way projects beyond the front edge of the closet seat. At the back of the cover there is a spring clip which engages the bracket and from which it may be detached with a slight effort and the cover removed if necessary. When the seat is required for use one of the papers is eased out of the case and the horns of the crescent unfolded and placed *on* the seat. The paper is kept from being dislodged by being gripped in the centre by the metal cover, as explained above. After use the paper is torn off. The contrivance seems to us likely to be useful and may supplant the daily newspaper which is used by some people for the purpose. The only objections to it that we can see are that tissue paper soon becomes wet and that for wooden seats of pedestal closets which are raised and thrown back it might be rather inconvenient to have the metal cover fixed to the seat.

ANKYLOSTOMIASIS IN CENTRAL AMERICA.

Dr. Joseph A. Capps of the Rush Medical College, Chicago, has published what he believes to be the first recorded case of ankylostomiasis occurring in the neighbourhood of the Panama Canal. The disease is well known to be far from uncommon in the West Indies and in the southern States of the American Union. In Great Britain the usually accepted name of the parasite is ankylostomum but in America uncinaria—i.e., hook-worm—is more in favour. Following the latter nomenclature Dr. Capps says that the two species of hook-worm which infect man are uncinaria duodenalis, or the old-world hook-worm discovered by Dubini of Milan in 1838, and uncinaria Americana, recently identified by Stiles as a new-world species and described by him in *American Medicine* of May 10th, 1902. Dr. Capps's patient was a man, 52 years of age, and a native of the United States. He enjoyed excellent health until 1879, when he went to Panama to work as a carpenter. In 1900 he was first taken ill with sudden gastro enteric symptoms. At that time he was employed on the Chagres river (on the Isthmus), where he handled logs that were often covered with mud and he frequently took food without previously washing his hands. From January, 1901, to April, 1902, he was in a hospital in New Orleans where his illness was considered to be pernicious anæmia On Sept. 9th, 1902, he was admitted into the Cook County Hospital where Dr. Capps had opportunities of observing him and the diagnosis of uncinariasis which was suspected from the existence of eosinophilia in the blood was confirmed by the discovery of *ova* in the *fæces*. At the necropsy about 150 specimens of uncinaria duodenalis were found in the small intestine.

HOLMAN TESTIMONIAL FUND.

THE following additional subscriptions to the above fund have been received:—

	£	s.	d.		£	s.	d.
Dr. F. Taylor	3	3	0	Mr. G. Stawell (O.E.) ...	1	1	0
Mr. J. W. Lowder Cooper (O E)	0	10	6	Dr. C. M. Chadwick (O.E.)	1	1	0
Dr. A. B. McCarthy (O.E.)	0	10	6	Mr. G. H. Makins, C.B.	2	2	0
Mr. Harold Lawton (O.E.)	1	1	0	Mr. Stamford Felce ...	1	1	0
Mr. H. Martin Francis (O.E)	0	10	6	Balance of Council's testimonial to Dr. Holman (1903), per Mr. Stamford Felce	6	9	0
Mr. Percival E. Francis (O.E.)	0	10	6	Mr. A. Kelsey	2	2	0
				Dr. A. P. Hillier	1	1	0

Further subscriptions will be received by Dr. John H. Galton, Chunam, Sylvan-road, Norwood, S.E., or by Mr. W. A. Berridge, Oakfield, Redhill, Surrey, and a further list will be published in a month. The amount at present subscribed is £353 3*s.* 6*d.*

INCOME-TAX ASSESSMENT.

To the Editors of THE LANCET.

SIRS,—A and B are in partnership but are assessed separately for income-tax purposes. They take into the business a third partner, C, with the understanding that C shall leave them at the end of the first year if the arrangement does not prove satisfactory to all parties and that any moneys which C may have drawn shall be made up to a certain sum by A and B in return for his services during the year of trial. C retires at the end of the year. Are A and B entitled to deduct the sum paid to C during the year he assisted them in estimating the profits derived from the business for income-tax purposes?

I am, Sirs, yours faithfully,

Y. Z.

⁂ C being a partner, though only for the year, should be separately assessed, as A and B are. The sum paid to C may not be deducted from the business account in estimating the profits, as C was a partner.—ED. L.

AN IMPROVED TEA AND COFFEE INFUSER.

THE preparation of tea in large quantities for use in hospitals, asylums, schools, and other institutions is often a matter of considerable difficulty. The practice of infusing the tea in a large boiler and then adding milk and sugar saves time but the liquid thus produced is not at all agreeable to the palate and is far from being conducive to health. On the other hand, the use of a number of small pots means increased expense, loss of time, and a certain amount of waste. Dr. W. Reid, the medical superintendent of the Royal Asylum, Aberdeen, has sent us a description of an infuser for tea and coffee which he has had made for the institution with which he is connected and the apparatus would appear to answer admirably the purpose for which it is intended to serve. It has already been favourably commented upon by the Commissioner in Lunacy. This infuser consists of an earthenware vessel contracted at the top and having a dome-shaped lid. At the bottom of the vessel there is a tap for drawing off the contents. Provision is made within the lid for suspending a muslin bag containing the tea leaves or coffee. This bag is removed when the tea or coffee is sufficiently infused. Outside the earthenware vessel is a metal case of the usual urn-shape and between the vessel and its outer case a layer of cork dust is put to act as a non-conductor of heat. The infusion can thus be kept hot for some time. If it is required to keep the tea or coffee hot for a longer time a spirit lamp can be placed under the urn. Messrs. Marshall and Philip of 125, Union-street, Aberdeen, are the makers of this urn which has been named the "Balmoral." The price of an apparatus holding about one and a half gallons is 30*s.*

AN UNFORTUNATE TESTIMONIAL.

WE have received a copy of the *Birmingham Express* in which Messrs. H. Andiamio and Co., a firm of tobacconists carrying on business near Congleton in Cheshire, advertise their "Marsūma" products and, moreover, publish a most eulogistic testimonial from a medical man in Herefordshire (name and address, of course, given in full). This gentleman says: "I advise mankind to smoke one brand only—that brand, 'Marsūma.'" We think he would be well advised to insist on the withdrawal of this announcement.

A COOLING CUSHION.

Messrs. L. Paechtner and Co., of 40, Queen-street, Cheapside, London, E.C., desire us to say that they are now the sole agents for Great Britain and the Colonies for the "Cooling Cushion" referred to in THE LANCET of April 16th last.

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Schoolmaster.—Provided that the "covered way" has only a roof and no sides and that the sick house is *not less* than 30 feet away from the main buildings we think that in view of the conveniences obtained with regard to ease of transport and facilities for water- and gas-supply the connected sick house would be quite as hygienic as the totally separate one. Our correspondent may use the answers in the way in which he suggests. He will find a supply of useful information in two pamphlets published by the Medical Officers of Schools Association: (1) "The Arrangement and Construction of School Sanatoria," by Charles E. Paget (London: J. and A. Churchill); (2) "The Construction and Maintenance of School Infirmaries and Sanatoria," by the Council of the Medical Officers of Schools Association (London: J. and A. Churchill).

Justitia.—Upon the law of the matter our correspondent must consult a solicitor. His position is regulated by the conditions upon which he sold his practice. From the ethical point of view we cannot advise his return to the place.

Ferratus.—It seems that medical men, wanting certain facilities in electrical treatment, have employed the institute in question. Usually the patient has gone there on his or her own initiative.

Consistent does not inclose his name or address. He will find the subject to which he refers fully dealt with in the columns of THE LANCET of April 9th.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M., St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2 30 P.M.), London Throat (9 30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (31st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9 30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.).

WEDNESDAY (1st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9 30 A.M.), Cancer (2 P.M.), Throat, Golden square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (2nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), St. Mark's Metropolitan (2.30 P.M.), London Throat (9 30 A.M.), Throat, Golden-square (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), (9.30 A.M.), Guy's (1.30 P.M.).

FRI[illegible] [illegible] 30 P.M.), St. [illegible] .M.), Charing [illegible]), St. Mary's [illegible] (2 P.M.), Gt. (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), [illegible] London Northern Central (2.30 P.M.), West London (2.30 P.M.), Throat, Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Soho-square Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), (2 P.M.).

SATURDAY (4th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.). Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

worth and Mr. H. H. Clutton: Notes of a Case of Hydatids of Both Ovaries, Right Broad Ligament, Liver, Omentum, Mesentery, and

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Vest
-Mr.
Limits of the Surgical Treatment of
O H. Fennell.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases and Specimens will be shown by Dr. StClair Thomson, Mr. Waggett, Dr. Kelson, Mr. C. Baber, Dr. S. Spicer, Dr. A. B. Kelly, and others.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (30th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. E. Dore: Clinique. (Skin.) 5.15 P.M. Mr. W. G. Spencer: Diseases of the Lymphatic System.

POST GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. A. Baldwin: Practical Surgery.

TUESDAY (31st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC

Brain—Lecture V.: Sensory Paths.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. A. Latham: Pleurisy, its Causation and Treatment.

ST. PETER'S HOSPITAL (Henrietta street, Covent-garden).—4 P.M. Mr. S. Edwards: Cases in the Wards

THURSDAY (2nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M. Dr. C. O. Hawthorne: Pulse Tracings and their Clinical Significance.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-
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COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. L. Paton: Clinique. (Eye.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. R. J. Reece: Measles.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. Tooth: Neuritis.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private informa-
d addresses of
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e.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

Will Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, MR. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 26th, 1904.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rainfall.	Solar Radia in Vacuo	Maximum Temp Shade.	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
May 20	30 21	E.	...	117	64	47	51	55	Fine
" 21	29·83	S.E.	0·29	64	52	48	48	49	Raining
" 22	30 07	S.	0 04	73	56	48	49	50	Overcast
" 23	29 95	S.W.	...	115	67	50	52	54	Overcast
" 24	29 93	S W.	0 08	79	60	52	53	55	Raining
" 25	29 90	S.E.	0 08	89	69	52	57	59	Cloudy
" 26	29 82	S E.	...	83	70	54	59	62	Cloudy

During the week marked copies of the following newspapers have been received:—*Buenos Aires Herald, North Mail, Staffordshire Sentinel, Reading Mercury, Aberdeen Free Press (Weekly), Daily News, Daily Chronicle, Hull and Lincolnshire Times, Westminster Gazette, South Bucks Free Press, Hertfordshire Mercury, Standard, South Wales Daily News, Surrey Advertiser, Coventry Herald, Birmingham Daily Mail, Mining Journal, Local Government Chronicle, Liverpool Courier, &c.*

Communications, Letters, &c., have been received from—

A.—Dr. J. J. Abraham, Lond.; A. S.; Messrs. Adet, Seward, and Co., *Bordeaux*; Mr. H. Armistead, Saucier, Harrison Co., U.S.A.; Association for Promoting the Training and Supply of Midwives, Lond., Secretary of.

B.—Dr. Richard Bevan, Lond.; Dr. F. G. Bushnell, Plymouth; Messrs. Baillière, Tindall, and Cox, Lond.; Brighton, Hove, &c., Dispensary, Secretary of, Messrs. P. B. Burgoyne and Co., Lond.; Messrs. Boord and Son, Lond.; Messrs. Barclay, Perkins, and Co., Lond.; Mr. George Back, Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; Mr. F. G. Bushnell, Lond.

C.—Dr. J. W Cook, Clacton-on Sea; Messrs. W. H. and L Collingridge, Lond.; Camberwell House, Lond., Secretary of; C. K.; Messrs T. Christy and Co., Lond.; Dr. G. S. Carmichael, Edinburgh; Mrs. E. B Champion, Melbourne, Australia

D.—Dr. Clement Dukes, Lond.; Dr. Andrew Duncan, Lond.; Denver Chemical Manufacturing Co., Lond., Manager of; Dumfries and Galloway Royal Infirmary, Treasurer of; Dundee Corporation, Clerk of; Mr. H. G. Jukes De Styrap, Shrewsbury; Professor Delépine, Manchester; Delta; Messrs. Down Bros., Lond.

E.—Dr. Andrew Elliot, Lond.; E. E. H.

F.—Dr. Maurice Faure, Paris; Dr. E. T. Fison, Salisbury; Messrs. Fussell and Co., Lond.; Messrs. Fuller, Smith, and Turner, Lond.

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J.—Dr. G. H. Johnston, Jersey; Dr. F. W. Jordan, Stockport.

K.—Mr. Frank Kinton, Lond.; Dr. Herbert M. King, New York; Messrs. Knight and Co., Lond.; Kent and Canterbury Hospital Secretary of; Dr. W. Kempner, Berlin; Messrs. R. A. Knight and Co., Lond.

L.—Dr. D. Lawson, Banchory; Dr. E. E. Laslett, Hull; Mr Richard Lake, Lond.; Liebig's Extract of Meat Co., Lond.; Leicester Infirmary, Secretary of; Local Government Board, Lond., Medical Officer of

M.—Dr. W. Moore, Melbourne; Mr. J. H. Montague, Lond.; Sir John W. Moore, Dublin; Messrs Matthews Bros., Lond.; Motor Manufacturing Co., Lond.; Medical Defence Union, Lond., Secretary of; Messrs. T. M. Mackenzie and Co., Invergordon; Maltine Manufacturing Co., Lond; Dr. J. Maberley, Woodstock, South Africa; M. A. P.; Messrs. J. Mawthorn and Son, Biggleswade; Macedonian Relief Fund, Lond., Secretary of; Middlesex Hospital, Secretary-Superintendent of; Messrs. F. Mundy, Gilbert, and Co., Birmingham; Mrs. W. McLean, Melbourne; Mr. E. Merck, Darmstadt.

N.—New York County Medico-Pharmaceutical League Mr. J. C. Needes, Lond.; Mr. H. Needes, Lond.; National Anti-vivisection Society, Birmingham, Secretary of.

O.—Mr. R. A. O'Brien, Brisbane; Major-General Oliphant, Lond.; Our Dumb Friends' League, Lond., Secretary of.

P.—Mr. W. B. Parsons, Lond.; Mr. W Pattison, Birmingham; Miss M. Parkington, Eastbourne; Mr. O. Penfold, Bendigo, Australia; Messrs. L. Paechtner and Co., Lond.; Mr. G. M. Pittock, Canterbury; Messrs. Peacock and Hadley, Lond.

R.—Dr. A G. Rider, Devonport; Mr. Cecil Revis, Lond.; Messrs. Robertson and Scott, Edinburgh; Messrs. E. J. Reid and Co., Lond.; Dr. J. Ritchie, Oxford; Rochdale Infirmary, Secretary of; Mr H. Rainbird, Saxilby; Royal College of Surgeons in Ireland, Dublin, Registrar of; Messrs. Rouyer, Guillet, and Co., Lond.; Royal Surrey County Hospital, Guildford, Secretary of; Messrs. Reynolds and Branson, Leeds.

S.—Dr. E. W. Spink, Reddish; Messrs. G. Street and Co., Lond.; St Bartholomew's Hospital, Treasurer of; Schómberg Sanatorium, Secretary of; Sussex County Hospital, Brighton, Secretary of; Dr. J. L. Steven, Glasgow; Society for the Relief of Widows and Orphans of Medical Men, Lond.; Mr. W. Stuart-Low, Lond.; Sprague Canning Machinery Co., Chicago, U.S.A.; South Yorkshire Asylum, Wadsley, Clerk of. Scholastic, Clerical, &c, Association, Lond.; Mr. Barker Smith, Lond.; Mr. Philip de Santi, Lond; Society of Arts, Lond., Secretary of.

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V.—Surgeon D. H. Vickers, R.N., Portsmouth.

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The Hunterian Lecture

ON

INTERMITTENT HYDROPS OF THE JOINTS: AND THE INFLUENCE OF GROWTH ON DEFORMITIES.

Delivered at St. George's Hospital on May 25th, 1904,

BY HOWARD MARSH, M.A., F.R.C.S. ENG.,
PROFESSOR OF SURGERY IN THE UNIVERSITY OF CAMBRIDGE.

MR. CHAIRMAN AND GENTLEMEN,—When your Dean conveyed to me the wish of your council that I should deliver the Hunterian lecture this year he informed me that there were no conditions necessary to be observed and that the matter was entirely in my own hands. In these circumstances it devolved upon me to select some material which might be worthy of your attention. But, further, I had to remember that the name of Hunter would stand inscribed before me, so that I must, in however small a degree, yet as far as possible, show myself one of his disciples by endeavouring to contribute something to our knowledge in the field of surgery. There are two subjects which have lately attracted my attention and a discussion of which, I hope, you may find of sufficient interest to justify me in having chosen them. I have taken (*a*) intermittent hydrops of the joints; and (*b*) the influence of growth on deformities.

Intermittent hydrops of the joints is certainly a remarkable affection. By way of introduction I will read two examples of it which have come under my own personal notice.

CASE 1.—A man, aged 38 years, a patient of Dr. E. J. Tatham of Cheltenham, was kicked on the knee by a horse in December, 1902. Some effusion followed, but under treatment the joint soon apparently recovered. In April, 1903, while the patient was in Scotland the knee became so painful that he could get very little sleep. There was no marked swelling or other objective symptom. Pain shortly afterwards subsided, but when he was at Henley a few months later it returned and was so severe that hypodermic injections of morphine were used. Swelling was slight and there was no heat of the surface. As the condition was supposed to be due to rheumatism blisters were used but without benefit. Later, the joint was stiff and more swollen. It was put into a splint and he went about on crutches. Improvement slowly followed and in a month he could walk a little on the limb. In September he had hot-air baths and some massage, but the joint became extremely painful and so much swollen that it measured two inches in circumference more than the other knee. This swelling, however, soon subsided and when I first saw him early in October, 1903, he stated that three weeks before the joint was quite well, though the limb was weak and painful. On inspection the joint appeared natural. It was free from heat and there was then no swelling. Passive movements were perfectly free and smooth, but the muscles were considerably wasted and so powerless that when he was lying he could not raise his heel off the surface of the bed, and he carried a crooked stick to lift his foot when he was sitting and wished to change its position. He said that at night he had such agonising pain in the limb from the hip to the ankle that it was like being on the rack, and I entered in my notes that his complaints of pain in their apparent extravagance resembled those of a hysterical woman. As the case was one of unusual character he came to London for further observation. On the morning of the day after his arrival the sister of the surgical home reported that all through the night he had been in very severe pain and had scarcely slept at all. I found the knee only slightly swollen, free from heat, and as before readily allowing passive movement from very nearly full extension to almost complete flexion. He was himself unable to move it. He looked worried and depressed, complained bitterly of pain, and said that something must be done for his relief. He was even ready to submit to amputation. During our conversation he remarked that swelling became much more marked *every night* and he asked me to see him on that evening at six o'clock. On doing so I at once found that the knee had undergone a remarkable change since the morning, for it was now so considerably swollen that it was an inch and a half larger than its fellow and the swelling was such as I had never before met with. It followed exactly the outline of the synovial membrane, and within this area it was so abrupt and prominent that the knee had a remarkable globular appearance and the patella was pushed forwards in a very unusual manner. There was no fluid in the cavity of the joint and the swelling seemed to be due to mere vascular turgescence and engorgement of the synovial membrane, which appeared at least half an inch thick. The surface was a little over-warm and slightly dusky. He now repeated his statement that the joint swelled up in this way regularly every evening and then gradually reassumed a natural appearance. Hearing of this quite definite periodicity I was reminded of ague and I asked him if he had been abroad. I found that he had been, that he had often had malaria, and that he had taken large quantities of quinine, but none since the knee had been in its present state. In these circumstances I ordered him ten grains of quinine twice a day. On the next morning I was told that he had lost his pain and had slept all through the night and until 10 A.M. He looked like another man; he was fresh and bright, and said it was the first night of freedom from pain he had had for eight months. He continued the quinine. His pain did not recur and the attacks of swelling diminished, and in four days, as there seemed no reason for keeping him in town, he returned home to be under Dr. Tatham's care. He soon regained some power in the extensor muscles and could raise the limb by a voluntary effort. The joint remained about half an inch larger than the other. Three weeks later the patient wrote: "The knee is progressing very satisfactorily. I have no sign of puffing towards evening and am able to bend it almost as easily as the other. I went a three mile walk last week without inconvenience. I am still quite free from pain, except a little down my leg and in my ankle. I feel so strong on my knee that I think I could walk on the hills, but Dr. Tatham thinks I had better defer that pleasure for a little." Shortly after this Dr. Tatham wrote that "the patient is able to be about practically all day without bad results. The joint is only three-eighths of an inch larger than the other and even after exercise there is no increase of size. He has *no* pain. There is more tone in the thigh muscles and less wasting, although the thigh is still markedly smaller than the other." Three months later Dr. Tatham wrote: "There have been some fresh developments in the case since I last reported. The patient managed to get influenza about a month ago. Simultaneously the knee-joint increased somewhat in size but in itself was not painful. However, there was shooting and burning pain, coming on especially at night, above and in front of the internal malleolus, accompanied by distinct swelling, the skin itself being exceedingly hyper-sensitive. Also there was pain which started just behind the great trochanter and extended upwards to the posterior part of the iliac crest. These pains were described as intense. They gave way to five grain doses of phenacetin. The knee remains three-eighths of an inch larger than the other. The pain in the region of the inner ankle is better, but not gone, and the patient has to lace that boot more loosely than the other. The swelling there has gone. The pain at the back of the hip has gone. He is able to walk six or eight miles without subsequent swelling of the knee. The thigh muscles are still very wasted." Writing a few days ago Dr. Tatham reports that the knee is as good as the other and muscular wasting is only very slight.

CASE 2.—A young woman, aged 28 years, who looked well and robust, was admitted into St. Bartholomew's Hospital in March, 1903, for advice about her right knee-joint. She stated that for the last 18 months the knee every 14 days became swollen and somewhat painful. These symptoms, with the most marked regularity or periodicity, lasted three days and then disappeared, leaving the joint in a perfectly normal condition. The attacks corresponded with the menstrual periods and with the mid-periods between them. The patient's statements were fully borne out by what was observed while she was in the hospital, where she remained six weeks. During this time two attacks showed exact periodicity; the third, however, was one day late, that is, it occurred not on the Saturday when it was due but on the Sunday. The attacks were exact repetitions of each other. The joint became stiff and uncomfortable and the seat of effusion, so that the synovial cavity was uniformly and somewhat tensely distended. The joint was tender and the temperature of the skin over it was slightly raised. The patient was kept in bed, but the attacks still recurred as regularly as before, though they were rather less marked and of rather shorter duration. Some fluid was removed from the joint and examined. It was merely synovia diluted with serum. There was no blood and no micro organisms were present. Quinine had no effect. Various forms of local treatment were tried but were useless. On leaving the hospital the patient went to Lowestoft and was treated with arsenical solution. The attacks gradually declined in severity and at length ceased and she returned to her employment in London. At present, after the lapse of eight months, there has been no return.

These two are the only examples of periodic swelling of joints that I have met with or, at all events, recognised. Yet many cases are to be found in surgical literature which present the same feature of attacks which are periodic in their occurrence and which generally consist of a considerable effusion into the cavity of the synovial membrane; but sometimes, as in Case 1, of swelling not dependent on effusion but on turgescence of the synovial membrane sometimes combined with œdema of the neighbouring structures; while between the attacks the joints are in a normal condition or only weak. In the *Boston Medical and Surgical Journal* for 1901, vol. cxlv., p. 484, Dr. Brackett and Dr. Cotton have collected all the cases they have been able to find and have discussed them in a valuable and very instructive paper under the title of "Intermittent Hydrops." They found in all 68 cases but some of these were doubtful. When the doubtful examples were excluded there remained 43 clear instances, which, though differing in detail as to the particular joints or the number of joints involved, the period of return, and collateral symptoms—pain, heat, &c.—yet showed the distinctive feature of periodic attacks alternating with clear intervals Many of the following particulars in regard to this group of cases are taken from the paper of Dr Brackett and Dr. Cotton.

As to the local condition, this usually consists of an effusion into the cavity of the joint concerned. This may be small in amount but in some cases the cavity is tensely distended so that there is considerable pain. The fluid removed from the knee-joint in one of my cases was sterile and apparently merely diluted synovia. In a few instances, as in my first case, while there has been little or no effusion into the joint concerned, the synovial membrane has been swollen and the surrounding tissues have been œdematous. No case of suppuration or the formation of adhesions suggesting any inflammatory changes has, so far as I know, been recorded In my first case there was a patch of œdema of the skin in the lower part of the leg.

The joint most frequently involved is the knee Often both knees are affected and are the only joints attacked. But all the large joints—the hip, the ankle, the shoulder, the elbow, and the wrist, and even, Dr. Brackett and Dr. Cotton state, the lower jaw joint and the joints of the spine—may be concerned. The condition may be limited for some years to one particular joint, or several joints may be attacked simultaneously or alternately, or many joints may be attacked in succession. The attacks reach their height in the majority of cases in two days and then subside in two days, so that they extend in all over four days. Yet the attacks may be much shorter. In my first case swelling began at about 4 P.M. and passed off again by about 6 A.M., thus lasting in all about 14 or 15 hours. The time of recurrence of the attacks varies widely in different cases. In Case 1 the attacks recurred every evening. In some an attack takes place every third or fourth day; in some only once every month. In Pletzer's and Seeligmüller's cases there was an interval of three months. The period of recurrence most commonly observed is between the ninth and the fifteenth day. In some cases the period changes. In one it changed from the thirtieth to the ninth day. In another from three months to 11 days. The affection is slightly more common in the female sex As to age, although a doubtful case has been reported in a girl aged nine years, only three cases began as early as the fifteenth year. One patient was 64 years old. The affection most commonly begins about the twenty-sixth year. Although in some instances the attacks have corresponded with the menstrual periods in many others there has been no such coincidence. In reference to this point it seems interesting to recall the circumstance that the late Dr. W. M. Ord recorded some cases in which patients had somewhat painful swellings of the joints at each menstrual period. I have for many years watched for similar cases but I have never met with them. May it not be that Dr. Ord's cases were examples of intermittent hydrops the recurrence of which and of the menstrual periods were the same?

Although it will involve some repetition I shall now venture on a few additional remarks on my first case because, while its accurate periodicity stamped it as belonging to the group under discussion, the character of the swelling of the knee differed from that which is usually observed and also because the case presented several features beyond the condition of the joint which, although absent in many instances, must yet be borne in mind as parts of the general picture. Unless they are remembered the more rare forms of the affection are apt to be overlooked. The enlargement of the knee was not due to effusion into the joint; no fluid was present It was the result of engorgement of the synovial membrane while a similar disturbance of the circulation in the subcutaneous tissue of the lower part of the leg, adjacent to but not involving the ankle-joint, was observed by Dr. Tatham. Not having met with these periodic joint cases before and as the patient in Case 1 had often had severe malaria I at first supposed that his case was an instance of malaria involving a joint, and this impression seemed to gain ground when quinine was found to produce so immediate and powerful an effect. There were two further points which turned my thoughts to malaria.

First, many years ago I read of the following remarkable cases I can mention only the main facts, for I have no recollection as to where they were recorded and I regret that I have not been able to find them. In a malarial district two soldiers underwent amputation through the thigh. In both for several days the stump each day became dusky, painful, and engorged and then dripped blood freely. The patients became so exsanguine and exhausted that their lives were in great danger. Then, because they were so prostrated and were known to be the subjects of malaria they were treated with full doses of quinine. The result in both cases was immediate The vascular disturbance of the stump ceased, hæmorrhage was arrested, and both patients recovered. The local disturbance of the circulation which occurred in these instances is perhaps similar to that in some cases referred to by Dr. Hilton Fagge[1] in which patients suffering from malaria have been attacked with coma. "Hertz says"—I am quoting from Fagge—"that instances of this are from time to time sent into the hospital under his care for apoplexy and Graves placed on record a case in which he made this mistake. A gentleman awoke about 4 A M with sensations of malaise, chilliness, nausea, and headache. After an hour he became extremely hot, the pain in the head was intense, and he passed from a drowsy condition into one of complete coma with deep snoring, so that he appeared to be labouring under a severe apoplectic fit. He seemed to derive much advantage from bleeding and other remedies and in the evening he was perfectly well. The day but one after the same symptoms returned and were removed by the same treatment, but when a third attack came on Graves saw that it was an example of *tertiana soporosa* and cut it short by large doses of quinine."

Secondly, the presence in my case of severe neuralgia could, I thought, reasonably be regarded as suggestive of malaria, for in cases of what has been termed masked ague the paroxysms may be, as Fagge states, "of the most diverse description and attended with scarcely any febrile disturbance, or even with none at all. The most important of these paroxysms is neuralgia, occurring especially in the region supplied by the first division of the fifth nerve, and thus often called brow ague, ... while cases of sciatica and other neuralgic affections of the limbs have been attributed to ague." In my case pain was intense. Nor was it confined to the knee or primarily dependent on the joint affection. At one time it involved the lower part of the leg, where it was associated with swelling of the skin and subcutaneous tissue—a distinct local vascular disturbance—and with hyperæsthesia of the surface. At another time it extended from the iliac crest to the great trochanter. Thus the pain (in Case 1) was similar to that which has often been met with in malaria. I found, however, when I consulted Sir Patrick Manson that he knew nothing of any affection of

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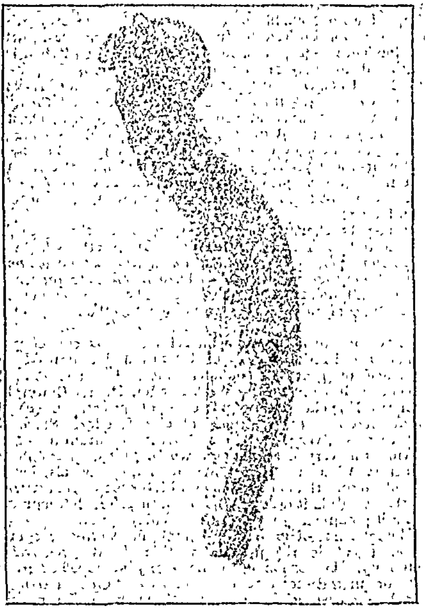
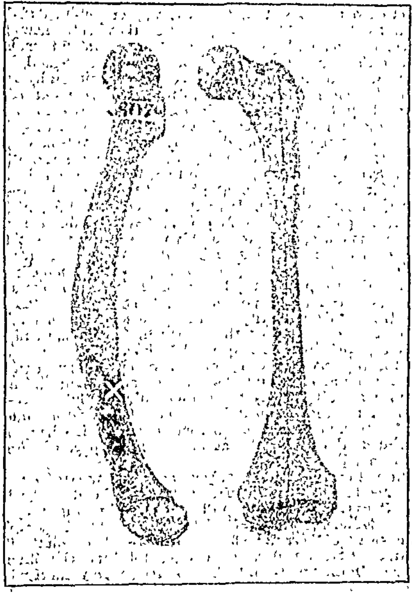
[1] Principles and Practice of Medicine, edited by Dr. P. H. Pye Smith, 1886, vol. i., p. 343.

FIG. 1.



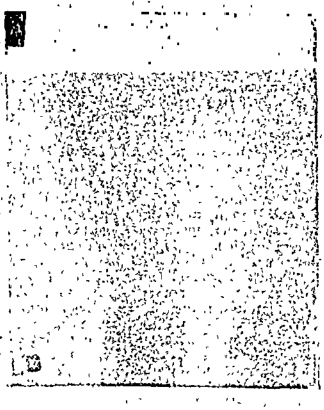
A rickety femur showing a strong buttress of compact bone in the concavity of the curve.

FIG. 2.



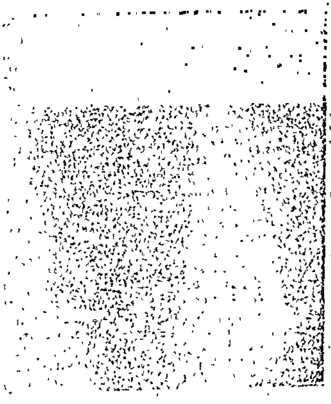
Photographed from specimen in the Museum of St. Bartholomew's Hospital. Left femur of a child, aged seven years, in whom Macewen's operation for genu valgum had been performed three years previously. A slight heaping up of cancellous tissue at the point marked × indicates the site of operation.

FIG. 3.



Skiagram from a case of osteotomy for genu valgum performed three and a half years previously. The femur shows no trace of bony thickening at site of operation. The boy was aged eight years.

FIG. 4.



Skiagram of the femur of a boy, aged six years, in whom a fracture of the middle of the shaft occurred when he was two years old. No trace whatever of injury remains.

The Lumleian Lectures

ON

SOME DISORDERS OF THE SPLEEN.

Delivered before the Royal College of Physicians of London on March 17th, 22nd, and 24th,

By FREDERICK TAYLOR, M.D.,
F.R.C.P. Lond.,
SENIOR PHYSICIAN TO, AND LECTURER ON MEDICINE AT, GUY'S HOSPITAL.

LECTURE II.[1]

Delivered on March 22nd.

Mr. President and Gentlemen,—At the last lecture I was recording some cases of enlarged spleen in which the diagnosis had presented difficulties and I concluded with the remark that the recognition of the cause of enlargement depends less on the characters of the organ itself than on the associated conditions—except in respect of its size. I propose now to say something of the condition known as splenic anæmia, but before doing so must refer again to those cases in which a splenic enlargement may exist with comparatively good health and without an entirely satisfactory explanation of its occurrence.

Case 14.—The patient was a woman whose age was unrecorded. She had had pleuritic effusion, was tapped, and then became anæmic. Her periods were irregular and scanty. She had had influenza six months previously. A hæmic murmur could be heard at the base. The liver could not be felt. The spleen was two inches below the ribs. On a blood count being made the red corpuscles were 40 per cent. and the hæmoglobin was 20 per cent. Two weeks later the red corpuscles were 39 per cent., the hæmoglobin was from 15 to 20 per cent., and the leucocytes were 7000 per cubic millimetre. She was treated as a case of chlorosis. Nine days later the red corpuscles were 53 per cent., the hæmoglobin was 40 per cent., and the leucocytes numbered 7700 per cubic millimetre. 13 days later the red corpuscles were 80 per cent., the hæmoglobin was 50 per cent., and the leucocytes were 8000 per cubic millimetre. A week after this she went out looking very much better. This was apparently a case of chlorosis, but the enlargement of the spleen, which after all was slight, is unexplained. It is an interesting fact that the spleen is not commonly enlarged in chlorosis. Now, four years later we understand that she recovered sufficiently to become a hospital nurse, but her present condition is unknown.

Case 15.—A patient, aged 33 years, was seen by me in 1900. He had had influenza 15 months previously and another attack recently. Ten days previously there were sleeplessness, cough, anorexia, and a slight rise of temperature. Great enlargement of the liver was present. The spleen was within three inches of the middle line and three inches below the horizontal level of the umbilicus. A blood film showed normal red corpuscles and no excess of leucocytes. Two months later he was better and had been at work for three weeks. He thought himself quite well. The spleen was larger than it previously was. The red corpuscles numbered 5,000,000 per cubic millimetre and the hæmoglobin was 90 per cent. A leucocyte count was doubtful, but a film showed absolutely no excess, mainly small uninuclears with a few polymorphonuclears; no myelocytes were present. Recently after an interval of three years the patient was in almost exactly the same condition. He was at work, called himself well, but was probably not really vigorous. The liver reached four and a half inches below the ribs. The spleen was only two inches from the middle line and five inches below the level of the umbilicus; vertically it extended fully ten inches. It felt rough on the surface; it was not very firm or hard and gave the impression that it could be bent transversely; it was painless and not tender. The red corpuscles numbered 4,600,000 and the leucocytes 8000 per cubic millimetre; the hæmoglobin was 85 per cent. The heart and the urine were normal. This is a difficult case to classify. The patient was born in London and had never had ague. He had not any valvular disease or cirrhosis, and though his liver is enlarged it is distinctly not hard and it is clinically quite unlike a cirrhotic liver. He had not pernicious anæmia or Hodgkin's disease, and there is no pigmentation or hæmorrhage. Is it possible that this will ultimately develop into splenic anæmia, that he will lose more and more hæmoglobin and corpuscles?

Splenic Anæmia.

We may take as our guide the criteria last formulated by Dr. H. D. Rolleston—viz., (1) splenic enlargement; (2) no enlargement of glands; (3) anæmia of chlorotic type; (4) leucopenia; (5) a long course; and (6) tendency to hæmorrhage, especially of the gastro-intestinal tract; to which Professor W. Osler would add, (7) pigmentation of the skin; and (8) secondary enlargement of the liver. As I said in my last lecture, the criteria of splenic anæmia have varied somewhat. I may here record some cases which may claim to be regarded as instances of this disease.

Case 16.—A medical man, aged about 50 years, came under my notice in March, 1894. He had been ill since the preceding November, when he was taken with dizziness and pyrexia, but though his more serious troubles began at this time he was conscious of something wrong with the left hypochondrium as long as two years before that (1891). He had been taking arsenic for some weeks and had noticed the following changes in his condition: (1) darkening of the skin and a curiously hyperæsthetic condition, so that a slight knock would be felt as pain; (2) the eyes were irritable; (3) the legs were weaker; and (4) he thought that the spleen was smaller. He was a medium-sized, thin-faced man, the face apparently tanned by exposure, but at the same time obviously anæmic, as were the lips and the mucous membranes. The hands were thin, tanned, almost emaciated, anæmic at the nails, and the ends were not obviously thickened. In the palms a whitening of the natural furrows, with perhaps a little redness of the intervening skin, was present. The forearms were not very dark, nor were the upper arms; the trunk was covered with an unusually thick and dark crop of tinea versicolor so that the actual colour of the skin could not be seen through it. The heart was normal in position and sounds. The chest was flat, resonant, with normal expansion; here and there a fine râle could be heard, but there was no other suggestion of tubercle. The abdomen was full, tumid, especially on the left side, and the spleen and the liver were obviously enlarged The liver reached to within half an inch of the horizontal umbilicus level in expiration and descended to one inch below it in inspiration. It was firm but not hard; it had a smooth surface and a normally sharp edge. The spleen occupied the left flank and bulged the left anterior abdominal wall. During expiration it reached to half an inch below the umbilicus level and descended one and a half inches during inspiration. In the position of expiration the anterior edge was two and a quarter inches from the centre of the umbilicus; the lowest point was then two inches from the anterior superior spine and three and three-quarters from the costal margin vertically. The organs were not tender on pressure. A few posterior cervical glands could be felt but there were none in the axilla or groin. The urine was high coloured and deposited urates at once; there was no albumin; nitric acid produced a dark brown colouration. The feet were not swollen but the patient said that they became so sometimes. The inner border of the right tibia was thickened as if from periostitis. The blood from the finger showed no excess of leucocytes but a few tailed poikilocytes. The optic discs were rather hazy and pale; the edge was not well defined but was not blurred. Some veins were rather tortuous; there were no hæmorrhages. Two or three weeks later, on March 19th, he came into the private ward in Guy's Hospital. His weight was 9 stones 13 pounds. On the 21st his blood was found to have 3,000,000 red corpuscles per cubic millimetre and the hæmoglobin was 30 per cent. On the 29th the red corpuscles numbered 3,000,000 per cubic millimetre and the hæmoglobin was 35 per cent. On April 6th the red corpuscles numbered 4,250,000 and the hæmoglobin was 45 per cent. On the 13th he was certainly much better, less anæmic, fuller in the face, and had a good appetite. The red corpuscles numbered 3,800,000 per cubic millimetre and the hæmoglobin was 40 per cent. The spleen was only down to the level of the umbilicus on expiration, that is half an inch less in vertical movement than before. He had in the hospital oxygen inhalations and internally liquor arsenicalis and potassium iodide. He left shortly after—namely, on April 30th. On July 23rd I heard from him that he was much better. He had not been weighed. His colour was vastly improved. His feet and ankles were never œdematous. He was still taking arsenic. On May 20th, 1897, he wrote to me that his appetite was fairly good; that he could walk several miles, provided he walked slowly; that the spleen was not less in size, but certainly not much, if at all, larger; and that he was not *taking any medicine. He died in 1903. The duration of his* illness was therefore at least 12 years.

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[1] Lecture I. was published in The Lancet of May 28th, 1904, p. 1477.

Of some cases recorded at the hospital we have the following.

CASE 17.—This was a very doubtful case and the clinical history is not forthcoming. There was a large, much infarcted spleen, weighing 91 ounces. There were subarachnoid hæmorrh, rhages of the right fr half of the cerebellum, petechiæ. *The blood was never examined; much anæmia* was present.

CASE 18.—A girl, aged ten years, was admitted for parotid swelling on Dec. 26th, 1897. She vomited blood frequently and then a lump was felt in the abdomen. She was very anæmic. Three weeks later the spleen reached below the umbilicus. A soft apical systolic murmur could be heard. The red corpuscles numbered 3,300,000 per cubic millimetre and the hæmoglobin was 30 per cent. Leucopenia was present. The liver was just perceptible. The retinæ were normal. *This is a case that was published by Dr. L. E.* Shaw in vol. lvi. of the Guy's Hospital Reports. Post mortem the spleen weighed 14 ounces and appeared to be normal in structure.

CASE 19.—The patient was a man, aged 28 years, who was admitted in 1900 under my care for general weakness and intermittent pyrexia. Nine months before he had had a bicycle accident. He thought that his side might have been injured. In January, 1900, he had shivering fits, headache, vomiting, and fever, and continued in varying condition. On admission the temperature was *103·4°* and the pulse was 120. He was very weak and had slight jaundice. His legs were wasted and his feet were œdematous. The red corpuscles numbered 850,000 per cubic millimetre and the hæmoglobin was 20 per cent. Leucopenia was present. The spleen reached one or two inches below the umbilicus. The liver could not be felt but the abdomen was very tender below the right costal margin. There were retinal hæmorrhages and increasing jaundice. Death ensued in a week. Post mortem the lungs were found to be emphysematous. *There were old adhesions. The bronchial glands were large.* The liver was large but not tough and weighed 2200 grammes (77 ounces); it appeared to be fatty. The spleen weighed 1334 grammes (47 ounces). There were small infarcts at the edges but no excess of lymphoid tissue. The kidneys weighed 406 grammes (13 ounces).

These were cases in which post-mortem examinations were held. The first, Dr. Shaw's case, must be admitted. The information about the others is too scanty. Of cases without post-mortem examinations we have five.

CASE 20 (1898, the late Dr. Washbourn).—The patient was a man, aged 26 years He stated that his abdomen was swollen as long as he could remember. A fortnight previously he had suffered from headache and cough and was feverish. He grew worse and epistaxis supervened. For the last few weeks he had been anæmic. On admission the liver was normal. The spleen reached right down to the iliac fossa and in the middle line below the umbilicus. The red corpuscles numbered 4,200,000 per cubic millimetre and the hæmoglobin was 47 per cent. There were a few leucocytes but no poikilocytes. A month later the red corpuscles numbered 4,300,000 per cubic millimetre and the hæmoglobin was 80 per cent The patient left the hospital.

CASE 21 (1899, Clinical Ward).—The patient was a boy, aged 12 years. He had had measles at the age of two and a half years; then diphtheria and severe epistaxis. He was always liable to hæmorrhages and epistaxis. He was very anæmic. There was slight enlargement of the inguinal glands. Apical and pulmonary systolic murmurs could be heard. The liver and the spleen reached to three inches below the ribs. The red corpuscles numbered 3,000,000 and the white corpuscles 10,700 per cubic millimetre. The hæmoglobin was 20 per cent. Epistaxis was frequent. The patient left the hospital.

This case seems less certain. *The tendency to bleed is* perhaps no more than a genuine mild hæmophilia. The spleen has as yet not reached a really great size.

CASE 22 (1900, Clinical Ward).—The patient was a woman, aged 44 years, who was admitted for wasting and swelling of the abdomen. She had had hæmoptysis two years previously. 18 months previously she had had acute enteritis, passing blood, and she had passed blood on other occasions since then. She was pale and thin. Her temperature was 100° F. The spleen reached down *to the crest of the ilium and within three inches of* the umbilicus. The liver was two or three inches below the costal margin. The red corpuscles numbered 4,000,000 and the white corpuscles 7000 per cubic millimetre and the hæmoglobin was 70 per cent. The organs were tender. There were some râles in the chest which soon disappeared. Diarrhœa was present. The patient left the hospital with the blood unaltered.

This case appears to present all the characteristics except the long duration.

CASE 23 (1901, Dr. W. Hale White).—The patient was a male, aged 39 years. He had had pleurisy nine years and mumps six years previously. His nose bled very readily. At Christmas, 1900, acute abdominal pain came on; a fortnight afterwards the pain became worse but he recovered after spending a time in bed. He then brought up dark blood into the mouth repeatedly. In June, 1901, he brought up a clot of blood. The spleen was found to be enlarged. On admission he was sallow but "not markedly anæmic." The liver could just be felt. The spleen reached nearly to *the middle line and as low as the level of the umbilicus*; it was rather tender. The red corpuscles numbered 3,400,000 per cubic millimetre and the hæmoglobin was 62 per cent. The leucocytes were normal. The temperature was irregular. Arsenic was given. He went out in a fortnight but died ten months later, having suffered from rheumatism, hæmorrhage three months before death, jaundice, and dropsy.

This case is uncertain. The spleen was moderately large and the other characteristics, except a very long duration, were present, but the termination would meet the case of *cirrhosis rather than Banti's disease, for which* the course is hardly long enough.

CASE 24. (1901, Clinical Ward.)—The patient was a female, aged 37 years. She stated that she had had fits at the age of 12 years. Three years before she had had an enlarged abdomen. She suffered from abdominal pains, morning vomiting, and diarrhœa, the motions at times being mingled with blood. The urine was said also to contain blood. Epistaxis was present. Rapid enlargement of the abdomen had occurred during the last two months. She was *anæmic and ascites* was present. The liver reached nearly down to the umbilicus. The anterior edge of the spleen reached to the umbilicus and the lower edge to the crest of the ilium. The red corpuscles numbered 4,800,000 and the white corpuscles 2500 per cubic millimetre. The hæmoglobin was 60 per cent. The patient left hospital with no material change in her condition. She had undoubtedly all the characteristics of splenic anæmia. Nothing more can be heard of her.

The next are two cases, brother and sister, who died in Guy's Hospital in 1902 under my care, but they had been frequently in other hospitals, especially in St. Thomas's; and I am indebted to Dr. T. D. Acland for permission to publish some of the facts, which were kindly abstracted for me by Dr. A. E Russell.

CASE 25.—The sister was in St. Thomas's Hospital in 1897 with anæmia. The edges of the spleen and the liver were palpable. Previously she had had diarrhœa and abdominal pain with slight irregular fever. The red corpuscles numbered 2,240,000 per cubic millimetre. In 1900 she was again in St. Thomas's Hospital. Then her skin was yellowish. The spleen reached nearly down to the level of the umbilicus and the liver to one inch below the ribs. There were no enlarged glands. The red cells numbered 2.746,000 per cubic millimetre and the hæmoglobin was 65 per cent. The number of the leucocytes was not recorded. The polymorphonuclears were in normal proportion. The myelocytes were 2·5 per cent. Two years later, at the age of 10 years, she came into Guy's Hospital. Five days before admission vomiting set in. Now she was collapsed and restless and occasionally she screamed. Her skin was of a brownish-yellow colour, not the yellow of jaundice nor the lemon-yellow of pernicious anæmia, but rather bistre. The spleen was two inches

The Lumleian Lectures

ON

SOME DISORDERS OF THE SPLEEN.

Delivered before the Royal College of Physicians of London on March 17th, 22nd, and 24th,

By FREDERICK TAYLOR, M.D.,
F.R.C.P. Lond.,
SENIOR PHYSICIAN TO, AND LECTURER ON MEDICINE AT, GUY'S HOSPITAL.

LECTURE II.[1]

Delivered on March 22nd.

Mr. President and Gentlemen,—At the last lecture I was recording some cases of enlarged spleen in which the diagnosis had presented difficulties and I concluded with the remark that the recognition of the cause of enlargement depends less on the characters of the organ itself than on the associated conditions—except in respect of its size. I propose now to say something of the condition known as splenic anæmia, but before doing so must refer again to those cases in which a splenic enlargement may exist with comparatively good health and without an entirely satisfactory explanation of its occurrence.

Case 14.—The patient was a woman whose age was unrecorded. She had had pleuritic effusion, was tapped, and then became anæmic. Her periods were irregular and scanty. She had had influenza six months previously. A hæmic murmur could be heard at the base. The liver could not be felt. The spleen was two inches below the ribs. On a blood count being made the red corpuscles were 40 per cent. and the hæmoglobin was 20 per cent. Two weeks later the red corpuscles were 39 per cent., the hæmoglobin was from 15 to 20 per cent., and the leucocytes were 7000 per cubic millimetre. She was treated as a case of chlorosis. Nine days later the red corpuscles were 53 per cent., the hæmoglobin was 40 per cent., and the leucocytes numbered 7700 per cubic millimetre. 13 days later the red corpuscles were 80 per cent., the hæmoglobin was 50 per cent., and the leucocytes were 8000 per cubic millimetre. A week after this she went out looking very much better. This was apparently a case of chlorosis, but the enlargement of the spleen, which after all was slight, is unexplained. It is an interesting fact that the spleen is not commonly enlarged in chlorosis. Now, four years later we understand that she recovered sufficiently to become a hospital nurse, but her present condition is unknown.

Case 15.—A patient, aged 33 years, was seen by me in 1900. He had had influenza 15 months previously and another attack recently. Ten days previously there were sleeplessness, cough, anorexia, and a slight rise of temperature. Great enlargement of the liver was present. The spleen was within three inches of the middle line and three inches below the horizontal level of the umbilicus. A blood film showed normal red corpuscles and no excess of leucocytes. Two months later he was better and had been at work for three weeks. He thought himself quite well. The spleen was larger than it previously was. The red corpuscles numbered 5,000,000 per cubic millimetre and the hæmoglobin was 90 per cent. A leucocyte count was doubtful, but a film showed absolutely no excess, mainly small uninuclears with a few polymorphonuclears; no myelocytes were present. Recently after an interval of three years the patient was in almost exactly the same condition. He was at work, called himself well, but was probably not really vigorous. The liver reached four and a half inches below the ribs. The spleen was only two inches from the middle line and five inches below the level of the umbilicus; vertically it extended fully ten inches. It felt rough on the surface; it was not very firm or hard and gave the impression that it could be bent transversely; it was painless and not tender. The red corpuscles numbered 4,600,000 and the leucocytes 8000 per cubic millimetre; the hæmoglobin was 85 per cent. The heart and the urine were normal. This is a difficult case to classify. The patient was born in London and had never had ague. He had not any valvular disease or cirrhosis, and though his liver is enlarged it is distinctly not hard and it is clinically quite unlike a cirrhotic liver. He had not pernicious anæmia or Hodgkin's disease, and there is no pigmentation or hæmorrhage. Is it possible that this will ultimately develop into splenic anæmia, that he will lose more and more hæmoglobin and corpuscles?

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[1] Lecture I. was published in The Lancet of May 28th, 1904, p. 1477.

3. *How does the enlargement of the spleen cause the anæmia?* This, again, presents difficulties which are met as far as I can see by no one. That it does so appears to be shown by the fact that the anæmia has been cured by removal of the spleen; but this fact may also be taken to show that the spleen is not really wanted for blood formation seeing that directly it is removed the blood is better formed than it was before.

Dr. Rolleston suggests as most probable that poisons produced in the spleen inhibit blood formation, and perhaps this is as far as we can go considering what is known of the formation of the blood. The question here is again, What determines the formation in the spleen of the hypothetical poisons? why do some persons go on for years, as in cases mentioned by Professor Osler and as in the case which I have referred to, with enlarged spleens which do not produce poisons to inhibit the formation of the blood? At any rate it appears to be clear that in ordinary cases the process is not one of hæmolysis; the blood is not destroyed by poisons found in the spleen. The condition of the blood is that of chlorosis and the numerous secondary anæmias, the colour index is less than 1, the hæmoglobin percentage is less than that of the red corpuscles, and as a rule hæmosiderin is not found in the viscera—that is, the liver does not give the Prussian blue reaction with potassium ferrocyanide and hydrochloric acid.

It is interesting to see the views entertained on the subject by that distinguished physician Professor Senator of Berlin, as he propounded them at the meeting of the British Medical Association. He seemed less inclined than the opener of the debate to limit the term to a particular form with the limiting criteria I have referred to, and especially appeared prepared to include under splenic anæmia conditions having a rather definite causation, such cause, however, acting rather as a disposing than a directly exciting cause. He instanced the case of spleens originally enlarged in the course of an infectious disease (typhoid fever or malaria) never completely subsiding and later becoming much enlarged; hereditary syphilis, rickets, and Barlow's disease (infantile scurvy) were also mentioned by him. But in addition to these are cases in which there is no preceding history to explain the occurrence, and in such cases he was in agreement with others in suggesting that injurious substances might reach the spleen by lymphatic channels from the intestinal tube. He recognised that the liver might be affected secondarily, but that ascites might occur without any cirrhotic change in the liver and possibly as a result of the blocking of the portal capillaries with transported large endothelial cells. An important statement of his is that severe anæmia only arises when the bone-marrow is involved by the occurrence in it of circumscribed lymphoid or lymphadenoid spots, myelomata. Another secondary result on which he lays some stress is a swelling of the abdominal lymphatic glands. His conclusions are that splenic anæmia is to be regarded as one form of pseudo-leukæmia, a pseudo-leukæmia lienalis. He thus links it to Hodgkin's disease, or pseudo-leukæmia lymphatica, and admits thirdly a pseudo-leukæmia myelogenica, when the bone-marrow is involved. These conditions, according to him, can be variously combined and, as already stated, he appears to think that his pseudo-leukæmia lienalis can only produce a severe anæmia when it comes into partnership with a pseudo-leukæmia myelogenica, and further, as a corollary to this, that when removal of the spleen has been successful it is because the bone-marrow has not at that time been involved.

The implication of the bone-marrow has been, of course, recorded by others. Rolleston refers to a case by Dr. W. Ewart in which the bone marrow was healthy—it may have been a matter of time relations; while he points out that Sippy, Williamson, and Michell Clarke have seen changes in the bone marrow. In my case (Case 26) the bone-marrow was affected, but this is one of two cases—brother and sister—which show some points of resemblance with pernicious anæmia, and a possible confusion of these two conditions has been suspected in other cases. To this question I may recur again later.

Two cases of splenic anæmia have been recently published by Dr. Dock and Dr. Warthin.[2] In the first—that of a man, aged 41 years, the illness dated back only one week from the first observation; the patient felt a pain in the side and discovered a swelling which proved to be a large spleen reaching one inch to the right of the umbilicus and two and a half inches below it. The skin was somewhat pale and sallow, and the visible mucous membranes were of fair colour. The blood count was as follows: red corpuscles 4,480,000 and leucocytes 5857 per cubic millimetre and hæmoglobin 75 per cent. Of three other counts made in two the red corpuscles were over 4,000,000 per cubic millimetre. A little over four months later the spleen was removed and the patient died four days afterwards. The second case was that of a woman, aged 53 years, who after various dysenteric attacks spreading over six years, had a moderate amount of anæmia, the spleen reaching to the middle line above the umbilicus and to the horizontal level of the umbilicus. The red corpuscles numbered 2,800,000 and the leucocytes 5857 per cubic millimetre, and the hæmoglobin was 60 per cent. of the normal. The abdomen was tapped and yielded 3800 cubic centimetres (less than seven pints). A few days later the red blood corpuscles numbered 4,266,666 and the leucocytes 7894 per cubic millimetre, and the hæmoglobin was 70 per cent. The diagnosis was admittedly difficult. Later a fibroid in the uterus justified a laparotomy and it was then found that the liver was cirrhotic. A month after this operation hæmatemesis occurred and the patient died.

In both cases there was a marked fibrous hyperplasia of the spleen with endothelial proliferation and diminution of the lymphoid tissue. In the first case there was an early stage of cirrhosis of the liver; in the second the greater part of the liver presented the picture of an atrophic cirrhosis. In both cases also there was calcification of the portal vein with stenosis, sclerosis of vessels, especially of the portal area, hyperplasia of hæmolymph nodes and bone-marrow, and new formation of lymphoid tissue in the retroperitoneal fat. Dr. Dock and Dr. Warthin attach much importance to the stenosis of the portal vein and expressly state as bearing on the questions that have been already discussed that "the changes in the spleens of the two cases do not represent any feature that could not be explained by a chronic passive congestion of marked degree." At any rate there "is a possibility that the clinical picture of splenic anæmia or Banti's disease may be caused by a stenosis of the portal vein due to old phlebitis and thrombosis and the resulting stenosis." Naturally they submit that the question cannot be answered by two cases, but their final remarks are that the two cases "may be taken as further evidence in favour of the view that the symptom-complex represents a group of varying pathological conditions, the splenic condition being secondary."

In reference to the question of the occurrence or absence of hæmolysis or blood destruction more than once referred to, Dr. Dock and Dr. Warthin assert that in both these cases there was extensive hæmolysis, as shown in the endothelial phagocytes of certain portions of the spleens and by the activity of phagocytosis in the hæmolymph glands and in the bone-marrow. But they say that "in spite of so great a hæmolysis no hæmosiderin is found outside of these glands (hæmolymph nodes) and the bone-marrow. Iron tests of liver, spleen, and kidneys do not show a trace of iron. The hæmolysis is, therefore, different from that occurring in pernicious anæmia."

BANTI'S DISEASE.

Banti's disease is the termination of splenic anæmia in cirrhosis of the liver, jaundice, and ascites. Too few of these cases have been collected to make one sure of their exact relations; and it seems desirable that the cases should be known from the first to justify their inclusion in this group. Out of Professor Osler's 15 cases[3] two, No. 5 and No. 18, seem to have been Banti's disease, and amongst his 38 cases of anæmia and enlarged spleen collected from members of the association possibly three others may have been of this nature. This seems to show that though Banti's disease may be a sequel of splenic anæmia it is not a frequent sequel and from these cases it is shown that splenic anæmia may last a very long time indeed without the secondary changes distinctive of Banti's disease being induced. Thus in his own list there are seven claiming a duration of ten years or more and of these only one (13 years) is certainly Banti's disease and a doubtful one is the longest case—viz., 15 years.

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[2] American Journal of the Medical Sciences, January, 1904.

[3] Transactions of the Association of American Physicians, 1902.

I should like to refer here again to a case which I reported[4] under the name of splenomegalic cirrhosis and to which Professor Osler has alluded in his consideration of the conditions under which the spleen and the liver may be simultaneously enlarged, asking whether such cases may not come within the category of Banti's disease. It was the case of a boy admitted under my care at the age of 12 years with a history of having had scarlet fever three and a half years previously and of having become ill shortly after that, "He had pain in his left side and diarrhœa but no vomiting. Then his skin became yellow and jaundice was recognised." He had well-marked but not intense jaundice, a very large spleen reaching three inches across the middle line below the umbilicus and a moderately enlarged, hard, and slightly rough liver. He had at that time a red blood count 80 per cent. of the normal and shortly afterwards it was 84 per cent. He was of stunted growth and the skin was deeply pigmented. In the course of the next two and a half years his jaundice varied but became ultimately deep; the spleen became larger; the liver increased and was hard, rough, and obviously cirrhotic. Two months before his death the red corpuscles numbered 3,000,000 per cubic millimetre and six weeks only before his death he had ascites. I think it is difficult to assert that this case began as splenic anæmia and subsequently assumed the characters of Banti's disease. Though it is conceivable that he had anæmia before the date at which his illness is said to have commenced and even that his spleen was large then, still the available history is to the effect that jaundice was a very early symptom and practically that jaundice was present throughout, unless it disappeared temporarily at any time prior to his first admission, and if it did that is not a fact that assists particularly the diagnosis of splenic anæmia. Moreover, when first under me, three and a half years after the first symptom, he had no pronounced pallor and blood counts of 84 and 80 per cent., especially at that date, did not lend much support to a diagnosis of splenic anæmia.

It seems to me essential for the diagnosis of Banti's disease that the early history of the case should be known in respect of the blood. A case occurred at Guy's Hospital under Dr. G. Newton Pitt which bears upon this question. The patient was a man, aged 42 years. At about 20 years of age he had had dysentery in Egypt, also enteric fever and pneumonia, and then later some 12 attacks of ague. Five years later he was in the hospital with an enlarged liver and spleen, anæmia, and jaundice. Five years later again presumably at the age of 32 years, he was in again with a suppurating bubo and an enlarged liver and spleen. On the present occasion ascites was present; the spleen reached down to the level of the umbilicus. There were slight jaundice and increasing general œdema. Death ensued. The red blood corpuscles were 104 per cent., the hæmoglobin was 90 per cent., and the leucocytes numbered 4687 per cubic millimetre. The specific gravity was 1051. Post mortem the heart weighed 379 grammes (13 ounces). There was no obvious fatty change. The liver weighed 1554 grammes (55 ounces) and showed typical multilobular cirrhosis. The spleen weighed 1150 grammes (40½ ounces). A considerable fibrous change and a doubtful appearance of lardaceous change could be seen under the microscope; yet the splenic substance was pulpy and soft.

On the following day occurred the case of a boy, aged 14 years, who was admitted with a very large spleen, had cirrhosis of the liver and ascites, and was tapped several times, and died. Though we did not have at first a history of alcoholic indulgence his friends were detected in bringing him brandy and his father practically admitted that he was addicted to illicit drinking. Dr. H. S. French, who made the post-mortem examinations in these two cases, states that "the post-mortem appearances were remarkably alike in most respects."

If anæmia, cirrhosis, enlarged spleen, ascites, and jaundice can result from a cirrhosis primarily alcoholic, the proof that in a similar case the cirrhosis is secondary to a splenic anæmia must depend upon the early history showing a typical blood count and a much enlarged spleen before the liver is under suspicion of being gravely involved.

THE SPLEEN IN PERNICIOUS ANÆMIA.

The difficulties of the diagnosis of splenic anæmia from other cases of splenomegaly with anæmia present themselves in an interesting way in the case of pernicious anæmia. In most cases, as I have pointed out, it is the possibility that a splenomegaly with little or no anæmia may subsequently present the typical features of splenic anæmia which leaves us in doubt, and again the possibility that some lesion sufficient in itself to cause both the enlarged spleen and the anæmia may for a time be concealed from us. But as the disease progresses (which is not the same thing as saying "as time goes on") the diagnostic features are likely to become clearer, though the diagnosis between splenic anæmia and pernicious anæmia may require careful sifting even up to much later stages. From his first series of cases of splenic anæmia Professor Osler subsequently excluded one case as more likely to be pernicious anæmia.

As instances of the same difficulty I may refer again to the brother and sister whose cases I have already considered under the head of "Splenic Anæmia." To begin with, I think one must assume that whatever their disease was it was the same in both. The points in which they resembled pernicious anæmia were that in both there was a high degree of oligocythæmia (the boy 1,066,667 and 1,000,000 and the girl 1,300,000 per cubic millimetre). But this was only a few days before death and in their previous residence at St. Thomas's Hospital the red count varied from 2,000,000 to 3,000,000 per cubic millimetre. In the boy the colour index was far above unity; this also was when he was near his end. A few poikilocytes were noted in the girl's blood and a slight leucocytosis in that of the boy. After death the girl's liver and kidney gave a blue colour with potassium ferrocyanide and hydrochloric acid, "but not of deep enough tint to be called Prussian blue." The liver of the boy gave only a partial blue stain with the same reagents. In both the cardiac muscle was fattily degenerated. The bone-marrow in the femur, sternum, and ribs was dark red or maroon in colour. On the other side are these facts—that the cases affected two members of one family, an occurrence which has been more often recorded in connexion with those still obscure anæmic splenomegalies than with pernicious anæmia, and that the disease began in early childhood. Pernicious anæmia is well known to commence chiefly in adult life. Coupland says that cases are on record in patients as young as seven, 11, and 12 years. In my two cases the children were respectively four and six years when they were first under hospital treatment. The spleen in the girl, who was ten years of age at the time of her death, was two inches below the costal margin. Five years previously, when first seen, "the edges of both liver and spleen were palpable." That the spleen should have enlarged so little in the course of five years is, I must allow, a point rather unfavourable to the inclusion of the case under splenic anæmia. The spleen of the boy, who was 12 years of age at the time of death, was one and a half inches below the level of the umbilicus, an extent compatible with splenic anæmia, but unusual in pernicious anæmia. In 1894, when he was four years old, it was two inches below the costal margin. Five months later it was much larger and reached below the level of the umbilicus and this position of the organ seems to have been maintained, perhaps with slight increase, until the age of six years, when the *last record* is available prior to his admission to Guy's Hospital. This boy in the first two years of his illness was often described as being of a lemon-yellow tint; but in their last days both children had a pronounced pigmentation of the skin which presented what I described as a *bistre*—that is, a pale yellowish-brown colour, very like the earliest discolouration seen in Addison's disease. This is to my mind rather a characteristic of splenic anæmia than of pernicious anæmia.

As to the size of the spleen in pernicious anæmia Coupland says[5]: "The spleen may be slightly enlarged but often it is quite small; in colour and consistence it varies, being often pale, sometimes soft, or again rather indurated." Dr. W. Hunter has collected for his work on "Pernicious Anæmia" the results as to the condition of the spleen from several writers. He gives the normal weight as 225 grammes, or nearly eight ounces, and he says "in the great majority of cases, however, the spleen is described as normal or no mention is made of it." He alludes to three published cases in which it was 10, 16, and 19½ ounces respectively, and from Dr. Pye-Smith's list of 26 cases in which the size of the spleen is given 17 showed some increase—either expressed as "slightly enlarged," "somewhat enlarged," or as a weight in excess of eight ounces.[6] In four cases coming under his own observation Dr. Hunter found the spleen to weigh 19, 11, 10, and 13 ounces respectively. He has found it described as soft and diffluent, pale and soft, soft, or firm and red, firm, or of deep purple colour. Microscopically nothing specific has been described: a simple hyperplasia. In cases under his own observation the spleen has been soft and pulpy, of an extremely deep violet or purplish colour, contrasting in this respect very markedly with the pallor presented by all the other organs in the body. The iron-contents in seven cases examined by him were not in excess of what may be met with in certain other conditions. Dr. Hunter looks elsewhere than to the spleen for a means of diagnosing "pernicious anæmia" proper—viz., to the evidences of hæmolysis and the evidences of infection of which he finds practically always an example in an infective glossitis.

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[4] Guy's Hospital Reports, vol. liv., p. 1.

[5] Allbutt's System of Medicine, vol. v., p. 530.

I have recently had under my care a case of pernicious anæmia in which the spleen in a large fat woman was three inches below the left costal margin and the liver was about the same distance below the right. Unfortunately the record of the weight after death is not forthcoming; the colour index of the blood was 1·5 and the liver and kidneys contained an excess of free iron.

A CASE OF ACUTE HÆMORRHAGIC PANCREATITIS.

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(*The Surgical Notes by* L. S. LUCKHAM, M.R.C.S. ENG., *Surgeon to Salisbury Infirmary.*)

ON account of the prominence given to inflammation and other diseases of the pancreas by Mr. A. W. Mayo Robson, and especially so in his most excellent Hunterian lectures,[1] I have thought it desirable to publish notes on the following ca

P. Blackmore, who advised the removal of the case has very kindly given me the following history ent's condition previously to my seeing him. a man, a wine merchant's traveller, aged 39 ose history was unimportant except for the fact out a year previously he had, he said, suffered n attack of "congestion of the liver." It was ed that he had not been greatly addicted to alcohol. March 26th, 1904, the bowels were confined but on e next day he had a sharp attack of diarrhœa; on the 28th, about one and a half hours after dinner, he was seized with severe epigastric pain and vomiting. Dr. Blackmore saw him at 5 P.M.; he was then vomiting frequently and complained of severe pain in the epigastrium. He had an anxious expression and looked very ill. Jaundice was absent. The abdomen was rather tense and tympanitic. There was considerable tenderness over the region of the gall-bladder and to a less degree over the stomach. There was no enlargement of the liver or indication of tumour elsewhere. His temperature was 98° F. and the pulse was 110, small, and feeble. On the 29th it was ascertained that the vomiting had continued frequently through the night and that he did not sleep. He still complained of pain in the epigastrium but said that he felt better. His temperature was 97° and the pulse was 120. The bowels had not acted and the amount of urine passed was very small in quantity, dark coloured, and loaded with lithates and bile pigment. On the 30th, under small doses of morphine, he had a more quiet night but the bowels had not acted and the vomiting still continued. His abdomen was more distended and the temperature was 96·8°, the pulse being 125, small, weak, and thready. Dr. Blackmore urged his removal to hospital for relief of what seemed to be obstruction of the bowels.

I saw the patient about one hour after admission to the Salisbury Infirmary. He said that he had been vomiting incessantly since an attack of pain in the pit of the stomach four days before and that his bowels had not acted nor had he passed any flatus; he said, however, that the pain was much less. He was a stout, well-nourished man but with a face of extreme anxiety—in fact, an abdominal face. His tongue was coated with a thick brown fur. The pulse was 120, very thin, and of low tension; the temperature was 97·4°; and the respirations were 36. The abdomen was distended and held rigid but moved fairly well with respiration. On palpation it was somewhat rigid and there was some tenderness in the epigastric region. No local resistance or signs of tumour were made out, the liver dulness was much diminished but was present, the hernial rings were normal, and there were no signs of fluid in the flanks. Auscultation of the chest revealed no basal pleurisy. Two enemata were given (one by a long tube) but both were returned uncoloured by fæcal matter. The patient passed about seven ounces of highly coloured urine in which there was no sugar but a trace of albumin. Inasmuch as the vomiting continued and the pulse was becoming worse, after consultation with my colleague Mr. Luckham it was thought advisable to perform laparotomy and to attempt to relieve what appeared to be obstruction, rather by band or internal hernia high in the intestinal canal.

Before operation the patient was given one-quarter of a grain of morphine and the stomach was washed out. Chloroform was employed and a median incision above the umbilicus was made. As soon as the skin was divided the fat of the abdominal wall was seen to be dotted with opaque yellow areas which at once suggested the condition termed "fat necrosis." The peritoneum being opened a very large quantity of inoffensive and brown fluid welled out; there was no free gas. Inspection of the great omentum revealed the same condition of fat necrosis and on this being turned up with the transverse colon, at the base of the transverse mesocolon and extending across the back of the abdomen an elongated swelling was felt which was made out to be the pancreas and the swollen tissues over it. This mass was dark in colour from hæmorrhage. The peritoneum itself showed only signs of early inflammation, there being no lymph, only injection of vessels. Three incisions were made into the tissues over the pancreas through the transverse mesocolon from which there was no bleeding. The gall-bladder was next inspected and was felt to be full of stones. The median incision was sewn up and drained with a large tube and gauze strips. A fresh incision was made in the right semilunar line, the gall-bladder was opened, and many stones and much grit were removed. A drainage-tube was tied in the gall-bladder, as it was impossible to bring it up to the abdominal wall, it being much contracted, a gauze drain was put in, and the wound was sewn up During the greater part of the time taken up by the operation the pulse at the wrist was barely discernible. On sensibility returning vomiting at once recommenced in which there was much bile. This vomiting, which latterly contained blood, continued without ceasing till death occurred. The patient was fed per rectum but failed to retain the enemata. Calomel by the mouth and turpentine enemata failed to act on the bowels. The amount of urine excreted was very small, about 11 ounces since the operation, which was drawn off by catheter on two occasions. He complained much of thirst but vomited all that was given by the mouth; he was therefore transfused. His temperature remained subnormal, having never been up to the normal line since the onset of his attack. He gradually lapsed into a state of toxæmia with increasing restlessness and died exactly five days after the initial symptoms.

I made a post-mortem examination on the next day. There was no change of importance in the chest except that the left pleural cavity contained about half a pint of sanious fluid and on the upper surface of the diaphragm were a few spots of fat necrosis. The condition of the abdomen was as follows. It was distended and tympanitic and on opening it the great omentum was found to be loosely adherent to the abdominal wall. On turning this up with the transverse colon and its mesocolon a very large swelling was felt in the situation of the pancreas. The operation incisions were visible in the base of the mesocolon. There was only about a pint of bloody fluid in the peritoneal

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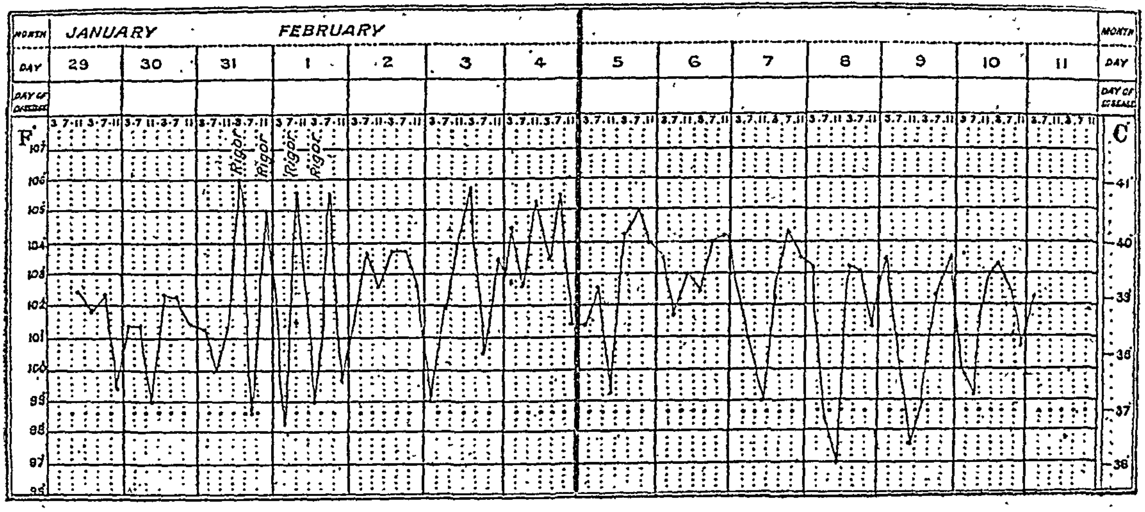
[6] Guy's Hospital Reports, vol. xli., 1882, p. 283.

[1] THE LANCET, March 19th (p. 773) and 26th (p 845) and April 2nd (p. 911), 1904.



to a bulging in the right ventricle at the base of the tricuspid valve, one flap of which was directly infected. There were a few vegetations on the mitral valve, spreading from the aortic valve. At the bifurcation of the right popliteal artery was a massive embolus, resembling the cardiac vegetations, riding the angle formed by the branching of the artery and surrounded by recent thrombosis which completely occluded the lumen of both vessels. The spleen weighed 20 ounces; there were infarcts of various sizes and ages, none of which were softened. The organ was placed high in the abdominal cavity, being well supported by an unusually complete costo-splenic ligament, which formed a shelf upon which the spleen rested. This explained the fact that the enlarged spleen was not felt during life. The kidneys weighed 20 ounces together; there were a few small recent infarcts.

A bacteriological examination resulted as follows. Films from the vegetations and from the popliteal clot showed numerous pneumococci. Cultures from the vegetations, the heart's blood, and the spleen all gave good growths of pneumococcus. In cultures from the vegetations there were a few colonies of some post-mortem contamination. In all cases the pneumococci showed capsules staining well with carbol-fuchsin. No other organism was found in the cultures. Pathogenicity: a 24-hours broth culture from a colony on agar (heart's blood) killed a mouse in less than 24 hours. Pneumococci were recovered from the peritoneal exudate and from the heart's blood and were cultivated.

APPENDICITIS.[1]

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THE great frequency with which during recent years we are called upon to deal with cases of inflammation of the vermiform appendix and the extreme gravity of many of these cases have forced this subject to the very forefront and relieve me from any necessity for an apology in introducing it to you as a subject for discussion. I propose, therefore, to bring before you certain headings, shortly to run over the more recent work in each direction, to formulate any conclusions I have myself arrived at, and to ask the members of this society to express their own views on the points raised.

The headings I would suggest as most useful for discussion are the following: 1. What is the pathological lesion giving rise to an attack of "appendicitis"? 2. Is appendicitis more frequent than formerly? If so, to what is this increased frequency due? 3. What is the relative value of the various symptoms in appreciating the gravity of an attack of appendicitis and in the diagnosis of the disease; 4. When is it our duty to advise operative interference?

1. WHAT IS THE PATHOLOGICAL LESION GIVING RISE TO AN ATTACK OF "APPENDICITIS"?

Here at the outset we meet with divergent views. Treves[2] in the Cavendish lecture for 1902 says: "It is pure peritonitis; there is no consideration about it which is apart from peritonitis. Until the peritoneum is involved there is no malady." In support of his view he quotes a case of ovariotomy in which he came across "an appendix showing the grossest changes." This woman had never had any symptoms of appendicitis. On the other hand I can refer to two of my own cases in each of which a stenosed and dilated appendix lying free in the abdominal cavity and covered by healthy lustrous peritoneum gave rise to all the symptoms of appendicitis. In each case the removal of the appendix has relieved the patient completely of these symptoms. It is evident, therefore, that peritonitis is not a necessary item in the programme and that the view held by Treves cannot be accepted as an invariable rule. Charters Symonds[3] considers the rise of temperature is due to a septic process in the connective tissue of the appendix. Mansell Moullin[4] refers the pain and tenderness to the post-peritoneal connective tissue. Eccles[5] maintains that appendicitis is a bacterial inflammation of the appendix and that without such a form of inflammation no appendicitis can occur.

Thus besides the view that appendicitis is "pure peritonitis" we have here three different opinions to consider, and I believe that each of them is true from its own point of view. To take Eccles's view first, one can hardly doubt its accuracy. Concretions in the appendix have been found to be simply masses of bacteria; the sloughing of the sides of a wound made to evacuate an appendicular abscess and the fæcal odour so often observed (without the presence of a fæcal fistula) demonstrate clearly enough the bacterial origin of the disease. Then we can hardly believe that so fœtid an inflammation can occur without some inflammation of the neighbouring connective tissue and lymphatics and so we are prepared to accept Charters Symonds's and Mansell Moullin's views. The former has pointed out that the temperature often falls with the definite formation of an abscess; this quite agrees with our experiences elsewhere. The pain may have more than one source. We know that tension of viscera will cause most acute agony and it is doubtless the case that the severe pain of onset is often caused by tension, especially when a concretion is present; this in no way precludes the view that pain and tenderness arise in the post-peritoneal connective tissue; the severe pain of tension may indeed cease but the pain and tenderness of a cellulitis and lymphangitis may still be present.

I think we may safely conclude that appendicitis is a bacterial inflammation of the appendix, and that with stenosis of the organ the pain of tension may be severe; that tension may be so great as to cause perforation or gangrene, but that these may also result from the virulence of the poison; that in all but the mildest cases the connective tissue and lymphatics are inflamed; and that this inflammation is the cause of the pain and tenderness remaining after the acute pain of onset.

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[1] A paper read before the Devon and Exeter Medico-Chirurgical Society.

[2] THE LANCET, June 28th, 1902, p. 1815.

[3] The individual value of the symptoms in perforative peritonitis.

[4] THE LANCET, August 22nd, 1903, p. 514.

[5] Hunterian Lectures, THE LANCET, March 14th, 1903, p. 703.

2. IS APPENDICITIS MORE FREQUENT THAN FORMERLY? IF SO, TO WHAT IS THIS INCREASED FREQUENCY DUE?

Treves[6] in his Cavendish lecture and Mayo Robson[7] in his Address in Surgery at Swansea both hold the view that the apparent increase is due to its more correct recognition. I find it frequently stated that this recognition is due to the work of Fitz of Boston in 1886, but it is quite clear that it was fully recognised long before this. Thus Mayo Robson[8] points out that perforative appendicitis and its consequences were well described by both Copland and Burne in 1837, and Wilks and Moxon[9] gave in 1875 a description of appendicitis to which an account of its bacteriology only needs to be added to bring it up to our present knowledge. It ought not to be difficult to ascertain the facts of the case. In the three years 1882-84 St. Batholomew's Hospital admitted an average of some 4000 patients annually. This had risen to some 6000 in the three years 1899-1901. In the former three years there were admitted 117 cases which might possibly be appendicitis—viz., 79 of perityphlitis and 38 of acute peritonitis. These 117 cases showed 23 deaths, of which six were proved post mortem to be due to causes other than appendicitis, leaving the statistics for those years as 111 cases with 17 deaths as the largest number of cases which could by any means be included as cases of appendicitis. Correcting the figures for the increased admissions there should be for the later three years 167 cases admitted, with 26 deaths. What do we actually find? That there were admitted in the later three years 321 cases of perityphlitis and appendicitis with 38 deaths. Moreover, 217 of these cases required operation and we may therefore fairly conclude that without such interference the deaths would (like admissions) have nearly doubled their proportion in the seven years' interval.[10] Barling,[11] quoting from the statistics of the Birmingham General Hospital, arrives at much the same results. The figures which I have shown are fairly convincing of a real increase in the frequency of the disease and if one's personal experience counts for anything it points strongly to the same conclusion. Thus an analysis of the cases for which I have been called to consultations in the surrounding country during the last ten years shows that the proportion of cases of appendicitis to all others has grown from $\frac{1}{5}$ per cent. to 10 per cent. during that period.

What, then, is the cause of this increased frequency? Let me remind you of its incidence: 80 per cent. of cases occur under 30 years of age; 73 per cent. of cases occur in males; therefore 60 per cent. of cases (nearly two-thirds) occur in males under 30 years of age. It has been stated that whatever its cause it must be one that affects all classes of the community, but I would point out that these figures suggest a cause especially affecting young males.

We may reflect that it is during the last 16 or 18 years that appendicitis has assumed its present importance and I believe that dental surgeons will uphold the view that the same period has shown the gravest deterioration in the fitness of the molar teeth for mastication. Admit this point and, further, remember that young men are especially the class who are prone to hurry their meals and often have to pick them up irregularly as best they may, and we shall see how other suggested causes become determining factors. Thus "a loaded cæcum" and tinned and frozen food come into play. Can a better nidus for bacterial development be imagined than a cæcum loaded with partially chewed, undigested masses which have been prepared for rapid decomposition by freezing or preservation for long periods?

3. WHAT IS THE RELATIVE VALUE OF THE VARIOUS SYMPTOMS IN APPRECIATING THE GRAVITY OF AN ATTACK OF APPENDICITIS AND IN THE DIAGNOSIS OF THE DISEASE?

We may here first make some simple classification of the degrees of the disease, remembering always that apparently mild cases may at any time develop serious symptoms: (1) Acute cases, separating diffuse and localised; (2) subacute; and (3) trifling or doubtful cases. We shall probably be called to our patient on account of an attack of abdominal pain; we shall note his appearance; inquire if there has been shivering, vomiting, or diarrhœa, and note his pulse, respiration, and temperature. Let us consider these points first.

Appearance of the patient.—I need not spend time in describing the appearance which constitutes the "abdominal facies." It should be familiar to all of us and I cannot lay too great stress on the importance of learning fully to estimate the value of a patient's appearance. It alone has frequently told me, and told me correctly at the first glance how great was the urgency of a case.

Shivering or a rigor.—Shivering is not uncommon; a definite rigor is a grave symptom and usually indicates a gangrenous appendix.

Vomiting.—This is not uncommon in acute cases; it is often absent in the ultra-acute. It is to be regarded as serious if it returns after an interval and becomes persistent and continuous; it is especially so if it persists in spite of feeding by the mouth having been discontinued.

Diarrhœa.—This usually indicates a severe attack and is looked on by some as indicating toxæmia; in any case it shows that peristalsis is going on and from that point of view is not unfavourable. Constipation is far more frequently present.

Pulse.—All are agreed that the pulse is of the utmost importance, though authorities differ as to whether its character or its rate is of the greater value. Personally I regard the latter symptom chiefly and a point on which I should like to lay the utmost stress is the importance of frequent records of its rate. If this is gradually falling from the rapidity caused by the onset of the attack there is time to wait; if it is remaining steadily above 100, and, still more, if it is increasing in rapidity, delay in operation is inadvisable. In my experience *a rising pulse with a falling temperature is an especially bad sign.* It must, however, be remembered that other symptoms besides the pulse may render interference necessary, for a pelvis full of pus has been found even with a pulse of 80.

Respiration.—It should be noted if this is costal in type. Its rate in relation to the pulse-rate should be carefully charted. This helps to distinguish thoracic disease in considering the diagnosis.

Temperature.—This is a factor of questionable value. It is almost always raised at the onset; I have already spoken of its falling whilst the pulse continues to rise. A too rapid fall to a subnormal temperature, especially if the patient shows any sign of drowsiness, is a bad sign and suggests a gangrenous appendix and increasing toxæmia. One must never forget that severe peritonitis may be present with a subnormal temperature. Such a temperature, with a rapid pulse, a fixed abdomen, no local tumour, and an abdominal facies, should arouse our gravest anxieties. If after falling steadily for a few days from the onset it begins to rise again, and especially if there be with this morning remissions, a localised abscess must be carefully watched for.

I have left the question of pain to the last, and as this will lead us to the examination of the abdomen I may enumerate the points which we have to investigate in this direction: (1) distension; (2) fixity; (3) rigidity; (4) pain; (5) superficial tenderness (hyperæsthesia); (6) deep tenderness; (7) tumour; (8) percussion results, including the presence or absence of peritoneal effusion; and (9) œdema of the abdominal wall. Perhaps I may here emphasise the necessity of having a thoroughly good light for inspection of the abdomen; care must be taken that the patient is lying perfectly level and for the purpose of palpation the knees must be well drawn up.

1. *Distension* implies arrest of peristalsis which in the early stages is reflex and indicates diffuse mischief; in the middle stages the arrest may have been produced by the exhibition of opium, a drug which, except for *one* dose to relieve the acute pain of the onset, is to be avoided most scrupulously in appendicitis; in the later stages the condition is due to decomposition of the intestinal contents and consequent paralytic distension. Peristalsis may be listened for with the stethoscope and measurements to estimate variations in distension should be taken and recorded.

2. *Fixity.*—This and the next symptom are of great importance; there should be no hurry in examination and the patient's attention should be diverted so far as possible.

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[6] Loc. cit.

[7] THE LANCET, August 1st, 1903, p. 292.

[8] Ibid.

[9] Wilks and Moxon. Lectures on Pathological Anatomy, second edition, 1875.

[10] Cf. McDougall: THE LANCET, Feb 21st, 1903, p. 502.

[11] Brit. Med. Jour., Jan. 10th, 1903.

I have often found that a patient who will hardly move the abdomen with the observer's hand on the bare skin will move it freely when protected by the sheet or a thin warm towel. The costal type of respiration with abdominal fixation is of great diagnostic value, but even with a soft abdomen careful watching may show limitation of movement, the inspiratory act ceasing, possibly with a catch, before its full development.

3. *Rigidity.*—At the onset this may involve a considerable area of the abdomen; it should become more localised as the severe pain of the onset subsides. If it remains present over a large area it points to a considerable and diffuse peritonitis beneath. Thus I am accustomed to consider the non-formation within some 48 hours of the onset of "a lump" (be it local muscular rigidity or be it inflammatory matting) in a case not obviously of the subacute type as a grave sign and as indicating immediate interference. On the other hand, in some cases it is entirely absent; a perforated and gangrenous appendix has been found with quite soft abdominal muscles.

4. *Pain.*—It is a most important matter to have the patient's own story of the onset and to let him indicate the position in which he first felt pain. What is the cause of the pain in appendicitis? We know that the abdominal viscera are devoid of sensory nerves, as also is the visceral peritoneum. Inflammation of the parietal peritoneum or of the post-peritoneal cellular tissue and traction on the mesentery are the remaining sources of pain; the chief situations of pain in appendicitis are thus to be explained. Umbilical pain is due to peristalsis pulling on the mesentery. In operating under local anæsthesia traction on the root of the mesentery has been found to produce the same umbilical pain that arises from excessive peristalsis. Pain in the region of the appendix is usually referred to McBurney's point which, as I shall point out later, is the situation where the lymphatics of the appendix reach the post-peritoneal connective tissue. Moreover, should the appendix be in contact with the parietal peritoneum in any direction and communicate inflammation thereto, pain will also be felt in that situation. Thus I recently saw a lad, aged 17 years (the son of a medical man) in whom pain was most unusually severe at McBurney's point and was felt near the front of the abdomen. Twice in one night his father had to give morphine injections to allay this severe pain. Two days later I removed a sloughing and perforated appendix lying in contact with, and adherent to, the anterior abdominal wall.

5. *Superficial tenderness (hyperæsthesia).*—Head[12] and Mackenzie[13] independently first drew attention to this point in 1892, but little work has been done in the matter until recently. Mackenzie's explanation is that at certain spots small sensory nerve trunks approach the surface and thus are readily accessible to pressure. Head's view is that the stimulus required to call forth this cutaneous hyperæsthesia is that of tension. It is not, as in the case of pleurisy, due to direct irritation of the nerve trunks. In support of this he points out and teaches that it disappears on perforation or gangrene of the appendix. Since I have known of this symptom I have invariably looked for it and up to the present my observations have entirely confirmed Head's teaching. The method of searching for the symptom is by gently pinching or stroking the skin outside the suspected area and working round until the patch affected has been defined.

In appendicitis hyperæsthesia is found to affect chiefly the eleventh dorsal area mapped out by Head, encroaching on the two adjoining segments in severe cases and being limited to portions of the area in slighter cases. Sherren,[14] whilst registrar to the London Hospital, carefully investigated this symptom. Out of 81 cases operated on it was present in 19 and out of these perforation was only found in two cases, and in those two it had disappeared between the time of admission and the time of operation. In the remaining 62 cases it was absent on admission. In 23 of these cases perforation, and in 34 abscess, was found; whilst five were mild cases and were operated on after the subsidence of the attack. This symptom may be absent in secondary attacks but it is probably present at all times in primary attacks, except in fulminating cases and where an abscess has formed; its situation is not affected by the position of the appendix and it tends to pass off gradually with the subsidence of the attack; but should it disappear suddenly it points, as I have already stated, to perforation or gangrene of the appendix.

6. *Deep tenderness.*—It is obvious that we must distinguish early and late deep tenderness. The latter occurs in abscess cases and will vary with the situation of the abscess. Thus I saw a case recently in which this tenderness was just below the right costal margin, the pus having travelled up behind the colon. This abscess was opened and healed. It recurred abroad some months later and burst internally. I afterwards operated in a quiescent interval and found the patient to be the subject of an undescended cæcum. Early deep tenderness is associated with McBurney's point and much discussion has centred round the explanation of this symptom. McBurney's view was that this spot indicated the base of the appendix. It is obvious it could only indicate its base since the spot does not vary with the different positions assumed by the appendix. Eccles,[15] by the way, very well describes the most frequent of these as being respectively N., N.E., and S.E. At the request of Sir Frederick Treves[16] Dr. Keith made some investigations on this subject at the London Hospital. In 50 formalin-hardened bodies the base of the appendix was found to be almost invariably an inch *below McBurney's spot. What was found to correspond with* the spot was the ileo-cæcal valve. Moreover, in nearly all living subjects some tenderness can be found here. Thus, in 24 out of 27 medical students such a tender spot was found on the right side; in 11 it was exactly at the point, in nine a little above, and in four a little below. More recently as a result of Head's work the view has obtained that this being the point at which the mesentery of the appendix is attached to the posterior abdominal wall the tenderness to be found there in appendicitis is due to inflammation of the lymphatics of the appendix which run in its mesentery. In support of this view an interesting case is related in which it was present in a case of appendicitis in a patient the subject of non-descent of the cæcum. Here it could not have been referred to the base of the appendix or to the ileo-cæcal valve.

7. *Tumour.*—In later stages with a definite abscess there may be no question on this point. It is far otherwise in the earlier stages. Mackenzie[17] draws attention to the fact that where a tumour has been diagnosed by competent observers it has not unfrequently been undiscovered at an operation and he points out that Sherrington has demonstrated a peculiar power the flat abdominal muscles have of limited contraction. These muscles are supplied by more than one spinal nerve and if only one nerve root be stimulated limited contractions occur, whereas on stimulating a nerve (or one root of a nerve) going to a long muscle the whole muscle contracts. This phenomenon probably explains the so-called "phantom appendix" to which Treves[18] has specially called attention. Eccles[19] makes another suggestion—that it is the anterior longitudinal muscular band of the cæcum hardening under palpation. Personally I am convinced that local muscular rigidity is often taken for a tumour. In the early stages of an attack one often finds board-like muscles which absolutely defy palpation of underlying structures. It is only later, when rigidity has passed off, that a tumour can be felt through the muscles. More important than the formation of a tumour is its non-formation. It is precisely these cases in which no tumour appears within a short time of onset which give rise to the gravest anxiety and it is in these that immediate operative interference is most urgently indicated.

8. *Percussion.*—Battle[20] lays great stress on the presence or absence of peritoneal effusion and he recommends change of position to make the diagnosis sure. Barling[21] considers percussion of little value, pointing out that intestinal resonance may obscure a collection of fluid of some amount. Personally I have no great faith in percussion in such cases and I think the last thing in the world I should do would be to move the patient about unnecessarily from side to side and so risk the giving way of adhesions, the only result of which would be to allow foul fluid in the right flank to travel across to the opposite side. Moreover, in my experience such fluid, even when not limited by true adhesions, fortunately often has in front of it a zone of sticky peritoneum and therefore does not pass about spontaneously like a serous effusion in a lustrous peritoneum. We do not want to help it to do so.

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[12] ...: THE LANCET, Sept. 19th, 1903, p. 816.

A paper read be... Society.

[13] ...rit. Med. Jour., July 11th, 1903.

[14] Loc. cit.

[15] Loc. cit.

[16] Loc. cit.

[17] Loc. cit.

[18] Ibid.

[19] Ibid.

[20] THE LANCET, June 14th, 1902, p. 1679.

[21] Loc. cit.

9. *Œdema of the skin.*—This is a point that I have at times found helpful in determining the existence of underlying pus.

Having now completed our examination of the abdomen four points only remain for consideration.

1. *Examination of the rectum.*—This should never be omitted. It is especially required in women to distinguish pelvic inflammations.

2. *Leucocyte count.*—This has recently been shown to be of great importance and should never be omitted. During the first week, at least, it should be done daily; its advance or decrease will be of great assistance in those cases in which between the fourth and eighth day there are suggestions of the formation of an abscess. It is also useful later if there is anything to suggest the formation of a secondary abscess and it helps to distinguish appendicitis from other diseases. It is, however, no guide to the *amount* of pus present; thus a count of 17,000 has been found with a pint of pus and a count of 25,000 with only a couple of drachms. Variations[22] from normal to 62,500 have been observed. It may not appear in fulminating cases, where the resistance of the patient is too feeble to react to the toxæmia or where an abscess of some standing is well walled off. As one might expect, the largest counts are found in acute cases in robust young adults with strong reaction. In the lower counts—e.g., from 15,000 to 20,000—its advance or decline must be our guide. Personally, I have found this symptom of great service and even where an actual count has been impossible the altered proportion of leucocytes to erythrocytes is very apparent.

3. *Examination of the urine.*—This, a matter of routine in hospital work, should, if possible, not be omitted in private practice. I am aware that it may be difficult in emergencies at long distances, but the cases referred to by Mr. Rutherford Morison[23] serve to emphasise its importance. He reports six cases in which all the symptoms of acute abdominal illness have been present and the abdomen has been opened and no lesion revealed. The patients are usually at or past middle age and have "a curious, grey, apathetic look, with urine of low specific gravity, sometimes containing blood and albumin." A recognition of these cases has enabled him to avert operations on patients sent in for this purpose.

4. *Period of repose.*—We must always bear in mind when seeing an abdominal case within 24 hours of its onset that our first visit may be paid during the "period of repose" and that therefore the patient's life may entirely depend on at least a second, and if there is the least doubt perhaps several, visits at reasonably short intervals.

With the remainder of this part of the subject I do not propose to take long. It would be of little use to give a list of those conditions which have been mistaken for appendicitis or for which appendicitis has been mistaken. A careful investigation of the symptoms I have enumerated will, I believe, keep one from avoidable errors; thus the blood count will distinguish from typhoid fever and several other conditions; rectal examinations will distinguish diseases peculiar to women; the relation of pulse to respiration, if charted as I have suggested, will help to distinguish pneumonia and pleurisy; whilst the course of the temperature as well as other signs will be of use in distinguishing biliary or renal colic.

The fourth point I have to suggest for discussion is the question,

WHEN IS IT OUR DUTY TO ADVISE OPERATIVE INTERFERENCE?

Let us consider first the natural tendency and conditions of the disease. The tendency of an attack of appendicitis is to recovery, especially with suitable medical treatment. In my experience most of the cases seen in private practice require no surgical interference; but this does not hold good in hospital practice where only the more acute cases get sent in. The appendix, too, is in the majority of cases snugly tucked away in one corner of the abdomen under cover of the cæcum and it is a small organ from which no great leakage is likely to arise; thus there is usually time for adhesions to form. Further, we know that removal of the appendix during an attack is a proceeding leading to a high mortality, whilst its removal during a quiescent interval shows a low mortality. Thus we can at once decide not to advise operation in the acute stage simply with a view to removing the offending organ; there must be other and serious reasons for operating. To my mind three such reasons exist—(1) in acute cases, any ground for doubting if the peritoneal inflammation is localised; (2) a belief on our part that pus has formed; and (3) the existence of "peritonism." This last term [illegible] symptoms indicating a gra [illegible] cterised by pain, profound [illegible] pallor, a small soft quick [illegible] espiration, and vomiting. [illegible] by others, so it is well to be clear about its meaning in the present connexion.

It is when we have laid down our guiding rules and begin to apply them that our difficulties arise and the necessity for judgment comes into play. I have found the following points the most trustworthy guides:—

I. *In acute diffuse cases.*—1. The presence of symptoms of an abdominal catastrophe; in other words, the condition just described as "peritonism." In this connexion there are two points invariably to be borne in mind: (*a*) that we may be seeing the patient in the period of repose; and (*b*) that morphine may have been given. This point should never fail to be inquired into. 2. Increasing distension of the abdomen. 3. A large area of muscular rigidity and the failure of such rigidity to become localised. 4. The non-appearance of a localised swelling within 48 hours of the onset. 5. The continuance of the rapid pulse of onset for a dozen hours or more; still more a steady quickening of the pulse. 6. Evidence of peritoneal effusion, if obvious. 7. Disappearance of superficial tenderness without corresponding amelioration in the patient's symptoms. 8. Marked and increasing leucocytosis.

II. *In early abscess cases.*—1. Pulse beginning to rise again after first fall, especially if there be a steady quickening. 2. Temperature beginning to rise again after falling during the first three or four days, especially if the rises be in the evening with morning remissions. 3. A fairly defined tumour increasing steadily in size. 4. Œdema of the skin. 5. Leucocytosis, especially if increasing.

III. *In later abscess cases.*—A similar series of symptoms occurring at a later period would be my guides.

Finally, I prefer to be guided by the positive indications and to discount the possible absence of a symptom frequently present; above all things I take seriously a pulse rising steadily in rate and the absence of signs of localisation as shown by a "lump."

When should we advise operation in the quiescent stage? Saundby[24] says after the third attack; I think we shall all agree that this is not too soon. Mayo Robson[25] says: "I have no hesitation in saying that had I an attack of appendicitis I should prefer accepting the infinitesimal risk of removing the organ directly the attack was over to the decided risk of waiting to the next seizure which might be one of the acute type." Treves's view is that the whole matter is summed up in this question: "What is the probability of relapse?" At one time relapses occurred in from 20 to 30 per cent. of cases. There is little doubt that relapses are much more frequent now than formerly.

Seeing the low mortality resulting from operation in the quiescent interval the advice I have given to patients has agreed with the views of Treves and Robson rather than with those of Saundby and I have not had a case in which the appendix was in a condition to make me regret that I had opened the abdomen to remove it and I have seen cases which lead me to believe that the so-called "first attacks" have been preceded by what I have designated "trifling attacks." Two such cases are worth relating. One was a woman, aged 25 years, with a partially diffused attack. Her only previous history was that she did remember having two years previously had enough pain in the appendicular region to keep her in bed for a day. I say a partially diffused attack because in one direction an old adhesion was limiting pus in the peritoneum and binding the cæcum down; in other directions there was no such limitation and the pus was free; a five-inch long gangrenous and perforated appendix was removed, recovery ensuing. In the other case I operated in a quiescent interval after a so-called first attack which had, however, been, like the other case, preceded by a day's pain some time before. The appendix was stenosed, dilated, and full of muco-pus. It was firmly adherent to the posterior parietal peritoneum and these adhesions were certainly not from the recent attack. There were also considerable omental adhesions which were of the later date.

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[22] Longridge: THE LANCET, July 12th, 1902, p. 74.

[23] THE LANCET, Jan. 31st, 1903, p. 279.

[24] System of Surgery, 1896, vol. ii., p. 605.

[25] Brit. Med. Jour., Oct. 24th, 1903.

[26] Loc. cit.

One point that should especially indicate removal after a first attack is the liability of a patient to become pregnant. It has been found that when appendicitis has gone on to perforation or gangrene during pregnancy about 70 per cent.[27] of cases have been fatal both to mother and child. Abortion is usual and after the fourth month, when the uterus has risen out of the pelvis, it often forms part of the wall of the abscess cavity which ruptures as the uterus contracts, setting up diffuse and fatal peritonitis.

I hope I have not detained you too long: the subject is a large one and I have not been able to put before you innumerable points and considerations of great interest. That our meetings are necessarily limited in time must be my apology for the many omissions which must be apparent to you all.

Exeter.

SOME POINTS IN THE DIAGNOSIS OF APPENDICITIS.[1]

By W. BLAIR BELL, M.D. Lond., M.R.C.S. Eng.

On account of the very wide range which might be covered under this title I have confined myself to those points in the diagnosis of the various stages of appendicitis which have impressed me most from time to time and it is not my intention to touch upon such points as are very obvious and well known or to deal with the valuable recognition of leucocytosis, nor shall I undertake the detailed differentiation of the symptoms dependent on the variations in the direction of the appendix. In the first place, I should like to refer briefly to the condition known as

Appendicular colic.—The bare existence of this is by many denied; by others it is recognised, and rightly, I believe, to be the first indication that an appendix is liable to give future trouble, either because of the patency of its orifice or from the position which it occupies in relation to the cæcum. Unfortunately, attacks of appendicular colic do not often come under observation at the outset and evidence of them is only obtained by the surgeon at some future date when he is collecting the past history of a now obviously inflamed appendix. As I have seen this condition in *initial* attacks the following is a summary of what occurs. The patient, hitherto in perfect health perhaps, or slightly or markedly troubled with constipation, is suddenly seized with sharp pain commencing in the right iliac fossa. This pain lasts from half an hour to three hours and then rapidly disappears, leaving tenderness for from one to four days. Once the pain has subsided it is unusual for it to return if the patient is kept quietly in bed. The temperature is not raised but the pain may cause a slight increase in the pulse-rate. There is very little, if any, reflex muscular rigidity. It may perhaps be advisable to point out that a careful distinction must be made between reflex or *fixed* muscular rigidity—a rigidity which is noticeable on the patient taking a deep inspiration—and spasmodic rigidity which occurs on palpation. The former, as I have said, is absent in appendicular colic, whereas the latter—the spasmodic rigidity—is often marked. Appendicular colic may be distinguished from renal or biliary colic (1) by the history; (2) by the character of the pain, which though sharp is nothing like as severe as that produced by renal or biliary colic; and (3) by the ability of the patient in an initial attack of appendicular colic to localise the site of the pain. From intestinal colic it may be distinguished by the continuous nature of the pain in appendicular colic, by the fixed and recognisable position of it, and by the fact that pressure on the abdomen, which relieves intestinal colic, aggravates colic of appendicular origin. Appendicular colic, as I have found on several occasions, must also be distinguished from a colic of uterine origin which is seen in girls who for some reason, constitutional or local, have not menstruated regularly. If the possibility of this is borne in mind the differentiation is very simple.

Acute appendicitis, the next variety or stage to which I shall refer, covers such a wide field that I can do little more than tabulate the mistakes which I have seen made or have made myself. I find that the following conditions have come under my notice—either I or someone else having made a wrong diagnosis of appendicitis or *vice versâ*, or failed to recognise the condition at all: (1) intussusception; (2) ulceration and stenosis of Meckel's diverticulum; (3) tuberculosis of the ileum with abscess; (4) pyosalpinx; (5) tubal pregnancy; (6) perforated gastric ulcer; (7) liver abscess; and (8) no diagnosis considered possible. Formidable as this list seems, I fancy it could easily be trebled by those of wider experience than mine. Taking these collectively, I may say that each case had points of individual interest, but I propose to deal only with some of those of more or less general application.

First, if the patient is a woman on no account should one fail to exclude any possibility of right sided tubal or ovarian trouble. This may sound superfluous advice but I am sure that even with the greatest care mistakes are often made—in fact, it may not always be possible to avoid them—but I have myself seen or heard of so many errors where the patient is a female that I am certain we cannot be too cautious. Without saying more I may confess that it has been very strongly brought home to me on more than one occasion.

The second point of general application is the occurrence of cutaneous hyperæsthesia. It has been stated that this hyperæsthesia is, in appendicitis, limited to the areas of skin supplied by the eleventh dorsal nerve on the right side. Those who have studied this symptom also assert that the disappearance of it indicates in many cases gangrene or perforation. From my own observations I place great value on this symptom when it is present but it is by no means a constant one. The value is positive but never negative. Further, one must remember that if the peritoneal involvement is extensive the hyperæsthesia of the skin is not limited to the eleventh dorsal nerve but may invade the areas supplied by the tenth and even the ninth nerve on the right side. When present it is a very early sign and I have noted it before any muscular rigidity was found.

The third point concerns the localisation of the lesion when acute perforation of the appendix has taken place. I do not say the diagnosis of the actual lesion—for any severe lesion in the same region may give the same sign—but the localisation. This is a matter of some importance, for I think it commonly occurs, even with surgeons of the greatest skill, that before the lesion is found the abdomen has been explored in other directions than the right one and possibly through more opening than one, or even two. The first time that I was brought face to face with this difficulty was in the case of a patient who had been seized a few hours previously with the most violent abdominal pain; it was *general* and was accompanied by *general* rigidity. When I saw the patient she was much collapsed. A diagnosis of perforation of the stomach had been made by the medical man who first saw the patient, and indeed such might well have been the case if only the past history (as usual, of "gastritis") had been considered. The presence of liver dulness, with a few other signs of uncertain value, rather led me to a diagnosis of perforation of the appendix but I was by no means certain until I noticed that as anæsthesia progressed the muscle areas overlying the region of the appendix remained rigid after the rest of the abdominal wall had relaxed. Then at once I knew where to look for the lesion. Subsequent observations have proved to me the accuracy of this indication, so that I would lay it down as a law that *in general rigidity of the abdomen, consequent upon some acute lesion, the site of the lesion is situated beneath that area of muscular rigidity which is the latest to relax as anæsthesia progresses.*

My fourth and last point concerning acute appendicitis in a general way relates to the pulse, the temperature, and the disappearance of pain. By all means we must be guided in our reasonings by the pulse and temperature, but I think that we are inclined to forget that these can only be taken in conjunction with other signs, and that, although in an acute inflammatory condition we expect a high temperature and a rapid pulse, we may commit a grave error of judgment if we are able to recognise improvement only in a low temperature, a slow pulse, and the disappearance of pain, a state often indicative of gangrenous processes, septic peritonitis, and the beginning of the end—not of convalescence. A true appreciation of alterations of pulse rate and pulse character is one of the finest guides we have to the trend of nong which acute

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[27] Eccles: loc. cit.

[1] Abstract of a paper read before the Liverpool Medical Institution.

[illegible] distinguished from relapsing or intermittent appendicitis. Strange though it may seem, the existence of a true chronic appendicitis is for the most part denied by both physicians and surgeons, each viewing the possibility of such a condition from opposite etiological standpoints. To me, however, it seems that this variety is becoming very common or at any rate can be frequently found if sought for. From its mode of origin, to be mentioned presently, it is obvious that it is found mostly among the wealthy classes and in the male sex. The patient usually complains of flatulence as the initial symptom, then pain, sometimes of a dull character, more often severe and griping, after food and it should be carefully noted that it usually comes on some time after food—i.e., from one to three hours. He is, too, a victim to constipation, from which, I take it, the bad dreams and "queer feelings" in the head arise of which he so often complains. The abdominal pain cannot always be accurately localised, either by the patient's own sensations or by palpation. As a rule the pain is located in the umbilical or hypogastric region. The pulse and temperature are found to be normal and the tongue clean but flabby. A thorough examination of the abdomen shows a slightly dilated stomach; if unwise, and how often is this the case, one will be tempted to be satisfied with that; but there is more, his colon is dilated, and more especially, or perhaps only, his cæcum. I have often seen a distinct bulging of the right iliac region from the dilated cæcum. This condition of alimentary dilatation is the result of good living, over-eating, and bolting indigestible food—habits spread probably over many years. It is, of course, perfectly possible for this condition to exist—indeed, it always does so at first—without any trouble in the appendix; but given a large flaccid cæcum, which is never properly emptied, septic to the last degree, and we can readily understand how frequently an appendix, prone by position or congenital structure, becomes involved. Were these cases to be recognised more frequently and to come under treatment in time they might be cured and the appendix be saved, but as a rule it is the infection of the appendix which prevents recovery and brings the case under treatment, an acute attack having perhaps supervened at last. From this it will be seen that I believe that a primary so-called "typhlitis" can exist, but while I recognise this fact I as truly recognise that it is of a slow and chronic nature, and that it cannot for long continue without infection of the appendix. Deaver in his comprehensive work on appendicitis says: "That the diagnosis (of appendicitis) is not always made is due to several causes, of which the most important are the persisting belief in a primary typhlitis, the non-appreciation of the frequency and seriousness of appendicitis, and the all too common habit of speaking ...... of 'inflammation of the bowels.'" Though most of that is only too true, yet in the blind warfare waged against the mention of "typhlitis" in relation to appendicitis the pendulum has been swung from one extreme to the other; acute appendicitis and its chronic relapsing form have alone been recognised, while the true chronic variety—probably the commonest of all—has escaped notice. It is true that acute appendicitis is not typhlitis, but it is, I believe, equally true that slow chronic dilatation of the cæcum with chronic typhlitis is the originating cause of what I term true chronic appendicitis.

Of the enormous differences of opinion which will always exist about the removal of the appendix in these cases I need not speak; let those hesitate to perform this necessary operation who will, so long as the condition is realised and the danger understood, so long as the patients are not treated for "gastritis," "liver," or "neurasthenia." To decide when the condition has passed from a simple cæcal complaint to an involvement of the appendix is, therefore, a matter of great importance. In endeavouring to decide this point the following considerations are worthy of notice. 1. Should the history be as I have related, but with exacerbations of the pain at intervals which may be attacks of true appendicular colic, such as I have mentioned above, or attacks of a more obscure nature accompanied or not by a raised temperature or vomiting—the pain being in the appendix region or elsewhere and possibly of a more fixed nature—then it is probable that the case will not recover until the appendix has been removed. 2. Any case of the type described above, which resists treatment by aperients, antiseptics such as salol, lavage, restricted and selected diet, and, above all, any case aggravated instead of improved by a course of abdominal massage, has some irritant cause as its basis: that cause is a chronic inflamed appendix. 3. The following signs, also, I have found useful in determining appendix infection. (a) Hyperæsthesia. This may be quite local and is generally one small spot on the outer edge of the rectus muscle—probably coincidental with McBurney's point. The sensitive area is below the skin but not in the abdomen, and light side-to-side pressure is required to find it, but it is rarely in the same place in two individuals. Sometimes, too, there is a cutaneous hyperæsthesia (which does not seem limited to the area of the eleventh dorsal nerve) and this is generally accidentally elicited by brushing against the individual or by the pressure of his trousers. (b) Reflex-pain sign, as I would term it. If the patient complains of pain in the neighbourhood of the umbilicus or hypogastrium it is found that pressure by palpation in those regions does not increase the pain, but that pressure over the appendix—not tender perhaps in itself—does increase this reflex pain elsewhere.

Certainty of diagnosis, and certainty therefore as to the benefit of operation in these chronic cases, is to be aimed at. There should be no room for operation "on spec." if I may so term it. Due care in the selection, which will be attended by successful results, is absolutely necessary. There need, in short, be no indiscriminate appendectomising of every victim to indigestion; at the same time there is a field, as I have endeavoured to show, for the successful treatment by operation of a class of case whose life is too often taken up visiting physician after physician in the hope of finding a cure for his indigestion. A word of warning is necessary: it must be remembered that in these cases the removal of the appendix must be followed by the treatment mentioned above to cure the dilated cæcum, else only a partially successful result will be obtained.

Liverpool.

REMOVAL OF THE SEMICIRCULAR CANALS IN A CASE OF UNILATERAL AURAL VERTIGO.[1]

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THE patient was a woman, aged 21 years, who had been the subject of attacks of aural vertigo, combined with sickness and vomiting, with gradually increasing deafness and tinnitus, the whole duration of the disease being five years. No cause could be found for the origin of the deafness. During this period she had been subjected to long courses of treatment, both by careful dieting and by the administration of various drugs of repute for the relief of these symptoms. I first saw her six months before the operation which I am about to describe was performed. As she stated that she thought the use of her eyes in reading and in needlework tended to induce the attacks she was examined at St. Thomas's Hospital by Mr. J. H. Fisher, who diagnosed slight hypertrophic astigmatism and ordered her appropriate glasses which she wore until a fortnight before the operation. She, however, stated that the use of these glasses made no difference as to the frequency of her attacks. The attacks were heralded in usually by increased tinnitus which not infrequently came on while she was lying down. The tinnitus persisted after the sickness and vertigo had ceased. She was unable to state that objects took any particular course during the attacks or that she felt any tendency to fall in any particular direction.

During the six months in which she may be considered to have been under my treatment she was for some time given a drachm of quinine daily in three doses, each dose being administered with a drachm of hydrobromic acid. She also took iodide, strychnine, belladonna, and mercury; yet during this time not only did she obtain no relief but her attacks increased in frequency, often recurring after an interval of only one day, though for the last two years and more she had never been free from an attack for a period of

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[1] A paper read at the Glasgow meeting of the Otological Society of Great Britain, May 21st, 1904.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

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NOTE ON THE LYMPHATIC GLANDS IN SLEEPING SICKNESS.[1]

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A. C. H. Gray, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond.,
LIEUTENANT, R.A.M.C.

Following a suggestion of Dr. F. W. Mott we have examined the contents of lymphatic glands during life from 15 sleeping sickness patients. In all of them actively motile trypanosomes were very readily found in cover-glass preparations taken from the cervical glands. They were also present in other glands, such as the femoral, but were not nearly so numerous. We found the trypanosomes to be far more numerous in the glands than in the blood or cerebro-spinal fluid and we believe that the examination of fluid removed from lymphatic glands will prove to be a much more rapid and satisfactory method of diagnosing early cases of sleeping sickness than the examination of the blood.

At first the glands were excised but this was soon found to be unnecessary, as it is easy to puncture a superficial gland with a hypodermic syringe and to suck up some of the juice into the needle and to blow this out on a slide. The actively moving trypanosomes were readily found after a short search in these slides, when a prolonged search in similar preparations of the blood from the finger failed to discover them. In stained specimens, in addition to well-formed trypanosomes, there exist many broken-down remains which suggests that a destruction of the trypanosomes takes place in the glands. We also examined the cervical lymphatic glands of the five natives suffering from trypanosomiasis who have been under observation for the past year and found actively motile trypanosomes in the liquid withdrawn from the glands in all of them. One of these patients is employed in the hospital and the dispenser reports that he is getting very stupid. The lymphatic glands were also examined for streptococci by staining and culture, but in every case were found to be sterile. Some of the cases, the glands from which were examined for streptococci, were very far advanced. The streptococcus invasion must, in our opinion, be a very late one and only occur shortly before death. Observations made upon the blood show a constant increase in the percentage of lymphocytes but the total leucocytes are not increased.

We consider that these observations throw a new light upon the glandular enlargements which have been so constantly noticed in sleeping sickness and that the disease is essentially a polyadenitis brought about by the arrest of the trypanosomes in the glands where many of them are destroyed, but whence some escape from time to time into the blood-stream and thus occasion the increase which has been observed in the peripheral circulation. We regard our observations upon the presence of trypanosomes in number in the lymphatic glands of both early cases of trypanosomiasis and advanced cases of sleeping sickness as affording important evidence of the unity of these diseases and further proof that the trypanosomes are the essential cause of sleeping sickness.

NOTE ON A CASE OF HYDROA DURING PREGNANCY WITH RECURRENCE AT THE MENSTRUAL PERIODS.

By C. A. Douglas Bryan, M.R.C.S. Eng., L.R.C.P. Lond.

The notes of the following case are interesting in that they describe a rare condition with a still rarer complication.

The patient, who was a married woman, came to see me on *Sept. 1st, 1903, concerning a rash that had appeared during* the previous week on her arms, thighs, and trunk, more especially on her arms; she was at the time about five and a half months pregnant. The rash on the arms was vesicular, very painful, and irritating; the vesicles were continually bursting, while fresh crops kept appearing; the fluid from the vesicles gave a scalding sensation to the arms. The rash on the thighs and trunk was papular only and very irritating. The diagnosis of hydroa gravidarum was made. Various remedies were tried locally, such as lead, resinol, and thiol, and arsenic was given internally. Thiol (used as an ointment and dusting powder) gave most relief. The irritation and pain were at times so great that opium had to be administered and serious thoughts were entertained of inducing premature labour. About Sept. 29th the fœtus died. The rash had by this time extended in its papular form to the face. Labour soon after this set in and the woman was delivered on Oct. 9th of a stillborn fœtus. The rash now for the most part soon disappeared, except for some slight irritation about the arms. The patient's recovery from the confinement was hindered by the development of pleurisy with effusion on the seventh day; this eventually cleared up satisfactorily. The catamenia commenced about a month after delivery and have continued regularly every month up to the present. At each menstrual period the arms swelled slightly, small spots appeared, and there were irritation and slight pain; this cleared up between the periods. For the last two months she has been free from the rash, &c. As to the causation of the disease nothing could be made out. The patient had had four children at full time and a serious abortion one and a half years ago; she had never before had any skin eruption and had enjoyed average good health. During this last pregnancy, up to the appearance of the rash, she had been remarkably well, and while the rash was in evidence her health did not suffer beyond the fact of the want of sleep. The urine on examination was found to be normal.

The internal administration of arsenic did not seem to have any influence whatever on the course of the disease. The local applications were far from satisfactory, though, as I have mentioned above, thiol gave slight relief. The other point of interest in the case was the recurrence of some of the symptoms at the subsequent menstrual epochs. So far as I am aware this latter condition has never before been observed. I should be glad to hear of any other cases, the line of treatment pursued, and with what results.

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ST. BARTHOLOMEW'S HOSPITAL.

A CASE OF VERTIGO DUE TO LABYRINTHINE CARIES; OPERATION ON THE LABYRINTH; COMPLETE RECOVERY.

(Under the care of Mr. A. E. Cumberbatch and Mr. O. Ernest West.)

The patient, a woman, aged 22 years, first came under treatment at St. Bartholomew's Hospital about the beginning of April, 1903, complaining of pain in, and discharge from, the right ear. After some weeks of treatment as an out-patient she was admitted on account of persistent headache and tenderness over the upper part of the right mastoid. Under Mr. Cumberbatch's supervision a typical post-aural operation was performed and she made a good recovery. At the time of her discharge she complained of some slight giddiness and on August 4th she was readmitted with headache, muscular weakness, and marked ataxic gait. There was nothing to remark about the operation cavity which was healthy but incompletely "scarred." The temperature was normal and the pulse was 80. The right mastoid region and the area above it were tender and painful. When attempting to walk she immediately drifted to the right and if not supported fell to this side after a few steps. Her track strikingly resembled that of a sheep with a cerebellar cyst. On sitting up in bed she also fell to her right side. There were no ocular symptoms. The knee-jerks were equal and active. No clonus was present at the knee or the ankle. There were continual fibrillar twitchings of the right arm and leg and distinct weakness of the right grip. At this stage Mr. Cumberbatch left London on his summer holiday and Mr. West was left on duty for him. Mr. Cumberbatch's opinion was that the symptoms were due to caries affecting the labyrinth.

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[1] Read before the Royal Society on May 5th, 1904.

During the next ten days the headache continued and the pulse grew slower, sinking once to 64. There was no mental dulness but much lassitude. On August 14th a loose sequestrum of somewhat pyramidal form was removed by forceps. Its base formed a part of the upper and anterior portion of the inner tympanic wall and its apex passed inwards above the cochlear region. On the 17th she was sick once. The temperature was 96·6° F. and the pulse was 60. There was slight haziness of the right optic disc. Her condition was stationary until the 25th and the presence of a cerebellar abscess was considered probable. With the knowledge that carious processes were present and to exclude extradural causes a very wide operation was performed on this day through the old mastoid scar. The cavity was enlarged upwards and backwards, the tegmen was freely cut away, and the lateral sinus and the dura mater in its neighbourhood were exposed. The dura mater was found normal in both regions. A further sequestrum was removed from the cochlear region. The patient made an excellent recovery, the pain and tenderness diminished, and the giddiness for the time almost disappeared. The whole cavity rapidly became covered with epithelium and dry with the exception of one small moist patch in the region of the promontory. The right ear was quite deaf. Early in October she had some return of pain and again became very giddy and this condition remained and grew slowly worse through the autumn and winter. During all this time she was carefully watched. The moist patch persisted but all the upper and posterior part of the cavity was dry, smooth, and shining.

On April 11th, 1904, she was again admitted. Her giddiness was very severe and a small fresh granulating area had appeared in the region of the external semicircular canal. Mr. Cumberbatch very kindly allowed Mr. West to consider the case as his own as he had previously operated on it in his absence.

On April 12th, after disinfecting the cavity so far as possible, Mr. West made an extended incision through the old scar and turned the auricle freely forward. The region of the outer limb of the external semicircular canal was found carious and scraping left a hollow there of about the size of half a large pea. This was then enlarged by the burr upwards to the dura mater and forwards above the level of the facial aqueduct until the outer limb of the superior semicircular canal must have been cut away and the bone was everywhere of ivory hardness. There was no facial twitching. Attention was now turned to the tympanum. A cavity was opened anteriorly in the cochlear region and this was extended by cutting away its walls with a small sharp spoon until there appeared a smooth deep hollow occupying the entire region of the cochlea and vestibule. Working backwards and upwards finally produced one sharp facial twitch and it was decided to go no further. Between the cavity above and the cavity below there remained a narrow prominent bony ridge which must have contained the facial canal. The wound was completely closed behind the ear and the cavity was lightly plugged from in front.

Convalescence was somewhat delayed by a slight suppuration in the upper end of the wound. There was no facial paralysis. The temperature continued to make small daily excursions until April 19th when it finally sank to normal. From the day after the operation the patient noticed the complete disappearance of her giddiness which had previously annoyed her even when in bed. On the 26th she was walking about the ward. On May 3rd the cavity was rapidly becoming covered with epithelium. She could now stand with her heels together and eyes shut without swaying, and has since continued entirely free from vertigo.

Remarks by MR. WEST.—The above case is of interest from the persistence and severity of the vertigo, the difficulties which occurred in identifying its cause, and the marked success which finally resulted from a determined attack on the labyrinth. Obviously as long ago as August, 1903, the patient's cochlea was invaded by caries and functionally destroyed. For seven months afterwards she suffered from continued irritation of her vestibular nerve. In the earlier part of this time it was hoped that this was due to scarring after past changes and would subside. No improvement took place, however; rather her vertigo increased and, as was made evident at the last operation, there had continued a slowly progressive caries. In view of the obstinacy of the trouble a systematic effort was made to destroy as much of the labyrinth as was accessible and to drain any remainder so thoroughly as to do away permanently with its functional activity. The main risk of such an operation is to the facial nerve which lies in its tympanic part between the region of the canals and that of the cochlea and vestibule and can only have a narrow bar of bone left to support it between the two. With adequate opening up of the cochlea and vestibule the risk of leptomeningitis by extension through the internal auditory meatus is probably small.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

On the Elasticity of the Aorta, being a Contribution to the Study of Arterial Sclerosis.

A MEETING of this society was held on May 31st, Sir R. DOUGLAS POWELL, Bart., the President, being in the chair.

Dr. W. P. HERRINGHAM and Dr. W. A. WILLS communicated a paper on the Elasticity of the Aorta, being a Contribution to the Study of Arterial Sclerosis. They said that they had examined a large number of aortas and had found that after extension they all recoiled to their original length but that the degree to which they stretched varied greatly. It was to the consideration of this latter point that their paper was devoted. Having referred to, and analysed, the work of previous authors they proceeded to describe the instrument which they had used for the purpose of their investigations. It consisted of a lever of the first order with a long arm on which travelled a weight. At the end of the arm was a pen which wrote on a flat board travelling at the same rate as the weight with the result that a curve was formed the abscissæ of which recorded the weight and the ordinates the degree of elasticity of the aorta. The instrument was founded on that invented by Roy. The material used comprised 100 male and 28 female aortas; the latter were less elastic or extensible than the former but in other respects obeyed the same laws and were not referred to in detail. The 100 cases were almost equally distributed between the third, fourth, fifth, sixth, and seventh decades of life and in each case the age, the width and condition of the aorta, the weight and condition of the heart, the fatal and coincident diseases were recorded, and the condition of elasticity as shown by the curve was measured under pressures of 50, 100, 150, and 200 grammes. After describing the histological changes in detail Dr. Herringham and Dr. Wills summarised their conclusions as follows: (1) the aorta follows the law laid down by Wertheim for the elasticity of organic bodies; (2) its width increases with age as the result of internal pressure exercised upon it by the natural forces of the circulation; (3) the more it thus becomes dilated the less is it capable of being further stretched; (4) when stretched by weights up to 200 grammes aortas, even when dilated, retain the power of returning to their original volume; (5) no simple mathematical relation obtains between dilatation and loss of elasticity; (6) elasticity depends chiefly upon the tunica media and the loss of it chiefly on changes in the same coat; (7) these changes do not lie in the muscular tissue; (8) the amount of muscular tissue, though varying in individuals, probably, except in rare cases, remains the same in each individual throughout adult life; (9) the tunica media increases in substance with age; (10) this increase is to be ascribed to the elastic or to the structureless connective tissue or to both; (11) it is to changes in these latter tissues that the loss of elasticity is to be ascribed; and (12) the

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON THE LYMPHATIC GLANDS IN SLEEPING SICKNESS.[1]

By E. D. W. Greig, M.B., C.M. Edin.,
CAPTAIN, I.M.S.,
AND
A. C. H. Gray, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond.,
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FOLLOWING a suggestion of Dr. F. W. Mott we have examined the contents of lymphatic glands during life from 15 sleeping sickness patients. In all of them actively motile trypanosomes were very readily found in cover-glass preparations taken from the cervical glands. They were also present in other glands, such as the femoral, but were not nearly so numerous. We found the trypanosomes to be far more numerous in the glands than in the blood or cerebrospinal fluid and we believe that the examination of fluid removed from lymphatic glands will prove to be a much more rapid and satisfactory method of diagnosing early cases of sleeping sickness than the examination of the blood.

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[1] Read before the Royal Society on May 5th, 1904.

Mr. Stephen Paget exhibited a case of Osteitis Deformans.

The report of the council and the treasurer's statement of accounts were presented and the following gentlemen were elected to hold office for the year 1903-4:—President: Dr. Frederick Taylor. Vice-Presidents: Sir William R. Gowers, Dr. F. de Havilland Hall, Dr. J. Kingston Fowler, Mr. Henry Morris, Mr. C. H. Golding-Bird, and Mr. H. T. Butlin. Treasurer: Mr. G. H. Makins. Council: Dr. F. E. Batten, Dr. Harry Campbell, Dr. J. Walter Carr, Dr. W. S. Colman, Dr. Norman Dalton, Dr. W. Lee Dickinson, Dr. E. W. Goodall, Dr. F. H. Hawkins, Dr. Percy Kidd, Dr. Hector W. G. Mackenzie, Mr. F. W. Strugnell, Mr. Herbert W. Allingham, Mr. Anthony A. Bowlby, Mr. Walter Edmunds, Sir Alfred D. Fripp, Mr. J. Hutchinson, jun., Mr. T. H. Kellock, Mr. B. G. A. Moynihan, Mr. C. S. Wallace, and Mr. F. C. Wallis. Honorary secretaries: Dr. William Pasteur and Mr. W. G. Spencer.

Glasgow Obstetrical and Gynæcological Society.—A meeting of this society was held on May 25th, Dr. J. Nigel Stark, the President, being in the chair.—Dr. J. K. Kelly showed two specimens of Extra-uterine Pregnancy.—Dr. Miller showed (for Mr. J. Stuart Nairne: 1. A Tube and Ovary enveloped in Adhesions. The tube contained a blood clot but there was no evidence of a pregnancy. 2 A Hydrosalpinx.—Dr. J. M. Munro Kerr read notes of a case of Spontaneous Rupture of the Uterus during Pregnancy through the cicatrix of a Cæsarean section wound. The patient, a tertipara, was admitted to the Glasgow Maternity Hospital on Oct. 28th, 1901. In both the previous labours the children were dead. On the last occasion craniotomy was done. On this occasion Dr. Kerr performed Cæsarean section, employing Fritsch's fundal incision. The patient made a good recovery. On her second admission she was judged to be in her thirtieth week. After an enema given about midnight she complained of pain in the epigastrium but shortly afterwards fell asleep. Next morning the pain had spread over the whole abdomen but there was no vomiting and the pulse was not accelerated. Later in the day tenderness became more marked, the pulse rose to 90, the temperature became subnormal, and the breathing more rapid. The patient lay with her feet slightly drawn up and on palpation the fœtal parts could be made out with great readiness. There was some blood-stained vaginal discharge. Laparotomy was performed on the same day. On the abdomen being opened a large quantity of dark-coloured blood escaped and the intact membranes and placenta with the inclosed fœtus presented. The uterus lay retracted behind and was found to have a transverse rupture through the cicatrix of the previous Cæsarean section. The uterus was removed by supravaginal hysterectomy. The patient was dismissed well a month after the operation.—Professor Murdoch Cameron read notes of a case of Large Mesenteric Cyst. The patient, aged 32 years, was admitted to the Western Infirmary on Sept. 26th, 1903, with the history of swelling of the abdomen of 12 years' duration. The swelling had given no trouble until a fortnight previously to admission when she had an attack of severe pain in the region of the umbilicus. Fluctuation was very distinct but no nodules could be made out. Examination per vaginam was negative. On the 29th abdominal section was performed and 33 pints of thin, greenish-yellow fluid were evacuated. The cyst was very thick-walled and adherent over the whole surface. It seemed to be entirely encircled by omentum. The ovaries were quite healthy. The patient made a good recovery. The fluid from the cyst was slightly alkaline and of specific gravity 1011. It contained considerable numbers of exceedingly fatty leucocytes and larger cells resembling endothelial cells. Free fat globules were also present as well as a small number of red blood corpuscles. The fluid also contained a small amount of albumin. The cyst was practically unilocular, although partial septa existed.—Dr. Lindsay and Dr. Taylor related a case of Diaphragmatic Hernia in a Seven Months Fœtus. 12 months previously the mother had given birth to an eight months child. The medical man in attendance stated that the heart was beating on the right side. This was also the case with the specimen shown. In the present case the right half of the diaphragm was complete. There was a large round opening in the left half of the diaphragm. The stomach, duodenum, most of the small intestine, cæcum and appendix, ascending and transverse colon, spleen, and the left lobe of the liver were thrust through the diaphragmatic opening into the thorax, carrying before them the pleura and the peritoneum which together formed a complete hernial sac. The left lung was crowded into the upper part of the thorax. The heart and pericardium were normal except that the apex of the heart lay to the right of the middle line.

Windsor and District Medical Society.—A meeting of this society was held at the Guildhall, Windsor, on May 25th, Mr. W. B. Holderness, the President, being in the chair.—Microscopical preparations were exhibited illustrative of Carcinoma of the Breast, Carcinoma of the Stomach, Trichiniasis, Splenic Leukæmia, and Chondrosarcoma of the Parotid Gland.—The time of the meeting was mainly occupied by the examination and discussion of the cases exhibited. These consisted of a typical case of Exophthalmic Goitre in a young woman shown by the President.—Dr. W. F. Lloyd showed a young child with a Congenital Malformation of the Toes. There were undue mobility of the metatarso-phalangeal joints and considerable inward displacement of the hallux when the foot touched the ground.—Dr. G. E. Hale showed a male patient with High Myopia and considerable Pigmentary Choroiditis. The latter was thought to be specific in origin.—Dr. C. R. Elgood showed (1) a man, aged 39 years, presenting well-marked symptoms of Locomotor Ataxy; and (2) a boy, aged ten years, with Wasting of the Muscles of the Right Upper Limb. There was the history of an injury. The case was judged to be one of subacute anterior poliomyelitis.—Mr. J. H. Tomlinson exhibited and demonstrated the use of an instrument which consisted of a simplified form of Abney's Colour Patch Apparatus adapted for the consulting room.—A vote of thanks to Mr. Tomlinson for his interesting demonstration terminated the proceedings.

British Electro-Therapeutic Society.—A meeting of this society was held on May 27th, Dr. Lewis Jones, the President, being in the chair.—Dr. G. H. Graham showed a young woman, aged 22 years, with the following Deformity: the left humerus with its head measured only two inches and there was absence of the left radius, three carpal bones, two metacarpals, the phalanges of the thumb, and two fingers. The skiagraph was shown which clearly indicated the absence of the above-mentioned parts.—Dr. A. W. Sikes read notes of a case of Persistent Sinus of the Abdomen after Appendicitis (non-tuberculous) which had resisted all forms of treatment but which had yielded to the local administration of high-frequency currents with a probe electrode.—Dr. H. Manders read a paper on the Choice of Method in the Therapeutics of High-frequency Treatment. The paper dealt chiefly with the physical aspect of the subject and methods of effluvation and derivation. Several members took part in the discussion which ensued.

Kidderminster Medical Society.—A meeting of this society was held on May 27th, Mr. W. Hodgson Moore, the President, being in the chair.—Mr. J. Lionel Stretton showed a woman upon whom he had performed the operation of Gastro jejunostomy on March 26th, 1903, the approximation being accomplished by means of a Murphy's button which was not passed until April 10th, 1904, more than 12 months after the operation. The patient was now well and free from discomfort. He also showed a Dermoid Cyst.—Dr. J. Brocket showed a Cæcum which had perforated owing to an annular stricture in the sigmoid region. The case had presented no urgent symptoms until after the perforation had occurred. He also showed two greatly contracted Granular Kidneys removed from a man who died from suppression of urine; previously to his death he passed no urine for seven days. He became comatose a few hours before death. —Mr. A. O. Oldham read an interesting paper on Moveable Kidney.

Reviews and Notices of Books.

Religion and Science: Some Suggestions for the Study of the Relations between them. By P. N. WAGGETT, M.A., of the Society of S. John the Evangelist. London: Longmans, Green, and Co. 1904. Pp. 174. Price 2*s.* 6*d.* net.

This work is one of a series of handbooks for the clergy edited by Arthur W. Robinson, vicar of All Hallows, and the fact that one of these handbooks should be devoted to the study of the relations between religion and science marks the growth of a broader spirit of inquiry amongst the religious teachers of the day. Many regard religion and science as antagonistic, this view being perhaps fostered by imperfect knowledge or indifference on either side. Religion is often understood to be a question of unreasoning faith, while science is thought to be influenced solely by a spirit of sceptical inquiry. Each has suffered from lack of sympathy with the aims and methods of the other, and when we meet with such thoughtful and sympathetic work as we find in this little volume it is a pleasure to examine it carefully and to ascertain how far it succeeds in showing the bearing of natural science upon religious faith and practice.

Father Waggett has approached this very difficult subject with a mind open to all aspects of religion and scientific truth; he has studied evolution and biology with full knowledge of the difficulties which must arise when it is so much easier to raise questions than to provide answers. Since members of the clerical profession have realised that scientific doctrine is complicated and hard to master they have, as a rule, neglected the study of science or have been content with a "moderately laborious research." Father Waggett rightly warns his readers, that is, the clergy, that few things are so perilous as knowledge lightly won. He maintains that a discussion of the scientific criticism of religion is valuable in proportion to the knowledge of science and of religion of the parties to the discussion: those who know most will be slowest to claim competent or satisfactory knowledge in either field. The author deplores the present relation between science and religion, which he regards not as a truce between two opposing camps but as a state of indifference, in which each side considers itself immune to the poisons of the other's doubts and remains untouched by the splendours of the other's truths. Each is content to work independently and to refrain from criticising the statements of the other. The author regrets this apathy and would gladly exchange it for a return to weekly conflicts on the narrowest issues, fought on the narrowest lines, rather than see a perpetuation of the present cold separation between the great thinkers of the day. He argues that working hypotheses may be compared to the use of an alloy; they may be necessary before a scientific truth can be grasped, but he regards truth as pure gold, the alloy as the convenient addition which enables the workman to perform his part. The theory of natural selection is instanced as a possible "alloy" which, even if abandoned, will be found to have advanced the great truth of development. On the proper appreciation of the theories of natural selection, evolution, and heredity Father Waggett's remarks are extremely suggestive; he holds that these theories are not opposed to revealed religion and indicates that each in turn presents difficulties which cannot be solved with existing scientific data. He thinks that the doctrine of heredity has been twisted to involve the futility of personal effort. He boldly admits that efforts to conciliate religion and science must frequently fail and that there must always be a clash of opposing beliefs, but he takes comfort in the thought that life is essentially composed of a resistance to certain forces and must cease when the struggle comes to an end. To attempt to secure peace by restating religion in scientific terms, or by relegating material evidence to a secondary place by the assertion of the idealism of religion, fails to satisfy. The conclusion that is reached is that religion requires faith, obedience, and hope transcending the evidence of the senses, and that the doubting spirit can receive no comfort nor can religion be served by the fact that the existence of a Great First Cause can be proved as men prove the existence of an Ice Age. He believes that, though in the past religion and science have been hindered by the supposed conflict between them, yet in the future each may serve the other and that the true cure for religious doubts will be found in the scientific treatment and pursuit of religion itself.

We have endeavoured to show the general scope and aim of this little handbook and we think Father Waggett is right in considering that "it raises more questions than it settles." It is a thoughtful attempt to stimulate inquiry and if occasionally the argument is so condensed that it requires careful and close reading and thinking this result has probably been desired by the author. It might have been easier to the author to treat the subject superficially but the educational value of the book would not have been so great

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LIEUTENANT CHRISTOPHERS, already well known by his previous good work on malaria, was directed by the Government of India to proceed to Madras and to investigate the nature of parasites that had been discovered there by Captain C. Donovan, I.M.S., in enlargement of the spleen. The history of this discovery is as follows. In 1900 Major W. B. Leishman, R.A.M.C., the present Professor of Pathology at the Royal Army Medical College, discovered these particular parasites during the examination of a film taken post mortem from the spleen of a case of fever contracted in Dum-Dum. He described them in a paper in May, 1903. The constant presence of chromatin masses found in the bodies suggested to Major Leishman that the latter might possibly be the remains of trypanosomata and that similar cases of so-called malarial fever might in reality be cases of trypanosomiasis. In July, 1903, Captain Donovan found similar bodies in blood taken from cases by splenic puncture during life. He, however, considered them to be a new form of parasite, as he failed to find trypanosomata in the blood. Specimens were sent to Major R. Ross, to Professor Laveran, and to Professor Mesnil. Major Ross also came to the conclusion that they were a new form of parasite and proposed to call it Leishmania Donovani. In 1904 Professor Marchand and Dr. Ledingham found similar bodies in the spleen, the liver, and the bone marrow. Professor Laveran and Professor Mesnil in the meantime having examined the specimens sent to them concluded that the parasite was a new species of piroplasma and named it the piroplasma Donovani. Such was the position of affairs when Lieutenant Christophers's investigation was made. He examined many cases in Madras and the tissues at three necropsies, and in addition compared the human parasites with those of two species of piroplasmata, one in the calf and the other in a pariah dog.

The report details the clinical features of the cases in which the parasites were found; their post-mortem appearances; the relation of the disease to kala-azar; the description of the parasite and its distribution in the body; the comparison of the parasite with a species of piroplasma; and, lastly, the nature of the so called "zooglea mass." As regards the clinical features of cases these were found to consist in great enlargement of the spleen, emaciation, irregular pyrexia, and certain abdominal symptoms such as diarrhœa and dysenteric condition with blood and mucus; œdema of the feet was sometimes but not constantly found to be present. The post-mortem appearances were also found to be distinctive, one of the most interesting being the presence of large ulcers with great thickening and congestion of the mucous membrane of the large intestine. Perforation was found in certain cases to have taken place. With regard to the relationship of the disease to kala-azar Lieutenant Christophers was unable to detect any increase in pigmentation or anything in the asthenia or the duration of the disease differing from what is usually present in ordinary cases of so-called "malarial cachexia with enlarged spleen." However, a specimen sent by Dr. Bentley to Captain Donovan from the spleen in a case of kala-azar presented very numerous examples of the bodies under investigation and Lieutenant Christophers accordingly concludes that if they are the cause of the disease then kala-azar and malarial cachexia with enlarged spleen must be essentially of the same nature.

A minute description of the parasites is included with some well-depicted illustrations. The bodies are seen in great numbers in an unchanged state in the *leucocytes*, especially being present in the large mononuclear cells. The distribution of the parasite in the body is detailed and the method of staining it by a modification of Romanowsky's stain is given. Finally, in comparing these bodies with certain species of piroplasma the essential differences of the latter to the bodies concerned in the human infection are pointed out, one of the most important being the absence of any appearance like the highly distended double chromatin masses. There is a complete absence also of the human parasite in the peripheral blood in all cases; in the case of piroplasma, however, the latter is found readily enough in some form or other in the peripheral blood. As the result of his researches Lieutenant Christophers shows the distribution of the parasite in the body to be very limited and that there is only a superficial resemblance to piroplasma. He concludes that the difference between the two forms is so great that strong evidence must be forthcoming before the new parasite can be placed in the genus piroplasma. He holds that the organism is distinct from piroplasma but that it is suggestive of the spores of a microsporidium. Finally, as regards the zooglea masses, the author considers that the substance is the protoplasm of the large cells in the liver and spleen and that these large cells are not themselves parasitic.

Pediatrics. By THOMAS MORGAN ROTCH, M.D. Fourth edition, rearranged and rewritten. London and Philadelphia: J. B. Lippincott Company. 1903. Pp. 1021. Price 25*s*.

IN preparing this the fourth edition of "Pediatrics," according to the statement in the preface Dr. T. M. Rotch has made certain changes and systematically revised the text. The volume can, however, hardly be described as other than a reprint of the third edition. We have compared these two latest editions page by page and have succeeded in finding only a few insignificant changes. That so few alterations have suggested themselves to the author tends to confirm the opinion which we had formed in respect of the third edition—namely, that it would be very difficult to improve upon it or to impeach its accuracy. We notice one important change, however, on p. 201. In a new paragraph the point is emphasised that during the early months *of life the substitution of the proteids of whey for the* proteids of whole milk is of the greatest advantage in the feeding of the majority of infants. To be able to control and to vary the respective percentages of lactalbumin and caseinogen in preparations of modified milk no doubt makes for progress in the science of infant feeding but unfortunately it further complicates an already involved method.

We are glad that Dr. Rotch remains firm as regards the accurate composition of milks although his views on the question have been strongly criticised both in this country and in America. It has been claimed in opposition to his postulates that mathematical accuracy is not required and that the limits of an infant's powers of adaptation as regards food are much wider than he admits. It is quite a misrepresentation of Dr. Rotch's views to infer that he insists upon mathematical accuracy or that he does not realise the extent of an infant's powers of adaptation. The point which he does insist upon is that infants should be fed on a system as accurate as circumstances allow and not by guesswork.

LIBRARY TABLE.

A Manual of Dental Anatomy, Human and Comparative. By C. S. TOMES, M.A., F.R.S. Sixth edition. London: J. and A. Churchill. 1904. Pp. 636, with 286 Illustrations. Price 12*s*. 6*d*. net.—In the preface to this edition the author remarks that "the accumulation of a somewhat voluminous literature, much of which, while falling short of carrying complete conviction, yet tends to unsettle the ideas hitherto prevalent upon such points as the methods of evolution and the homologies of the teeth, renders the task of presenting in small compass any general view of the subject one of ever-increasing difficulty." A perusal of the book, however, shows that he has accomplished his task in a most admirable manner. During recent years the numerous discoveries of fossil remains in different quarters of the earth have gone far to assist in the elucidation of certain problems of odontology. An example of this is to be found in the chapter on Proboscidia, where an account is given of the recent discoveries in Egypt in eocene formations of certain animals, the mœrotherium and palæomastodon, which throw considerable light on the dentition of the modern proboscidians. The chapter *on the Evolution of Tooth Forms* contains much that is new; the various theories are impartially considered, the author remarking that "for the present the determination of the homologies of the cusps set forth by Osborn seems to hold the field, though it may come to be modified in the future." The editing has been carefully carried out and the book thoroughly maintains its position as the standard work on the subject.

Catalogue by Harry W. Cox, Limited, Manufacturing Electricians. Manufacturers of all Apparatus in Connexion with X Rays, High Frequency, Electro-Therapeutic, Wireless Telegraphy, &c. *Offices, 9–11, Cursitor-street, Chancery-*lane, London, E.C. Pp. 113.—This small work is something more than a mere catalogue of apparatus though it will be sent gratuitously to all registered practitioners. It contains full descriptions of Cox's heavy discharge inductive coils, of the Mackenzie-Davidson motor mercury break, of the different kinds of interruptors, of x ray tubes, and of all the different apparatuses and implements necessary in x-ray work. There are sections devoted to the lamps for treatment of lupus and rodent ulcer and to high-frequency apparatus. The last 30 pages are entitled "Practical Hints to Beginners." They comprise a simple explanation of the x-ray apparatus, with instructions how to set about work, instructions for connecting and working Cox's base and portable x-ray coils, instructions for adjusting the "Cox" contact breaker, brief instructions for connecting and working the Mackenzie-Davidson mercury interruptor, instructions for using the electrolytic break and the Mackenzie-Davidson cross-thread localiser, and instructions for connecting up and working of

Reviews and Notices of Books.

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ND MAGAZINES.

Annals of Op narrowest *jy.* Edited by H. V. WURDEMANN, M.D., and CLAUD A. WORTH, F.R.C.S. Eng. Published quarterly. British edition by Baillière, Tindall, and Cox, London. Price 21*s.*—The *Annals of Ophthalmology*, a very superior journal on the subject of which it treats, has completed its twelfth year of existence and with the commencement of the thirteenth it has begun the issue of a special English edition, presided over by Mr. Claud Worth. The *Annals* contain a large number of original communications as well as *résumés* of the ophthalmic progress in many countries by such well-known writers as Landolt, Nuel, Rampoldi, da Garda, Pinto, Snellen, Hansen, and others, none of whom receives any remuneration for his labours. The journal is well deserving of support and we trust that many of our readers who wish to keep themselves abreast of modern ophthalmic work will become subscribers to it.

SEWERAGE SCHEME FOR CHRISTCHURCH.—The Local Government Board has intimated its approval of the Christchurch (Hampshire) *sewerage scheme which is* estimated to cost about £29,000. The population of the town is 3838.

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must cease when the struggle comes to an end. To attempt to secure peace by restating religion in scientific terms, or by relegating material evidence to a secondary place by the assertion of the idealism of religion, fails to satisfy. The conclusion that is reached is that religion requires faith, obedience, and hope transcending the evidence of the senses, and that the doubting spirit can receive no comfort nor can religion be served by the fact that the existence of a Great First Cause can be proved as men prove the existence of an Ice Age. He believes that, though in the past religion and science have been hindered by the supposed conflict between them, yet in the future each may serve the other and that the true cure for religious doubts will be found in the scientific treatment and pursuit of religion itself.

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cordially approves lled malarial fever council of the union in reference to the scheme propos by the ritish Medical Association in respect of medical defence and agrees to aid the council of the union in maintaining the integrity of the union in its entirety as at present existing.

He said that the collective defence of the profession comprised in such work as bringing transgressors before the General Medical Council and the prosecution of quacks legitimately belonged to the British Medical Association It had been stated that the standing committees of the British Medical Association carried on the work of collective defence but no one ever saw the Association bringing anyone before the General Medical Council or prosecuting quacks in courts of law. As a matter of fact, collective defence was carried on by the Medical Defence Union and as the scheme put forward by the British Medical Association only provided for individual defence, therefore in the event of the Medical Defence Union coming to an end the work of collective defence would cease.

After Mr. P. MACLEOD YEARSLEY had seconded the motion Dr. E. R. FOTHERGILL urged that the meeting should not pass the motion; his contention was that all interested in the matter should meet at a round table and secure the formation of one society for medical defence.

Mr. W. S. NOCKOLDS then spoke and was followed by Mr. J. T. MACNAMARA who asked what guarantee there was that medical defence by one society would continue to be carried on by such a body, for it was clear that the right to start another society for medical defence was always open to anyone.

The motion was then put to the meeting and carried.

The usual formal motions were then propcsed, seconded, and passed practically without debate.

THE LANCET.

LONDON: SATURDAY, JUNE 4, 1904.

The General Medical Council and Medical Education.

THE present session of the General Medical Council will be chiefly memorable for the debates on Saturday and Monday last, which we report at considerable length this week. In both of these debates the attitude towards the Council of the Royal College of Physicians of London and the Royal College of Surgeons of England was sharply criticised and on the latter occasion the situation was not improved by the speeches which the representatives considered it their duty to deliver, though Mr. MORRIS's remarks were admirably thought out. This is much to be regretted, since it is evident that the Council and the English Royal Colleges are agreed concerning the general broad principles upon which improvement in medical education can be effected. It is easy to understand that many of the terms employed in the heat of debate may provoke strife, but temptations in this direction should be avoided. The medical profession is mainly concerned about the accurate adjustment of the points at issue between the Royal Colleges and the General Medical Council because the settlement of the differences now existing will bring peace and opportunity for attention to other matters. Interest in the progress of medical education is superior to quibbles about whether "recommendations" or "requirements" is the right word for the General Medical Council to employ when supervising the educational curriculum of a qualifying body. The claims of ancient privileges by the Royal Colleges must always be of the greatest sentimental value, but these again must not be allowed to withstand the course of progress.

The debate on Saturday, May 28th, was upon a motion by Sir VICTOR HORSLEY to the effect that the courses of study laid down in the new regulations relating to the first year of professional study and to the minimum length of courses of instruction to be required in chemistry, physics, and biology by the English Conjoint Board were "insufficient," the word "insufficient" implying report to the Privy Council who may, after hearing the body to which the report relates, withdraw from such body the right to hold qualifying examinations. The new regulations of the English Conjoint Board have evidently been framed with the direct desire to permit the study of preliminary scientific subjects to be pursued at recognised institutions other than medical schools. It is perfectly clear that the Royal Colleges are not favourable to the expensive development of separate courses of study in the ancillary sciences in connexion with all the medical schools—a view which most practical teachers share. They are prepared to be content with evidence that their students have enjoyed sufficient educational opportunities to enable them to pass examinations of a written and practical character, this being, by the way, the attitude taken up by the University of London. The new regulations and synopses of the Conjoint Board mark a genuine desire to improve the nature of their first professional examination, and in the satisfaction with which these changes should be greeted the tardiness of action and the stages of development might have been gracefully forgotten. Sir VICTOR HORSLEY thought otherwise and after the regulations had been formally received and entered in the minutes, he protested that the General Medical Council must be the supreme authority in medical education, that it did not recommend, it "required," courses of study and examination. This position is perfectly unassailable, there must be a supreme authority, a coördinating centre in educational matters. The General Medical Council practically fulfils the functions of a board of studies, where various views may be freely expressed and discussed and where some degree of harmony may be attained between the different examining bodies. Criticisms from such a body should be entitled to respect and it should never be necessary to enforce authority by reference to "requirements." In the regulations under consideration the Royal Colleges have made three noteworthy concessions to the wishes of the General Medical Council: the length of the minimum course of instruction in chemistry, physics, and biology has been furnished; whatever length of time is devoted to this instruction it is not to count for more than six months; and this preliminary scientific examination must be passed before attendance upon anatomy and physiology will be recognised. Dr. WINDLE made a good point in contrasting the regulations of the Conjoint Board with those of the University of London, and emphasised the educational importance of a well-ordered curriculum as compared with that of a severe examination. The contention of the Conjoint Board is that under their scheme each factor in education is properly looked after, thoroughly supervised institutions being alone recognised, and the character of the examination being adequate. Upon division Sir VICTOR HORSLEY's motion was lost by a large majority and the new regulations of the Conjoint Board were therefore regarded by the General Medical Council as "sufficient." But though victorious in the sense that they have satisfied the requirements of the Council the Royal Colleges have been reminded that they have been pugnacious and that they have not set the hoped for example of acquiescence in the judgment of the Council. The question is sure to arise again in the near future and in our opinion it can only be settled in one way.

And what that way will be was indicated by the debate in the Council on the following Monday, which was a no less stormy discussion of the position of the medical student at the commencement of his career. It was proposed that the Lord President of the Privy Council should be requested to introduce into Parliament a Bill to confer on the General Medical Council statutory power to establish and to maintain registers of medical and dental students and to impose a fee not exceeding £1 for registration therein. The arguments in favour of this innovation were extremely simple. Foremost is the fact that the expenses of the General Medical Council have for some years been exceeding the income and it was estimated that this new source of income would more than counterbalance the average loss. This argument might have been allowed to pass unchallenged but Sir JOHN BATTY TUKE explained further that the Council would have the power of approving or disapproving of the institutions recognised by various licensing bodies at which medical study could be begun. He endeavoured to be as impersonal as possible but stated generally that the licensing bodies would lose the right to nominate the educational institutions where the examinations in general education could be accepted. Similarly the right to nominate bodies at which medical education could be begun would be forfeited. As, of course, it is exactly this right for which the English Conjoint Board is contending and upon which the new educational scheme in respect of the preliminary sciences depends, the amplification of the intention of the motion furnished excuse for another heated debate. The representatives of the two Royal Colleges saw in the statutory registration of students and the payment of a fee threats to the chartered rights and powers of the licensing bodies. Dr. NORMAN MOORE, for the Royal College of Physicians of London, reproved the Council for its appetite for money and for increased powers, while Mr. HENRY MORRIS, for the Royal College of Surgeons of England, explained that the attitude of his College to the General Medical Council "was simply, so far as any opposition was concerned, one of defence and not one of defiance." These remarks supplied subsequent speakers with opportunities of forcible reply. The charters of the English Royal Colleges must naturally weigh much with the authorities of those Colleges and their representatives are carrying out their duty in attaching importance to them. But the Council is more likely to listen to the great argument of the Conjoint Board, that men qualified by the Board form upwards of half the Medical Register, than to any reference to ancient privileges put with however great sincerity and conviction. The debate closed with some admirable words from the President who took up this position while giving good reasons for supporting the motion, which was adopted by 22 votes against 6. These two discussions, although reaching right conclusions, cannot be said to reflect credit upon all of those who took part in them. The issues were simple on both occasions. There was no doubt that the general sense of the meeting would be in favour of conciliation during the first discussion on the regulations of the Conjoint Board; and there was equally no doubt that the General Medical Council would welcome the scheme of registration which should restore its solvency and increase its efficiency. Before these conclusions could be reached much valuable time had been spent in political strife which embitters relationships, increases antagonism, and is likely to impede progress in subsequent meetings.

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What is Brandy?

WE have never had any doubt as to the correct answer to the question "What is genuine brandy?" Brandy is spirit distilled from the fermented juice of the grape. As the readers of THE LANCET know, we took some pains a few years ago to lay before them all the facts connected with the brandy industry at Cognac and in the Charente district and to throw some light on the character of the brandy sold and consumed in this country. There can be no disguising the fact that of recent years a large section of the spirit trade has adopted a method of business which has hoodwinked the public. Spirituous liquors, chiefly brandy and whisky, have been placed upon the market which were not accurately described by the labels upon the bottles. We have pointed out again and again that the terms "brandy" and "whisky" had specific meanings, these terms being used to distinguish in the former case a spirit derived exclusively from wine and in the latter case a spirit derived from barley malt. We have been assured that the attenuation of genuine brandy or whisky with a spirit made from grain, potatoes, or other material was the result of the demand made by the public in favour of a spirit of negative rather than positive characteristics. It suited certain sections of the trade to say this, while all the time they knew perfectly well that their real object was to put upon the market a cheaper spirit and to gain a wider margin of profit upon it. Whatever else may be said such trading is not honest dealing with the public, apart altogether from the question of whether this or that spirit is more wholesome than the other. The point is that spirits are distinguished by certain names which, after all, imply positive characteristics. Brandy, whisky, and rum are distinguished by specific flavours derived not only from the materials from which they are made but from the manner in which they are distilled. It is true that chemistry has not given us as complete an insight as may be desirable on the question as to why one spirit differs from another in regard to its physiological action or its flavour. We do know, however, that there are important differences between the action of pure or plain spirit and a spirit distilled from the fermented juice of the grape or from malt in the simplest form of still, and these differences coincide with certain variations in the chemical composition of spirits.[1] In the production of plain or silent spirit every care is necessarily taken to eliminate positive characters. In fact, when the object is merely to produce neutral alcohol care is taken to obtain a spirit without flavour and without odour, the presence of which would, of course, indicate impurities so far as regards alcohol. On the other hand, in the production of spirit from the grape or from malt the object of the distiller is to preserve so far as possible the flavour of the original material. For the purposes of a beverage pure spirit is inadmissible because it is flavourless. Further, it is idle to contend that brandy and whisky are esteemed because they are merely alcohol. It is well known, and has been thoroughly recognised in clinical practice, that genuine well-matured brandy exerts a powerful physiological action which pure alcohol alone is not able to do. Genuine matured brandy possesses a well-known restorative power over and above that due to its alcoholic contents. That being so it is perfectly clear that when a person asks for brandy and gets a more or less plain spirit he is not receiving an "article of the nature, substance, and quality" demanded, and is obviously prejudiced.

It was with these plain facts in our minds that we decided some years ago to undertake a full investigation into the supply of brandy in this country. The results of this investigation appeared in our columns in the form of the report of our Special Analytical Commission on Brandy.[2] We felt at the time that this work was of the utmost importance to the public; we now realise that it has had influences of a greater magnitude than at first sight appeared, in that it has led to quite a campaign throughout the country being undertaken against the sale of spirit called brandy which in reality is not brandy. Discredit chemical analysis as many are inclined to do, they cannot shut their eyes to the fact that it was the results of analysis published in the report of THE LANCET Commission which has ultimately brought this species of fraud within the operation of the Sale of Food and Drugs Act. We are undisguisedly proud to have been the means of initiating what promises to be a reform of the utmost importance and interest both to the public and to the medical profession. The attitude of the spirit trade to us when the report of THE LANCET Commission appeared was not hostile, judging from the opinions expressed in the journals which voice the trade. It now seems clear, however, from the recent proceedings at the North London police court that the views we expressed and have since consistently adopted have led to a cleavage amongst brandy merchants. A wine merchant was summoned by the Islington borough council for selling as brandy "that which was not of the nature, substance, and quality" of brandy and was convicted after an exhaustive hearing. There were witnesses in this case, described as "leading members of the trade," who declared that if to plain or silent spirit were added sufficient Cognac brandy to give it the requisite flavour and aroma the blend would be brandy, and one witness further declared that during the 40 years that he had been in the trade brandy had never been considered to be a spirit exclusively derived from the grape. Another member of the trade in answering a question put to him by the magistrate said that he would regard a mixture of any spirit, whether from beetroot, potato, or grain, as genuine brandy. It seems to us that such representatives of the trade should be exposed.

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[1] "The effects of alcohol on the blood pressure and lymph circulation are modified very considerably by the presence of other constituents in spirits, wines, &c." ...... Inasmuch as absolute ether gives us simply the cadiac stimulant curve it may be suspected that the ethers exert this modifying influence."—Dr. George Oliver in the Oliver-Sharpey Lectures on Recent Studies on the Tissue-Lymph Circulation, THE LANCET, April 30th, 1904, p. 1179.

The value of analysis in the case was impugned, together with the certificate describing the sample as containing 60 per cent. of spirit not derived from the grape, and yet the wholesale dealer who had supplied the sample to the defendant admitted that the opinion which he formed on purchasing the spirit was that it contained perhaps 40 per cent. of grain spirit, and he thought that the consignment sent to the defendant was "excellent value." One of the analysts for the defence said that he had made an analysis of the sample and the results were consistent, he maintained, with those obtained with a brandy derived from the grape, though he admitted that the amount of ethers was small. The evidence of the merchant who supplied the articles must have rudely upset this analyst's interpretation. We do not suggest that analysis can discriminate between the pure alcohol obtained from wine and that obtained from malt or sugar or any other material. Alcohol is alcohol whatever its source may be. But analysis easily differentiates between a pot-still and a patent-still spirit because of the secondary products, flavours, and so on, present in the former which are practically absent in the latter; and the amount and relationships of these secondary products vary considerably with the material from which they are derived. The quantities of ethers, aldehydes, acids, furfural, and higher alcohols are not the same in brandy as in whisky, neither are the amounts present in the same relation to each other.

The line of defence was ingenious and amounted to the following. It was assumed that brandy is correctly defined as a spirit distilled from wine or the fermented juice of the grape; then it followed that if the spirit from the grape were highly rectified by means of the patent or fractionating still, whereby secondary products characteristic of good brandy would be removed, the liquid would still be brandy. The magistrate took a very proper and decisive view of this argument. "He did not think," he said, "that after the spirit obtained by the distillation of wine had been so highly rectified as to have lost the properties peculiar to spirits so obtained it was still spirit obtained by the distillation of wine so as to fulfil the definition of brandy." Mr. FORDHAM may be heartily congratulated upon this very sensible acceptation of the meaning of brandy. Highly rectified spirit cannot for a moment be properly regarded as brandy even although nothing but grape may have been used in its production. Otherwise brandy could never be the medicinally valuable agent that it is universally admitted to be. The fact is, and the trade are bound to recognise it once for all, that the patent still has placed in the distiller's hands a machine which will enable him to refine alcohol from any source, whether it be good, indifferent, or thoroughly bad. The distiller knows also full well that with sick, sour, or inferior wines, or other not very choice materials, the use of the patent still is obligatory in order that the foul smells and evil flavours—evidences of unwholesomeness—may be eliminated by its agency. This is why the pot-still spirit is practically certain to be honest, for in a still of the simplest form of construction both the vices and virtues of the wine must come over with the spirit. It follows that only wine with virtues can be distilled in the pot still. Mr. FORDHAM had fine opportunities of considering the *pros* and *cons* of the case and he evidently bestowed considerable thought to its many aspects. The evidence was full of technicalities but he showed a perfectly clear grasp of the points presented to him, with the result that he has given a decision completely in harmony with commonsense. We hope that the issue of the case will do much to check the almost unbounded substitution which is being practised by the spirit trade. We cannot regard this decision in the slightest degree as a menace to the interest of the trade. They have only to deal fairly with the public by disclosing in accurate terms the nature of the article which they offer for sale. According to the view that the public exhibit a preference for mixtures or substitutes the trade ought not to lose by revealing the fact that the article is not a pure unblended spirit. Candour should put money in their purse on their own showing.

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[2] THE LANCET, Nov. 29th, 1902.

The Relation of Human to Bovine Tuberculosis.

THE Royal Commission which, under the chairmanship of Sir MICHAEL FOSTER, was appointed to inquire into the relations of human and bovine tuberculosis as a result of the startling announcement made by Professor KOCH at the British Congress on Tuberculosis of 1901, has acted very wisely in issuing an interim report. Pending the issue of some such document there has been a tendency to go slow in the matter of prosecutions and to postpone fresh legislative action. The readers of THE LANCET will not be astonished at the result at which the commissioners have arrived, as we have from time to time drawn attention to the progress of the work done in this and other countries in connexion with this subject. As we pointed out in a leading article in THE LANCET of Oct. 31st, 1903, p. 1243, *the possibility of the transmission of tuberculosis* of human origin to bovines has been placed beyond dispute by the numerous experiments which have been carried out since KOCH and SCHUTZ obtained their negative results. At the same time we drew attention to the fact that the only points which were left over for discussion and experiment were the facility with which human tuberculosis can be transmitted to the bovine subject and the inferences which are to be drawn in respect of this danger to the public health The Royal Commissioners have now placed the seal of their authority upon results which are matters of common knowledge.

The points referred to the Commission were grouped under three heads: (*a*) whether tuberculosis in animals is one and the same; (*b*) whether animals and man can be reciprocally infected with it; and (*c*) under what conditions, if at all, transmission of the disease from animals to man takes place and what are the circumstances favourable or unfavourable to such transmission. The present interim report goes far to answer completely the question put in (*a*) and partially the problem presented in (*b*) Concerning (*c*) we must await a subsequent report The commissioners first turned their attention to determining whether the bacillus of bovine tuberculosis is specifically distinct from the bacillus of human tuberculosis. With the view of solving this problem more than 20 strains of tuberculous material from the tuberculous sputum, lungs, glands, and joints of human subjects were employed, the effects produced being compared with those resulting from the employment of different strains of tuberculous material of bovine origin The details of these experiments are held over by the Commission for a subsequent report, but the conclusions are given with a commendable directness which we shall closely follow. Seven of the strains of human origin when introduced into cattle gave rise at once to acute tuberculosis and the development of widespread disease in the various organs, such as the lungs, the spleen, the liver, and the lymphatic glands. In some instances, it is added, the disease was "of remarkable severity." These experiments would seem conclusively to suggest that KOCH and SCHUTZ must have been dealing with strains of tuberculous material of a different type. In this case the contradictory results which have been obtained by different observers are to be explained by slight variations of the effect of the soil on the seed, much in the same way, perhaps, as some persons are immune to a disease at one time and susceptible at another, or resistant to one strain of scarlet fever while highly susceptible to another. This view is rendered probable by the behaviour of the remaining strains of tuberculous material which were made use of by the commissioners. In these the disease was "either limited to the spot where the material was introduced (this occurred in two instances only) or it spread to a variable extent from the seat of inoculation along the lymphatic glands with at most the appearance of a very small amount of tubercle in such organs as the lungs and spleen." But the subsequent history of these cases is extremely instructive and suggestive. When tuberculous material was taken from these slightly affected bovines and introduced into other bovines, or into guinea-pigs from which bovines were subsequently inoculated, such material had up to the time of the report given rise in the case of five of the remaining strains to general tuberculosis of an "intense character" in the bovine.

As regards the identity of the human and bovine disease the commissioners state that after careful comparison they have "found the one, both in its broad general features and in its finer histological details, to be identical with the other," and they have failed to discover any character by which they could distinguish the one from the other. The results of their investigation have indeed been so striking that they have felt it their duty to make them known without further delay. Obviously the commissioners are not yet prepared to answer fully all the problems presented to them, or to estimate the danger to the public health of the consumption of tuberculous milk and meat, but nevertheless they come to this significant conclusion: "that tubercle of human origin can give rise in the bovine animal to tuberculosis identical with ordinary bovine tuberculosis seems to us to show quite clearly that it would be most unwise to frame or modify legislative measures in accordance with the view that human and bovine tubercle bacilli are specifically different from each other, and that the disease caused by the one is a wholly different thing from the disease caused by the other." Few pathologists or epidemiologists will, we imagine, join issue with this conclusion and many will regard this identity of the disease as an adequate basis for more rigorous precautions as regards our domestic milk-supply. We shall, however, await with the greatest interest the further report of the Commission in relation to the measure of the danger incurred by man from the consumption of tuberculous milk and meat. This aspect of the problem will have to be approached largely from an epidemiological and statistical standpoint, albeit there will still be room for much experimental work in connexion with the mammals nearest to man. The commissioners pay a graceful tribute to Sir JAMES BLYTH for his generous assistance in placing his farm at Stanstead at their disposal, and we could wish that tributes of a like nature from science to wealth were more frequently called for. Sir JAMES BLYTH by his munificence has saved the public purse and earned the gratitude of science.

Annotations.

"Ne quid nimis."

METROPOLITAN HOSPITAL SUNDAY FUND.

June 12th will be Hospital Sunday. We publish to day the annual supplement in which we urge the claims of the London hospitals upon the generosity of the public and we may remind the members of the public that although the amount collected for the Hospital Sunday Fund has shown an almost steady increase year by year, yet the amount of sickness and suffering for the relief of which the money of the Fund has to be applied does not seem to lessen and the hospitals are in as much need as ever of the contributions of the charitable. We need not repeat here the reasons why the public should contribute to the Hospital Sunday Fund, for they are laid down in the supplement, but we earnestly hope that despite the growth in the expenses of living which has become so marked of late years the public, both those who are blessed with a superfluity of this world's goods and those who are not, will contribute their sovereigns or their pence towards the aid and succour of their poorer brethren. They should remember that the hospitals enable the medical profession—to whom the rich and poor alike look for succour when ill—to keep their knowledge up to the high level which modern science dictates. Mr. George Herring has again offered to give a donation of 25 per cent. on any sum collected in places of worship up to £100,000, a generous offer which should form a stimulus to others, for it means that every sovereign subscribed to the fund becomes by Mr. Herring's munificence 25*s*.

COMPULSORY MILITARY TRAINING.

IF the majority report of the Royal Commission recently issued on the organisation of the militia and volunteers travels beyond the limits intended to circumscribe the subject of their inquiry the Royal Commissioners had nevertheless the courage to follow it up to what seemed to them to be the only logical conclusion at which they could arrive. The adoption of compulsory military service in this country after the manner of Continental Powers is, it is needless to say, a very big question. It may be neither necessary nor suitable to provide a large army for home defence for an island Power which if it once lost command of the sea would be more at the mercy of its foes by way of famine than by assault. Be this as it may, we do not think that the Royal Commissioners will have done any harm by having aroused public attention to a subject which sooner or later—and the sooner, perhaps, the better—must be thoroughly threshed out and settled. The report, to which there are several dissentients, is accompanied by two volumes of minutes of evidence and a voluminous appendix, so that there is no lack of material for consideration. After pointing out the inability of our present auxiliary forces to defeat an invading army, the main points in the conclusions of the Commission are that the whole able-bodied male population should be trained to arms, the training to be given within one year, with subsequent annual periods of a few weeks' exercise. We venture to doubt whether public opinion will at the present time be prepared to accept the proposal of a one year's conscription. But from a political, industrial, and economic point of view the question of compulsory military service does not concern us. We can only consider it in its medical and hygienic aspects, and in these relations we would refer our readers to a leading article on the subject which appeared on p. 1747 of THE LANCET of Dec. 23rd, 1899. From the physical, moral, and mental side we have no doubt of the beneficial effect that might be expected to ensue from a course of military training and open-air exercise on the youth and young manhood of our population It is not easy, indeed, to overrate the value of some kind of military training. The proof of this being so can be seen by contrasting the appearance of the young and raw recruit on enlistment with what it is soon afterwards or when he has become a soldier. In physique, general bearing, intelligence, and alertness of mind and body the change is always apparent, and the improvement often quite remarkable. And, as regards the class from which his officers are drawn, the physical growth and development of the cadets on joining the military colleges at Woolwich and Sandhurst as compared with these conditions when leaving are sometimes even more striking than in the case of the private soldier.

MOTOR-CARS FOR MEDICAL MEN.

THE *Autocar* has just issued a special number with the above title which all waverers between horses and motors may consult with advantage. The number contains articles written by medical motorists and 15 pages of letters from owners of cars in the profession. Naturally the pleading throughout is of an *ex parte* nature. The experience of many of the writers is small, but it is of interest to get even a small census of the builds of cars employed. The reliability of motors stands in a very different position to-day from that which it held three years ago and may be regarded as established; there is no question as to the enormous saving of time and the leisure earned by driving a car instead of a horse. Our chief concern, therefore, in studying this article is to get a real clue as to the relative economy of the two methods of locomotion. The question of cost is complex and we do not find that the numerous statements afford great help. Most of them are very vague and some of the most detailed are obviously fallacious. If we consider the mere upkeep, the average repairs, the cost of petrol and lubricant, and the heavy expenditure on tyres as set against the ordinary expenses of a stable, we arrive at the following general conclusions. First, that when the mileage is so great that three or more horses have to be maintained there is no question as to the economy of motors even if a reserve motor is kept. Again, if the area of work is small and the necessary mileage is low—say under 12 miles a day—the amount of petrol consumed and the wear of tyres involved are little enough to make the car compare favourably with the horse and trap. The doubtful cases are the practices which demand two or occasionally three horses. But this estimate of cost does not cover certain points of importance. First, there is the large capital outlay, the interest on which must be considered. No one can yet give us the probable life of a motor or any approximate estimate of its depreciation. We know now what the working life of a bicycle is; regularly worked it lasts in smart condition for about four years. Assuming (which we are far from doing) that the general type of motors is approaching the finality of model which the bicycle acquired some seven years ago, can we believe that the economical life of a motor is likely to be much longer? It probably will be longer on account of its greater strength of frames and general structure, but the depreciation must always be far greater than that of horses and carriages. Next, though the reserve of pace in a motor is very great, the reserve of carrying power is much smaller than that of a horse and carriage. But when we begin to deal with motors which can climb steep hills with four passengers, or those equipped with removeable closed bodies, the price soon runs up. A good car with tonneau and moveable omnibus top for work in a hilly country will cost close on £400, and the extra weight soon tells on the bills for petrol and tyres. We do not also believe profoundly in the cheap lad as chauffeur. There is the further difficulty of the cost of hire of a car during repairs or the renovation of paint-work and parts which all carriages must undergo. Having decided on the advantages of a car, the would-be purchaser will be interested to learn what car the practitioners drive who have contributed to the *Autocar*. By some 33 letters it appears that the cars are nearly all small and of low horse power; only three steamers are represented (one an American "White" and two the now popular Turner-Milsoe build of Wolverhampton). There are two each of the little 4½ h.p. Swift and the 10 h.p. Clement, two small De Dions, two Oldsmobile, and two Cadillac. There is no other car repeated in the list except one notable exception; it is remarkable how the Argyll seems to appeal to the medical profession. We find no less than seven. The choice is unquestionably a good one, for the Argyll cars are very simple, very strong in frame, suitable for the hardest work, and have thoroughly good engines, not too high in power. The frame and gearing are built in Glasgow by the Hozier Co., but the engines are foreign. Among low-priced cars the little Cadillacs hold excellent records for reliability and hill-climbing power, but they are light in the frames for English taste. We should have expected more information on the important subject of tyres; hardly any advice upon the matter is given, but the opinion clearly stated by Mr. Moiisson we believe is sound, that is to have pneumatic, not solid, tyres, but to have them extra heavy and strong; "Overtyre your car at first," he says, "and you will never regret it."

SOME MEDICAL FORMULÆ FROM AN EGYPTIAN PAPYRUS.

All students of the early history of medicine know how intimately it was connected with magic and shamanistic practices. A supreme instance of this mingling is afforded by the "Demotic Magical Papyrus," just published by Mr. F. Ll. Griffith and Mr. Herbert Thompson.[1] Unfortunately for science, whilst containing a multiplicity of magic, it presents but a modicum of medicine, and that of a very inferior kind, but such as it is it deserves mention in a modern medical journal. The papyrus is of the third century A.D. and is in comparatively good preservation, a matter of importance, for our knowledge at present of the Demotic script is so slight that unless manuscripts engrossed in it are very clear they cannot be correctly interpreted. Its 29 chapters are almost all devoted to incantations and invocations of the most puerile nature, the majority of them having erotic objects in view. Divination has its place and some incantations are for the curing of bites of poisonous reptiles and dogs. The first items of a medical character occur in the twenty-fourth chapter among formulæ for "drugging a person." The substances recommended for this purpose are: scammony (convolvulus) root, one drachm; opium, one drachm; mixed with milk. A second formula advises mandragora root, one ounce; liquorice, one ounce; hyoscyamus (henbane), one ounce; ivy, one ounce; to be given mixed in wine. The author appears to have apprehended an error in selecting the ivy leaves and therefore appends a botanical description of the plant, saying, "Ivy—it grows in gardens, its leaf is divided into three lobes like a vine leaf, its (leaf) is one palm in measurement, its blossom like silver, another says gold." This last statement may have arisen from the reference being to some very ancient Egyptian work, for in antiquity silver was called "white gold." One recipe in column 9 of the back of the papyrus is a recommended cure for gout. Its contents are one measure of euphorbia, a half measure of pepper, one measure of pyrethrum, probably an umbellifer, burning to the taste, one measure of adarces, and one of sulphur to be pounded together, mixed with wine and oil and applied to the part of the patient that was painful. Mr. Griffith points out that four of these ingredients occur in a prescription for gout provided by Alexander of Tralles—viz., spurge, pepper, *πύρεθρον*, and *ἀδάρκης*. Dioscorides also mentions pyrethrum. Column 2 contains remedies for a sprained foot; one of them consisted of garlic, frankincense, and oil, macerated together, used as an ointment, and then the foot was to be bathed with cold water. Some paragraphs are occupied with diseases of the eye, maladies always sadly prevalent in Egypt. One, after giving various verbal spells, prescribes a collyrium of oil, salt, and nasturtium seed. The Coptic word for this has, in its Sahidic dialect form, been identified with the *κάρδαμον* of Dioscorides. In all this class of papyri the names of the demons, deities, or spirits invoked are generally the merest gibberish, but one in this document, Eriskhigal, is evidently the ancient Babylonian Persephone—Erish-ki-gal—a name only recently recovered from cuneiform inscriptions but which it is now evident was at one time known in Græco-Roman Egypt.

FRACTURE OF THE SCAPHOID BONE.

One of the results of skiagraphy has been to reveal fractures which, in consequence of their position, were not previously diagnosed, the injury being regarded as a sprain. In a paper in the *Boston Medical and Surgical Journal* of April 7th Dr. E. A. Codman expresses the opinion that in the majority of cases diagnosed as sprains in which recovery does not promptly take place there is a fracture. Among the commonest of unrecognised fractures is, he thinks, fracture of the scaphoid bone of the wrist. The following is a typical example. A youth, aged 20 years, injured his wrist in playing football. Though no crepitus was obtained splints were applied and worn for several days. The swelling and tenderness subsided to a certain extent. The joint remained sore and movements beyond a slight angle were very painful. About six weeks after the injury the patient consulted Dr. Codman who made a diagnosis of fracture of the scaphoid bone and confirmed it by radiography. As he thought it was too late to attempt to obtain union he kept the wrist in splints for only a fortnight and then had it massaged. It improved considerably but it still remained somewhat swollen and was painful on extreme movements. The patient could no longer play football and he frequently hurt the wrist in jostling his fellow students. During two years there was only slight improvement and at the end of this time the wrist could not be extended beyond an angle of 25° without great pain; flexion was less painful but in the extreme position almost as painful as extension. There was marked tenderness of the scaphoid bone which was best obtained by adducting the wrist and pressing with the thumb in front of the styloid process of the radius. About 40 cases of fracture of the scaphoid bone have been observed at the Massachusetts General Hospital, so that the injury appears to be common. Dr. Codman gives the following diagnostic points. There is no deformity, ecchymosis, crepitus, or abnormal mobility. There are localised swelling and tenderness in the region of the scaphoid bone—i.e., in the radial part of the wrist-joint,—limitation of active movements, and sharp pain on attempts at passive movement, the joint protecting itself by muscular spasm. The diagnosis should be confirmed by skiagraphy, the best method being to take an antero-posterior view during adduction. In most of the cases union does not take place and in those in which it does the callus is so extensive as to interfere with the movements of the wrist. The treatment consists in endeavouring to obtain union by fixing the joint for at least three weeks. When union has not taken place and a considerable time has elapsed, if the condition of the wrist interferes with the patient's occupation, Dr. Codman recommends excision of the proximal part of the bone but he has never performed the operation. But in two cases of compound dislocation of the wrist in which the scaphoid was broken and its proximal half excised the patients had afterwards fairly good wrists.

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[1] The Demotic Magical Papyrus of London and Leiden. Edited by F. Ll. Griffith and Herbert Thompson. London: Grevel and Co., King-street, Strand.

A HUNDRED AND FIVE.

THERE has been a good deal of scepticism as to reported cases of people living for a century, but some that are heard of from time to time seem to be well authenticated. About three months ago the master of Blackburn workhouse took pains to verify the age of a man who had been 11 years in the workhouse and who died at the age of 105 years. He was cheerful, active, and industrious until a few months before his death and could read without spectacles till the last, and for the 11 years of his stay in the house he had acted as "ganger of the bedmakers." He was a snuff-taker and habitual smoker and "was not averse to a glass of beer." Perhaps those who take extreme views of the injury done by smoking, snuff-taking, and by even what is called a moderate use of alcoholic beverages may think that if he had abstained from them altogether he might have lived 30 or 40 years longer. That, however, is an unprovable proposition. The other facts of the case, which there seems no reason to doubt from the care taken as to the inquiry, go to show that heredity, independent of habits, has a large share in the causation of longevity, for it is stated that this old gentleman's mother lived to 105 and that he had a sister aged 102 who was killed at Preston a few years ago.

SCHOOLS AND INFECTIOUS CONDITIONS.

A REPORT has been presented to the Gloucestershire education committee by Dr. J. Middleton Martin, county medical officer of health, dealing with the importance of a systematic medical examination of children attending elementary schools to discover the existence of infectious conditions, whether acute specific diseases, infectious skin lesions, or parasites. This report points out the danger of school attendance in spreading these conditions—e.g., in one school alone 23 children out of a total of 65 were absent owing to ringworm, contracted apparently at the school—and since attendance at school is compulsory and by a recent Education Act the education committee is responsible for all children during the hours of school attendance, it is naturally of great importance that the conditions to which children are subjected at school should be as safe as possible. It is obvious that if effective action is taken the prevalence of such infectious conditions can be reduced to, and maintained at, a minimum and that therefore the spread of epidemics can be limited and thus many lives be saved. The county medical officer was invited by the committee to prepare a scheme dealing with one section of the county, the Stroud area being suggested. Naturally, since teachers are not in a position to form an opinion upon the infectious state of a child, to determine which in some cases may require a microscopical or bacteriological examination, the only practical method of dealing with the matter is to provide for a systematic medical examination of all the children. Dr. Martin has proposed a scheme, of which full details are given in the report, by which such an examination can be effected. He suggests that the simplest and most effective arrangement would be for the medical man nearest to a particular school to be appointed medical officer for that school and he has grouped the various schools in the Stroud district for this purpose. At the opening of schools the medical officer would be required to attend and to examine the children, carefully inspecting any child presenting a suspicious appearance and excluding all whom he might find suffering from any infectious or contagious conditions. The parents' attention would then be drawn to the reason for such exclusion, and the child would not be allowed to attend until a certificate of freedom from the condition was supplied by the family medical man or the school medical officer. In cases of notifiable disease, of course, the medical officer of health of the district would be informed. In cases of infectious or suspicious conditions arising during term time the child should be sent to the school medical officer, or, if advisable, the medical officer should be asked to see the child at home. In his report Dr. Martin suggests a graduated scale of payment of the medical officers and estimates the total cost for the Stroud district, comprising an average attendance of 6200 scholars, at £150 a year. He calculates that the total cost of such a scheme for the whole county would be £1500, while if as a result the average attendance was increased only 2 per cent. the gain to the county would be £1600, a rise of 1 per cent. being worth £800 a year. The scale of fees suggested is briefly as follows. For inspection of a school of which the average attendance is 100 or under, one guinea; from 100 to 200, one and a half guineas; from 200 to 300, two guineas; from 300 to 400, two and a half guineas; while for subsequent visits to examine small groups of children of under ten in number a fee of half a guinea per visit, or if over ten in number, one guinea, while for each child seen at the medical officer's house there would be a fee of half a crown, or if seen at the child's own home, five shillings. It is gratifying to notice that the Gloucestershire education committee has decided to carry out this scheme for the Stroud district, and the results of this pioneer effort will be watched with very great interest, as it is certainly a move in the right direction. It is, of course, probable that the details of the scheme may require modification, but there can be little doubt that the principle is a good one.

DIABETES INSIPIDUS.

AT the meeting of the Association of American Physicians held on May 10th some interesting observations on diabetes insipidus were recorded. Dr. Thomas B. Futcher of Baltimore described and analysed all the cases which have occurred at the Johns Hopkins Hospital since its foundation. There were altogether only seven cases—six in the hospital and one in the dispensary—so that the disease is a comparatively rare one. Out of the seven patients four had had syphilis and all of these improved after the administration of iodide of potassium. Heredity seems to be a factor of some importance in the production of the disease, as the observation of one family for four generations has shown that among 90 members more than 1 in 5 have suffered from the disease. The affection is more common in males than in females and is most frequent between 30 and 40 years of age. Even in a case in which no syphilitic history was obtained there was marked improvement after the administration of iodide of potassium with a gain of nearly 20 pounds in weight. Dr. W. H. Thomson of New York recorded a case in which miliary tuberculosis was found post mortem with tubercles on the floor of the fourth ventricle. Dr. James Tyson of Philadelphia had also found iodide of potassium of great benefit even when a syphilitic history was not obtained. Dr. Abraham Jacobi of New York was of opinion that among children diabetes insipidus was not a rare disease. He had found it in association with chorea and some convulsive diseases, and also after severe whooping-cough. He had also found it in cases of hereditary syphilis. He agreed with the usefulness of iodide of potassium, but had also found ergot of service in the disease.

THE METROPOLITAN STREET AMBULANCE ASSOCIATION.

As will be seen by a letter from Dr. A. W. James, the honorary secretary of the above association, the membership has increased so rapidly that certain expenses have been incurred which there are no funds to meet. No subscriptions are asked for from members, so that the association is entirely dependent upon donations for funds to meet whatever expenses may be incurred. The work is carried on as economically as possible and the local secretaries, who number 110, give their time and trouble gratuitously. The London County Council has, as already noted in our columns, received a deputation from the association and has appointed a subcommittee to consider the question. Of the need of an efficient ambulance service for the unwieldy collection of towns which is collectively known by the name of London there can be no doubt and we earnestly hope that the small sum required—namely, between £70 and £80—will be raised.

THE ROYAL COLLEGE OF SCIENCE AND MEDICAL EDUCATION.

IT is announced that the Board of Education has appointed a departmental committee to inquire into the present working of the Royal College of Science. The reference to the committee is a wide one, since it is instructed to consider in what manner the staff, together with the buildings and appliances now in occupation or in course of construction, may be utilised to the fullest extent for the promotion of higher scientific studies in connexion with the work of existing or projected institutions for instruction of the same character in the metropolis or elsewhere; and to report on any changes which may be desirable in order to carry out such recommendations as it may make. It is seldom that any existing institution is provided with such a liberal extension of premises as that which will shortly be given to the Royal College of Science. The magnificent site occupying the whole length of the road opposite the University of London (formerly the Imperial Institute) is rapidly being covered by a splendid block of buildings destined to form additional quarters for the Royal College of Science. Rumour at one time had it that this new building was to be devoted to chemistry and physics, while natural history and allied subjects took entire possession of the original building standing a little further south-east. There were not wanting those who stated that the College required all this additional space to carry out successfully its existing work. The appointment of the above committee would seem, however, to indicate that those in authority regard this as a fitting opportunity to consider whether it may be possible to widen the scope of the work of the Royal College of Science. No more suitable time could have been chosen to consider whether it is possible for the Royal College of Science to render any assistance in the preliminary scientific education of medical students. The various authorities who are responsible for the education of medical students have for some time regarded the conditions of that preliminary scientific study as unsatisfactory. The reconstituted University of London has adopted a scheme which is destined to effect considerable improvements in these conditions and it is certain that this scheme must officially or unofficially come under the notice of the committee recently appointed by the Board of Education. It is much to be hoped that those who are interested in the proposed changes in medical education will take steps to be heard by the committee, and that the way in which the staff, building, and appliances of the Royal College of Science may be utilised for the promotion of higher scientific studies in connexion with the projected Institute of Medical Sciences of the University of London will be thoroughly thought out and clearly impressed upon its members. It will not be forgotten that in Huxley's time an attempt was made to make use of the scientific courses at the College for the purposes of preliminary medical education and it will no doubt be pointed out that notwithstanding Huxley's active sympathy and the cordial approval of the medical schools the experiment was somewhat of a dismal failure. Nor could any more hopeful result be prophesied now were it not for the proposal of the University of London to found an Institute of Medical Sciences at South Kensington within a stone's throw of the new buildings of the Royal College of Science. If it is found possible in any way for some of the resources of the Royal College of Science to be so used as to assist the University of London in forming a centre of education in preliminary and intermediate medical subjects a very great benefit would be conferred upon medical education in London. Nor would the educational benefits be confined to the medical students whom the Royal College of Science received within its walls. It is agreed on all hands that the admixture of different classes of students in our colleges is of the greatest benefit to education in its widest sense. The *personnel* of the students at the Royal College of Science would undoubtedly be benefited by the addition of a proportion of men preparing to enter the medical profession. With so many obvious advantages to be gained it ought not to be impossible to devise a scheme acceptable to the Royal College of Science, the University of London, and teachers in the medical schools.

PERSIAN MEDICINE.

PERSIA, whether regarded from the point of view of its history, its climate, its inhabitants, or its political importance, is a most interesting and delightful country. It is quite unspoilt by modern innovations, it is free from the worries of fiscal problems, passive resisters, questions in Parliament, and educational and religious difficulties, while its fertility, given a good water-supply, is inexhaustible. Altogether, its social condition is much the same as was the case in the days of the great Shah Abbas, who lived in the time of our Queen Elizabeth, and this being the case Persian medical science is still in a primitive condition. Our contemporary, the *Manchester Courier*, some weeks ago published two very remarkable articles by Mr. H. R. Sykes upon Modern Medical and Surgical Treatment in Persia. Mr. Sykes derived his information from Miss Bird who was formerly superintendent of the Kerman Mission Hospital. Kerman is one of the most important towns in Persia, being situated in latitude 30° 20′ N. and longitude 57° 2′ E., at the conjunction of several important trade routes some 200 miles from Bandar Abbas on the Persian Gulf which acts as its port. Through it flows trade between the Gulf, Northern Persia, Central Asia, and India, so that a hospital there has a large *clientèle* suffering from various diseases. Persian medicine is founded upon the practice of a Greek medical man who accompanied Alexander the Great in his Indian expedition and some of the more learned of the Persian hakims profess the teaching of Ibn Sina, better known to European readers by the Westernised form Avicenna, who was born at Bokhara in 980 A.D. Diagnosis is reduced to a simplicity which may well make the Western medical man turn green with envy. All diseases are either cold or hot. A hot disease requires a cold medicine and a cold disease a hot medicine. If the hakim is in doubt he first tries one remedy and then if that does not succeed he tries the other. Sometimes the patient gets well, in which case the hakim takes the credit and the fee, which latter is often in kind. As an instance of this, one European medical man of our acquaintance after restoring to health a patient seriously ill with some sort of toxic fever, by means of 15 grains of calomel, was rewarded by a pair of socks. If the patient dies the hakim says that it is God's will. Surgery is in as crude a condition as medicine; fractures are treated by splints made of paper stiffened with white of egg but the limb is frequently bandaged so tightly that gangrene sets in. In Northern Persia, at any rate, syphilis is extremely frequent and the medical man whom we have previously mentioned frequently saw villages of which nearly the whole population showed syphilis in one form or another. Diseases of the eye, as throughout the East, are very common, more especially ophthalmia, the liability to which is increased by the dust and the glare. With trained medical men Persia might become a health resort of great value. There are many mineral springs, and in Northern Persia the district round the lake of Urmi possesses most valuable thermal waters. The lake of Urmi itself could be used for the same affections as those for which the waters of Droitwich are used in this country for it is a saturated solution of salt. A man bathing in it is quite unable to swim, for all that he can do is to lie on his back on the top of the water or to sit in it with his arms round his knees. A marsh surrounds the lake made up of sulphurous mud and at intervals [illegible] reputation [illegible] the skin. [illegible] be found who have had a European training but as a rule Western medicine is only to be found at the various missions. The American Presbyterian mission does excellent medical work at Urmi and the French Roman Catholic mission keeps up a hospital where the nursing is done by the sisters of St. Vincent de Paul, but, so far as we know, no medical man is attached to this mission. The Church Missionary Society also does useful work from a medical point of view at Julfa, near Ispahan (not the Julfa on the Araxes which is little more than a telegraph station), but on the whole medical science in Persia as it affects the natives is but little touched by Western ideas and as a rule the Persian hakim of to-day is the same as he is depicted in Morier's immortal work, "Hadji Baba."

THE POWER OF PRISONERS TO INJURE THEMSELVES.

A SOMEWHAT mysterious case was recently inquired into by Mr. Garrett at the South-Western police court without any definite conclusion being arrived at. A woman who undoubtedly had been put into a cell overnight very drunk was brought before the magistrate with marks upon her face and neck which, according to medical evidence, were consistent with her having been burnt with carbolic acid. A bottle which contained, or which had contained, carbolic acid was [illegible] been found in her cell and [illegible] d for, the police stating th[illegible]ched when she was put in the cell. The woman stoutly maintained that the burns had been caused by a member of the police at the station who had deliberately thrown the acid over her, but she declined to identify any particular man saying that as her glasses had been taken away she had been unable to see his features. In the circumstances Mr. Garrett ordered that the defendant should pay the fee of the medical man summoned to attend her and requested the police to investigate the matter. Upon such evidence no one would willingly impute to a constable the dastardly outrage charged by the woman, but the matter is certainly [illegible] quires considerable attention on the part [illegible] rities. That a drunken woman should be [illegible] a bottle, whether of carbolic acid or of anything else, when lock[illegible] to the vigilance [illegible]ations. Concealme[illegible]mes to serious results, and the cases of Whitaker Wright and another convicted prisoner at the Old Bailey, both of whom committed suicide, are of recent occurrence. These two prisoners took their own lives in order to avoid long terms of penal servitude, but suicides in police cells are by no means uncommon and the inebriate or the person of ill-balanced mind charged with a minor offence is at least as likely to try to make away with himself as the malefactor who has deliberately committed a more serious breach of the law.

THE DISTRIBUTION OF PLAGUE.

As regards the Transvaal, Lord Milner, in a telegram to the Colonial Office received on May 28th, states that the plague return for the week ending on that date was as follows. Total number of fresh cases reported since May 21st, 5, all coloured persons. Of previous cases 5 have been found not to be plague, making the present total of suspected and proved cases 140—viz.; 24 white and 116 coloured persons. The total number of deaths reported since May 21st is 3, all coloured persons. As regards Hong-Kong, a telegram from the Acting Governor received at the Colonial Office on May 31st states that for the week ending May 28th there were 27 cases of plague and 27 deaths from the disease. A telegram from the Acting Governor of the Mauritius received at the Colonial Office on May 27th says that for the week ending on that date there were three deaths from plague.

PRIMARY CEREBRAL ACTINOMYCOSIS DIAGNOSED BY LUMBAR PUNCTURE.

AT the meeting of the Société Médicale des Hôpitaux of Paris on May 13th M. Enriquez and M. Sicard described the following case of actinomycosis which is remarkable not only on account of the rarity of the disease in the brain but also because of the establishment of the diagnosis by lumbar puncture. A groom, aged 43 years, was admitted to hospital in July, 1898, with all the signs of cerebral tumour in the cortex of the left hemisphere. There were attacks of Jacksonian epilepsy, headache, visual troubles, and vertigo. Although he denied having had syphilis mercury and iodide were given energetically but without result. The symptoms increased in severity, walking became more and more difficult, and double optic neuritis developed. Trephining without incision of the dura mater was performed. As in almost all their cases of cerebral tumour M. Enriquez and M. Sicard found that the operation produced amelioration of the symptoms—vertigo, headache, and nausea, and above all of the stasis of the optic discs. But three weeks later the patient relapsed and lumbar puncture was tentatively performed in order to diminish the hydrocephalic tension. Cloudy fluid was obtained. At this time cytological examination of fluids was unknown. Microscopic examination of the deposit obtained after allowing the fluid to stand revealed actinomycetes. The patient was in the habit of chewing straw, but neither in the mouth nor elsewhere could the portal of entry of the fungus be discovered. A meningocele formed in the cranial wound and at its summit suppuration took place. In the pus characteristic granules with central mycelium and peripheral club shaped bodies formed. Increasing doses of iodide of potassium were given but the patient died at the end of a fortnight from diffuse staphylococcic meningitis. The duration of the disease was less than eight months. In the fluid obtained by a second lumbar puncture two days before death the [illegible]occi. The necropsy [illegible]. In the left fronto-[illegible]mour, purulent at the periphery. It communicated by a narrow opening with the left lateral ventricle. Neither in the tumour nor in the pus could actinomycetes be found, only staphylococci. The other viscera were normal. The absence of actinomycetes from the tissues examined after death is easily explained. M. Poncet has shown that after secondary infection with pyogenic microbes the fungus disappears from the affected parts. M. Enriquez and M. Sicard could find on record only one other case of primary cerebral tumour due to actinomycetes. In it the actinomycosis was recognised only at the necropsy. The tumour was situated in the position of the third ventricle. The portal of entry was in this case also impossible to find. The patient died comatose without secondary infection about a year after the onset of symptoms. On the other hand, secondary cerebral actinomycosis is well recognised. Out of 19 cases referred to in the classical treatise of Poncet and Bérard cranio-cerebral actinomycosis was due to extension from a cervico-facial lesion in eight and due to metastasis, almost always from pleuro-pulmonary lesions, in 11. This case again shows the value of lumbar puncture in diagnosis—a subject to which we have referred recently. The setting free of the fungus in the cerebro-spinal fluid was probably due to penetration into the dilated lateral ventricle from the tumour. M. Poncet finds that actinomycosis of the nervous system is invariably fatal. The largest doses of iodide are powerless to arrest the disease and the patients do not live beyond some months.

THE FIFTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

A MEETING of the National Committee for Great Britain and Ireland was recently held, Dr. F. W. Pavy being in the chair, and Sir William S. Church, Sir Dyce Duckworth, Mr. Reginald Harrison, and others being present. It was resolved, in view of the confusion and disorder attending the last assemblage of the Congress—attributable, it is considered, to the deviation from former procedure in admitting as members of the Congress others than medical and scientific men—that the attention of those intrusted with the organisation of the forthcoming Congress at Lisbon should be called to the matter. This resolution was forwarded to the President and Secretary-General of the fifteenth Congress which will meet at Lisbon in April, 1906, and the rules just issued show that the qualifications of members are as strictly limited as they were at Paris in 1900. The recommendations of the subcommittee as to the future constitution of the National Committee were approved and it was decided that the committee should consist of a president and two secretaries who should invite the coöperation of (1) His Majesty's chief medical advisers in the Navy, the Army, the Indian Army, and the Lunacy and the Local Government Boards; (2) the Presidents for the time being of each medical corporation in the United Kingdom; (3) the President of the General Medical Council; (4) a professor of the faculty of medicine from each University; (5) the President for the time being of the Royal Medical and Chirurgical Society of London, of the Royal Academy of Medicine in Ireland, and of the Medico-Chirurgical Society of Edinburgh; (6) the President for the time being of the Incorporated Society of Medical Officers of Health; (7) a representative of the National Medical Press Association; (8) eight persons practising medicine and surgery in England (including Wales), four general practitioners from Scotland, and four general practitioners from Ireland; and (9) such other persons as it may be found desirable from time to time to invite to the National Committee. Dr. Pavy was asked to continue in the office of President and Mr. D'Arcy Power as secretary. Dr. Horton-Smith regretted that he was unable to continue to act as secretary. Dr. Clive Riviere was nominated to act in his place and a cordial vote of thanks was tendered to Dr. Horton-Smith for the valuable services he had rendered to the National Committee during his tenure of office. It was proposed by Dr. J. F. Sutherland that, in order to allay the feelings of irritation and disappointment rankling in the minds of those who attended the Madrid Congress, and to reassure these and others who may contemplate attending the Lisbon Congress, the honorary secretaries should be instructed to send a note to THE LANCET and the *British Medical Journal* to the effect that the British National Committee intends to supervise the comfort and convenience of congressists. The committee hopes to prevent or to reduce to a minimum at the Lisbon meeting the annoyance, discomfort, and disappointment experienced in Madrid in regard to travelling facilities, lodging accommodation, and so on, and to attain this end it is desirable to have a local British committee to keep in touch with the executive of the Lisbon committee. The proceedings terminated with a vote of thanks to the Medical Society for its kindness in putting the society's rooms at the disposal of the British National Committee.

THE INFANT ORPHAN ASYLUM AT WANSTEAD.

IN another column of our present issue we publish two important letters relative to precautions against the occurrence of infection among the children in the Infant Orphan Asylum at Wanstead. We think that many friends of that long-established institution will regret that the committee has adopted a course so incompatible with the expressed opinions of the medical staff. In view of the universal liability of young children to scarlet fever, measles, and whooping-cough and the havoc that has often been worked by outbreaks of contagious eye disease among children in Poor-law institutions, no effort should be spared in the early detection and isolation of such cases. A number of schools, both public and private, recognise this fact and make provision accordingly but the committee of the Orphan Asylum, where many of the children are of tender years, not only declines to provide an isolation building but has dismissed the staff of trained nurses.

THE FORD-PALLISER DRINKING TANK.

UNDER the heading of "The Services" in THE LANCET of May 21st, p. 1458, we briefly referred to some inventions of medical interest which were shown at Bisley on May 17th, one of them being a water cart with appliances for rapidly boiling water in large quantities, thus minimising the risks of infection with enteric fever. The essential feature of this water-cart, which has been called by its designers the Ford-Palliser (Anti-enteric) drinking tank, is a tubular boiler-tank heated by ordinary paraffin oil. In this apparatus 50 gallons of water can be boiled in an hour while the cart is in motion, the tank being kept level by means of a gimballed arrangement. A second tank with interior cells containing a solution of saltpetre is connected with the boiler and is used for cooling purposes. Water which has been exposed to any kind of microbic or organic contamination is well known to be improved immensely for drinking purposes by mere boiling. If therefore it is found practicable under the conditions of a campaign to boil water rapidly whilst the cart is in motion and to distribute this water by the ordinary water carts to the troops in the field, a great advance will almost certainly have been made in protecting the men from enteric fever. Among those who witnessed the exhibition at Bisley were Lieutenant-Colonel A. M. Davies, from the Army Medical Headquarters staff, Major T. C. McCulloch, R.A.M.C., Colonel Robinson, officer commanding the Royal Army Medical Corps Depôt, Aldershot, Lieutenant-Colonel

C. R. Crosse, secretary of the National Rifle Association, Count von Schulenburg, German military attaché, and a representative of the United States Embassy. Major Palliser, late 7th Hussars and Canadian Militia, and Lieutenant-Colonel R. W. Ford, D.S.O., R.A.M.C., were also present, the appliances having been constructed under their joint advice by Cammell, Laird, and Co. of Sheffield and the Albion Lamp Company.

THERE will be found below the plain and unvarnished tale of the proceedings at the Central Midwives Board from the pen of Dr. W. J. Sinclair, a member of the Board and one of our foremost authorities on obstetrics, gynæcology, and education in these subjects.

THE prize distribution at the medical school of St. Thomas's Hospital will be held in the Governors' Hall of the hospital on Friday, June 24th, at 3 P.M. Sir Thomas Barlow, Bart., K.C.V.O., M.D. Lond., will give an address and a garden party will follow in the grounds.

THE commemoration day proceedings of Livingstone College, Leyton, will take place on June 9th. Professor G. Sims Woodhead will preside at a meeting at 3.30 P.M. in the grounds of the College and will formally open the new laboratory which has been arranged in the College.

THE Bolingbroke lecture of the South-West London Medical Society will be delivered on Thursday, June 9th, by Dr. W. H. Allchin on Some Special Features of Diseases of the Colon, at the Municipal Buildings, Lavender-hill, at 8.45 P.M.

CENTRAL MIDWIVES BOARD.

BY W. J. SINCLAIR, M.D. ABERD.

IT will be satisfactory to many readers of THE LANCET to learn that at the meeting of this Board on Thursday, May 26th, a motion was carried to the effect "that reporters of the recognised medical and nursing journals be invited to attend the meetings of the Central Midwives Board." But for the adoption of this motion I should have felt compelled to raise the veil which has so long concealed proceedings affecting so many important interests and to assume the duties of descriptive writer until relieved by professional reporters from the self-imposed but ungrateful task. Now that reporters are to be admitted it seems to me to be sufficient to state, with your permission, my estimate of the existing position of affairs, while explaining some facts and recent incidents which have produced the present situation. In future your readers interested in the administration of the Midwives Act will be able to follow events by the perusal of what they can confidently assume to be incontrovertibly accurate and unbiased reports of proceedings.

The "Midwives Act, 1902," was a sadly defective piece of legislative work. It incorporated in an Act of Parliament the policy of the Midwives Institute as distinct from, and even in opposition to, the interests of the medical profession and, as I *strongly believe*, the *interests of the* working-class public of England and Wales. The amendments suggested by the medical profession in Great Britain could be ignored by the sponsors of the Bill, while for reasons, transparently clear at the time of the final Parliamentary struggle, the opposition of the Irish Members was weakened by illusory and temporary concessions to the Irish schools of midwifery.

One of the most obvious defects in the Act, which at the same time clearly revealed the influences at work, was the constitution of the Central Midwives Board created to administer the Act. The Board proposed in the Bill of 1900 would have been representative, strong, and efficient; the most zealous partisan supporter of the Act of 1902 could hardly say the same of the now existing Board. This *Board, created to control purely medical affairs*, was so constituted that three at least of its members must be non-medical women, and of the total of nine members five might not belong to the medical profession. For purposes of representation the Incorporated Midwives Institute was placed on a footing of equality with the Royal College of Physicians. The Act contains provisions which imply the most tender solicitude for the midwife; it is ominously silent where the interests of the medical profession are concerned. The midwife, having made her own arrangements with her client, is required to send for medical assistance in certain contingencies, but there is not a word about the remuneration of the medical practitioner who responds to the summons and comes to the rescue. Contrast this with the explicit enactment with regard to legal expenses incurred in the administration of the Act (Clause 15). Again, the authors and sponsors of the Bill obviously contemplated that the Central Midwives Board should consist of merely a London coterie, for there is no provision for the payment of expenses incurred by members, as in the case of the General Medical Council, and no regulations with regard to meetings of the Board are even hinted at. Consequently the two country members must submit to mere harassment or fail to perform the duties which they have undertaken. They are required to attend once a month or oftener meetings of the drawing-room type, with afternoon tea, for a short time after lunch, to sacrifice a day's work when called upon, and to pay all the contingent expenses. It may be objected that these are paltry domestic details any reference to which should be beneath the notice of a member of the Board. I hold a different opinion, else I would not mention them. They seem to me to be of the essence of the efficiency of a board created to administer an Act of Parliament affecting the whole of England and Wales, and I maintain that the proceedings of a statutory board ought to be arranged for and conducted in a manner adequate to the dignity of its origin. When the Board thus constituted commenced to frame rules and regulations for midwives the policy underlying the Act soon became evident. The fee for the enrolment of certain classes of midwives was fixed at the paltry sum of 10*s.* and the fee for examination at one guinea. This decision was certainly in the spirit and partly in compliance with the letter of the Act, but it should be remembered in judging Act or rules that these sums included the total expense of obtaining a privileged position which was to secure special advantages *for earning a professional income.*

Let us now look for some of the evidence of a policy contained in certain rules which were framed by the majority of the Board, even if some of them had to be greatly modified or abandoned before the completed rules were forwarded to the Privy Council for approval. They refused to sanction any rule requiring pupil midwives to prove the possession of some definite minimum standard of common school education, fixing any minimum period for training, specifying the minimum number of lectures or lessons comprised in a course of systematic instruction, or giving clear and exact instructions with regard to the contingencies which would demand an appeal for medical assistance during parturition, or in the course of the puerperium. On this last head the matter was to be left to the judgment of the midwife. She was to send for a medical practitioner only when in her opinion the progress of the woman or child was "not satisfactory." Under such loosely framed regulations it would have been next to impossible to make even the most ignorant and negligent midwife answerable for her conduct. On the other hand, some regulations originally framed to magnify the office of midwife were definite enough. She was, *for* example, required to baptise feeble babies in certain events, and she was always to produce conjunctivitis by irritants introduced even before complete birth as a prophylaxis against gonorrhœal ophthalmia. Several of the worst defects in the rules were remedied owing to the acceptance by the Privy Council of suggestions embodied in a "minority report" signed exclusively by medical members of the Board. But still the rules are stamped with the policy of the Midwives Institute; it is to be made cheap and easy for a humble and illiterate class of female persons to become midwives when so disposed; and they are to be relieved, as far as a sympathetic and benevolent interpretation of the Act will permit, from irksome restrictions inserted in the interests of mere child-bearing women of the working classes.

Owing to an accidental interruption at this stage of my letter I have had the timely opportunity of reading in THE LANCET of to-day (May 28th, p. 1543) a concise report of the proceedings of the "Association for Promoting the Training and Supply of Midwives"; kindly permit me the liberty of making short quotations from this instructive report: "The chair was taken by Miss Wilson, president of the Midwives Institute and member of the Central Midwives Board." "Free or assisted training was given by the association." "Reference was made to the training home at East Ham in connexion with the Plaistow Maternity Charity started by the association last year." "The sum of £1000 would train 50 midwives." This report is to me a curious revelation of fact explaining the antagonism of principles in the Central Midwives Board which has hitherto been to me only a distressing phenomenon—on the one hand, the benevolence of a certain largely non-medical contingent towards illiteracy and inefficiency generally; on the other, the futile struggle of a medical minority to raise the standard of education so as to secure a better quality of midwife in the future. During the long agitation to obtain an Act of Parliament for the education, registration, and medical supervision of midwives, who ever heard a complaint about the lack of women ready to assume the name and functions of a midwife? Every argument in favour of every Bill was founded tacitly or explicitly on a promise to eradicate forever the ignorance and consequent incompetence which were the roots of all the worst scandals arising from the practice of midwives. But the policy and methods of the Midwives Institute do not possess even the germs of progress. What good to the community can come from encouraging a class of women who develop a thoughtful turn of mind only owing to their inability to read? We may well despair if the midwife of the future is to be turned out in 14 weeks at the average cost of £20 a head.

Coming now to the present situation, as far as the actual proceedings of the Central Midwives Board are concerned, it appears to me that the first question demanding attention and solution is the dispute between the Dublin lying-in hospitals and the Central Midwives Board. There are two points at issue: (1) the efficiency of the practical teaching of pupil midwives narrowed down to a question as to the number of patients to be personally and exclusively delivered by the individual pupil before she can receive certain certificates; and (2) the number of days after labour during which the pupil must have the patient under observation so as to gain sufficient knowledge of the puerperium.

1. For a clear understanding of this difficulty the wording of the rules of the Central Midwives Board must be kept in mind. One of the certificates which the candidate must put in before admission to the examination is to the effect that she has, under approved supervision, "attended and watched the progress of not fewer than 20 labours, making abdominal and vaginal examinations during the course of labour, and personally delivering the patient" (Rules, Form III.). Such a rule as this, applied as it has been to the exclusion of the Dublin schools of midwifery, is, in my opinion, impracticable and even mischievous. It has been interpreted literally to imply that each individual pupil has attended at least 20 cases, no one of which has been reckoned for the certification of any other pupil. It is not conceivable that this rule could ever have been so framed and interpreted and enforced by a board consisting of medical men or women experienced in the details of the training in obstetrics of students of medicine and midwife pupils, and capable from professional experience of appreciating the reasons for some rule. Such a rule, interpreted literally, is not in force in any school of midwifery in Europe or America. It almost compels evasion or at least interpretation according to the dictates of practical common sense. Everyone engaged in the actual clinical teaching of midwifery must know that two or even three pupils learn more individually from a single case than the solitary student. They sharpen one another's wits by conversation about the case and by comparison of observations, and there is consequently constant exact sustained attention, and no shirking or apathy.

The training of midwives at the Dublin lying-in hospitals is notoriously the best in the United Kingdom. The pupils "reside for a period of six months in the hospital" and receive systematic instruction during the whole term of residence far superior to the requirements of the Central Midwives Board. Probably in the consciousness of this superiority the Master of the Rotunda Hospital replied to interrogatories in a frankly truthful fashion, and the consequence is that, on this narrow technical point in a rule recently formulated, the Dublin hospitals are declared by a majority of the Central Midwives Board to be disqualified from granting to their pupils the certificates necessary to enable them to enter for examination. The unfitness of the Board as at present constituted to exercise judicial functions is well illustrated by the somewhat irrelevant but suggestive remark of one of the members during the discussion of the question to the effect that the Dublin people send out too many midwives, and by the rhetorical question in the course of a formal speech by another member: "Are we going to climb down?"

2. The second point to which I wish to call attention in the difficulty with the Dublin institutions is a very attenuated difference indeed. The Central Midwives Board in drafting its rules thought that ten days was a reasonable time for a pupil midwife to be required to nurse her 20 patients in the puerperium. As all practitioners know there is no special scientific sanction for *ten* days. The period finally fixed was the result of a compromise. Accordingly the candidate before admission to the examination must send in a certificate that she has "nursed 20 lying-in women during the ten days following labour" (Rules, Form IV.). Now this rule was framed in blank ignorance of an important fact with which the Board became acquainted for the first time only on hearing a letter read from the Master of the Rotunda Hospital, writing in his official capacity. He stated *inter alia:* "It would be impossible for our resident nurses to follow the course of the puerperium for ten days, as Irish women will not remain in the hospital for more than eight days." I cannot believe that a single medical member of the Central Midwives Board would have voted in favour of fixing ten days as the minimum period of nursing in the [illegible] been known at the time of framing the [illegible] lying-in hospitals would have been excluded in consequence. But now, "Are we going to climb down?"

The Dublin grievances were discussed after the reading of a letter from the President of the Royal Academy of Medicine in Ireland at a meeting of the Board held on Feb. 25th when eight of the nine members were present. To a mere *non-possumus* motion to the effect that "the rules ...... having been approved by the Privy Council it is impossible for the Board to alter them," one of the usual minority proposed and another seconded an amendment, regretting that the Board was not made aware of the circumstances of the midwifery training schools in Ireland before the rules were sent to the Privy [illegible] and stating "that this Board [illegible] Irish institutions in their difficulties and will give every assistance in order to obtain a revision of the rules by the Privy Council." For this amendment only the proposer and seconder voted; against it five members. For the "*it is* impossible" motion then put substantively there voted six; against it the same two.

Owing to the persistence of the authorities of the Dublin lying-in hospitals the question came up again on April 28th, and although an excellent way out of the difficulty was proposed in a resolution by one of the lay members the result was practically the same. The subject was again under consideration on May 26th on a motion which appeared to indicate a weakening of the opposition but in reality offering no practical [illegible] tions. For an amendment once [illegible] assistance there voted only the [illegible] were opposed. That is how th[illegible] present moment.

Yet the Central Midwives Board is not always so pedantically exact in guiding its conduct by its own rules. In the printed minutes of the meeting of March 24th, which I was unable to attend, I read the following record: "Mrs. H—— stated that she had not undertaken cases without doctors but had been advised by a medical man that she need not be afraid to do [illegible] herself did not feel in any way afraid [illegible] and by no means lucid as the diction [illegible] to have grasped the intention of the [illegible] resolved:—

'That in the opinion of the Board it is desirable that Mrs H—— should be certified, as it appears from her letter that she is quite prepared to take a case alone.'

An [illegible]
the [illegible]

there ever yet who was not "quite prepared", to undertake a case, and preferably "alone"?

This episode appears to [illegible] its remarkable conclusion [illegible] on the agenda paper received by the members. "A letter was read from the deputy clerk" of a county council inclosing an inquiry from this Mrs. H—— and the resolu[illegible]e ado. The [illegible] me the first [illegible]redible violation of the rules. One of the certificates, which such an applicant for admission to the Midwives Roll is required by the rules to supply with her application, is according to Form VIII.: "I hereby claim to be certified under Section 2 of the Midwives Act on the ground that I have been in *bonâ fide* practice as a midwife since ——," one year at least before July 31st, 1902; and the application must be supported by a certificate in Form IX. that she "has, to my personal knowledge, been in *bonâ fide* practice as a midwife since ——," one year at least before July 31st, 1902, "and that she is trustworthy, sober, and of good moral character." But this applicant appears to have produced no evidence whatever except a statement as to her own mental condition, that of self-confidence, and a second-hand opinion from an anonymous medical man. Moreover, she testified to the Board against herself to the effect that she was practising as a monthly nurse and had not been at any time in *bonâ-fide* practice as a midwife. Contrast the levity and inconsistency of the resolution of the Board in this case with its persistently correct and severe attitude towards the Dublin lying-in hospitals. The resolution of the Board to dispense with certificates when the applicant is avowedly a monthly nurse "quite prepared to [illegible] a breach of its own rules; it [illegible]tention of the Act, and but for [illegible]ition of a "midwife" contained [illegible]d have been without question in direct contravention of the statute.

To another grave decision of the Central Midwives Board I desire to call the attention of the medical profession without further delay. At the meeting of the Board held on April 28th a motion was introduced by a lay member to the effect that the Board considers it desirable "to appoint an inspector to visit institutions applying for recognition and to report thereon." The proposer of this motion explained that by the term inspector she meant "a trained woman." It is fair to assume that the intention was to appoint a midwife. A few months [illegible]

[illegible] and consequently no one can be authorised to give the systematic instruction in midwifery who is not a registered member of the medical profession. But by the recent resolution the "trained woman" who is to be appointed and sent to inspect will have, no doubt, to report on the efficiency of the teaching of those qualified men and women who are engaged in giving systematic instruction to midwives in our lying-in hospitals, on the character of the equipment and organisation for systematic and clinical teaching, the sufficiency of the staffs, the sanitary arrangements of the hospitals, including the air space per bed, and other cognate matters. It was strongly objected by one of the minority that such an appointment was not likely to result in efficient inspection and reliable reporting, and that it would be a slight to the medical profession generally and an insult to the individual lecturer to have an inferior order of non-professional person thrust upon him or her as a reporter. It was also pointed out in opposition to the resolution that the county councils and county borough councils have almost universally appointed their medical officers of health as executive officers for the administration of the Midwives Act. [illegible] could be entirely relied upon by the Central Midwives Board as unbiased, accurate, and trustworthy. On the other hand, the irresponsible report of the "trained woman" could no [illegible] relied upon unless it was intended for publication, probably not even then. On a vote being taken with [illegible] members present three voted for the resolution, two of [illegible] being non-medical members, and one voted against it. Three members, two of them medical men, declined to vote. So the resolution was carried. None of the proceedings of the last 18 months more thoroughly demonstrates the defective composition and the consequent bias and sort of moral incompetence of the Central Midwives Board. On an important question of principle like this, involving a kind of degradation of the medical profession and magnifying the midwife's office, three men out of five present, not taken at unawares because the motion had been repeatedly on the agenda paper, refused to vote; and so this serious decision was carried by the votes of one-third of the whole Board, only one of the four medical members present recording his vote against it.

[illegible] in store for us. [illegible] the report of the [illegible] be instituted by [illegible]ion. The meet[illegible] its unanimous [illegible] the Board, consisted of four London members, two of them being medical men. There are still two non-medical members in reserve, so at a full meeting a majority supporting the standing committee will be almost certainly secured. *Inter alia* it recommends under the head of examinations "that one or more women who hold, or have held, the post of matron of a lying-in hospital, or midwife if otherwise qualified, may be appointed examiners." The only reason for this decision that I have heard stated in the Board is that it will be necessary to include "bed-making" among the subjects of examination. So at the beginning of the administration of an Act of Parliament which was brought into existence because of the notorious ignorance and incompetence of English midwives it is seriously proposed to grant to the Midwives Institute the privilege of nominating as examiners its own protégées, women with untrained intellects and equipped with only midwife, *Scoticé* "howdy," knowledge and experience, to set the standard of examinations and to take their places on examining boards on equal terms with qualified practitioners and teachers of midwifery. Surely the examining boards and reporters on examinations ought, in the early stages at least, to be exclusively composed of medical men and women. The professors of bed-making might gracefully postpone the assertion of their claims and wait a while until the system of examinations in mere midwifery has been set on its legs and has had a *fair start*.

The medical profession should keep a critical eye on the recognition by the Central Midwives Board of institutions as training schools and of individuals as teachers of midwife pupils. An abuse of considerable magnitude appears to be in course of creation. To the credit of the Board it may be recorded that there is some hesitation with regard to workhouse infirmaries, but, on the other hand, it seems that hardly anyone of the "ladies' charity" type of institution is too ill-organised, inefficient, or untried and paltry to escape recognition as a school for the training of midwives. As to the professional instructors or lecturers on midwifery I have so far failed to discover any principle guiding the decisions of the Board either in the recognition or the rejection of applicants. As matters are shaping at present there must be at no very distant time a teacher of midwifery in every township. The only satisfaction in contemplating extravagant proceedings is the rather remote prospect opening out behind them, that a reconstituted board must act on diametrically opposite principles and reverse the policy of its predecessors by compelling aspirants for privileges which will secure most of them a professional income for life or good conduct, to seek their professional training within efficiently equipped institutions in the great centres of population and of intellectual activity. There is, however, still some room for the hope that wiser counsels may yet prevail under the enlightened and benevolent criticism of the medical profession, now at last enabled to watch events, and by unofficial advice and assistance minimise the injury to the public interests resulting from the inadequate representation of their profession on the Central Midwives Board.

Manchester.

WEST OF ENGLAND EYE INFIRMARY, EXETER.—[illegible] of the West of [illegible]ally opened by [illegible] the presence of [illegible] need of funds [illegible]it £6000 worth of their capital in order to pay off the debt on the new building.

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 3, 1826.

FOREIGN DEPARTMENT.

Physiology.

Inspiration the principal Agent in Venous Circulation.[*]

WE noticed, in a former number,[†] the experiments of Dr. Barry on this interesting subject, and it is principally for the purpose of attending to a practical suggestion afforded by these experiments, that we now return to them. As might be naturally expected, ever since Dr. B. made known his views on the influence of respiration on circulation, it has been attempted to detract from his merits, by asserting that the same thing had been known long before. The great difference, however, between Dr. Barry's views and those of Haller, and others on this point is, that the latter regarded the heart as the primitive cause of the vacuum which operates in the system, whilst Dr. B. attributes the dilatation of the heart itself, and of its proper auricles, to the tendency to form a vacuum which takes place in the whole cavity of the chest during inspiration. In the Report accompanying this memoir there is a subject alluded to of the highest importance, *viz.*, that the act of inspiration which produces the vacuum, and consequently the flow of blood into the cavity of the thorax of those animals which have lungs, is not sufficient to explain the movement of the blood in the veins of reptiles and fishes, which have another mode of respiration, the same coincidence of action not taking place between inspiration and the entrance of venous blood into the heart.

M. Barry is so strongly convinced of the action of the atmosphere on venous absorption, that he regards, as a sure means of preventing the absorption of poison into the system from wounds, the application of a cupping glass on the injured part. From experiments made with reference to this point, the opinion has been verified; nay, more, it has been found that the application of a cupping glass to a poisoned wound, even after a part of the poison has been absorbed, prevents the development of any bad symptoms. Although it appears that the remedy was not unknown to Celsus, still we are indebted to Dr. B. for an explanation of the principle on which its modus operandi depends.

Monstrosities.

M. Geoffroy Saint Hilaire, in a recent meeting of the Academy of Medicine, communicated verbally some very curious details on the various anomalies in the organization which result from the different positions of the egg submitted to incubation: thus, for instance, the vertical position, impeding the development of the chicken, produces a peculiar kind of monstrosity. M. G. St. Hilaire has promised fresh details and experiments, which we trust will throw some important lights on the formation of the different monstrosities.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.

A SPECIAL general meeting of this association was held on May 25th at 11, Chandos-street, London, W., to consider the disabilities of the Irish Poor-law medical service.

The chair was taken by Dr. H. MACNAUGHTON-JONES who said that he was qualified to speak on this subject as he had been for several years a Poor-law medical officer both in a large city and in a country district and had nearly lost his life in the discharge of his dispensary duties. The complaints of the dispensary medical officers might be classified as follows: (1) the abuse of dispensary tickets; (2) no allowance for travelling expenses; (3) no definite arrangement for annual vacation; (4) no superannuation or pension for the widows and orphans of those officers who lose their lives in the discharge of their duties; and (5) no arrangement for extra professional service. The Chief Secretary for Ireland had taken a definite stand on the recent report of the Local Government Board for Ireland and in reply to a question asked by Dr. E. C. Thompson in the House of Commons stated that the report contained all the information required. There was evidence that the Local Government Board was aware of the disaffection existing in the medical service but it did not venture to express its sympathy with the medical officers while being in full sympathy with those boards of guardians who might desire to improve the condition of the medical officer. The Board proposed to meet the demands of the officers by reducing their number and uniting the dispensary districts, so in this way increasing the duties and responsibilities of the few remaining officers.

Surgeon-General C. MACD. CUFFE, C.B., A.M.S., stated that he felt strongly on this subject and after reading the recently published report of the commissioner sent to Ireland by the British Medical Association was indignant when he considered the manner in which his brother medical officers in Ireland were treated by the administrators of the Poor-law medical service. This service would never be efficient until it was made a State service and the admission was regulated by competitive examination. At present medical officers served under persons who were entirely out of sympathy with their work. Then as to *private practice in remote districts* he considered it a farce to make such a suggestion, as there was either none to be obtained or so much time was occupied in travelling over the district that the medical officer could not undertake any private practice. He could not understand why medical men adopted the service and considered that it ought to be boycotted by all the medical schools in Ireland and all students should be discouraged from entering it until the present conditions were improved. It was undignified for any medical man to accept £100 a year for his services when the cost of living and education had increased so much. The medical officers had his sympathy.

Dr. J. M. TABUTEAU stated that he had been a medical officer under the Local Government Board for Ireland for nine years and he considered that his circumstances were better than the majority of his brother medical officers. He went to his appointment fresh from his hospital and full of enthusiasm for his work, willing to do his best for the poor people. He soon found his efforts frustrated and that amidst conflicting interests he could neither do justice to his patients nor credit to himself. He did not know of any service which was more likely to sap the strength morally and physically of any young man than the Poor-law medical service of Ireland.

The following motion was then put to the meeting and carried unanimously:—

> That this special meeting of the Irish Medical Schools' and Graduates' Association having before it the recently issued report of the Local Government Board for Ireland on the Irish Poor-law medical service desires to express its opinion that the attitude of the Board as stated in that report does not adequately deal with the reasonable demands of the Poor-law medical officers and offers no permanent settlement of the difficulties now disturbing the relations between the public and the Poor-law medical service.

Mr. P. J. FREYER said that the recent report of the commissioner of the British Medical Association revealed facts which formed pathetic reading and almost moved one to tears. He considered that the position of the Poor-law medical officer was a disgrace to humanity and no one ought to be placed in such a position where it was impossible to perform his duty to his patients who were of the poorest and most destitute class. The amount of salary given was about equivalent to that allotted to the constabulary officer for the keep of one horse and no one could efficiently serve the sick poor in such circumstances. He proposed:—

> That this special meeting of the Irish Medical Schools' and Graduates' Association desires to express its hearty sympathy with the laudable efforts of the Irish Poor-law medical officers to improve the present condition of the Poor-law medical service in Ireland.

Dr. HUGH WOODS seconded the motion and said that the grievances of the medical officers were obvious and the pay was totally inadequate. The remedy, however, seemed to him to be evident and that was combination and coöperation among the medical men themselves.

The motion was carried unanimously.

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[*] Recherches Experimentales sur les Causes de Mouvement du Sang dans les Veines, par David Barry, M D., avec le Rapport de M. le Baron Cuvier et de M. le Professeur Dumeril. Paris, 1825.

[†] Vide LANCET, Vol. X., No. 5, p. 140.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

WEDNESDAY, MAY 25TH.

THE seventy-ninth session of the General Medical Council was opened at the Council Chambers, Oxford-street, London, W., on May 25th. Sir WILLIAM TURNER, the President, occupied the chair. After the President had delivered his inaugural address, which was reported in THE LANCET of May 28th, the Council proceeded to the business of the session.

Business Committee.

Sir JOHN BATTY TUKE moved the appointment of the following Business Committee: Dr. MacAlister (chairman), Dr. Windle, Dr. Bruce, and Sir Christopher Nixon. Dr. LITTLE seconded the motion which was agreed to.

Yearly Tables Submitted.

On the motion of Dr. MACALISTER the following yearly tables were received and entered on the minutes:—

[illegible] the medical authorities as to the [illegible] uary, 1904, for commissions in the Indian Medical Service.

Sir PATRICK HERON WATSON moved:—

[illegible] the future continue to be furnishe [illegible]

The motion was seconded by Dr. MCVAIL and agreed to.

Appointment of Assistant Examiner.

On the motion of Sir HUGH BEEVOR, seconded by Mr. MORRIS, it was resolved:—

That Mr. Charles Stonham, F.R.C.S., be appointed as assistant examiner in surgery to the Apothecaries' Society of London for a period of four years, vice Mr. Marmaduke Sheild, who retires by rotation.

The Inspector of Final Examinations.

Dr. MACALISTER moved that the following report from the Executive Committee in regard to the inspection of examinations should be received and entered on the minutes:—

[illegible]

Sir PATRICK HERON WATSON seconded the motion which was agreed to.

In moving the adoption of the report Dr. MACALISTER said that the Council had remitted to the Executive Committee to

[illegible]

were exceptional circumstances in this case which rendered it desirable that the salary should be somewhat greater. On the death of Sir George Duffey only one half-year's stipend was paid to him. Mr. Bryant would have to complete the inspections which were not carried out, and as his year's duty would really include the duty of one half-year more the committee recommended that the salary for the year

[illegible]

In any case he must enter somewhat of a protest against this appointment. If the appointment was only for one year that, of course, mitigated any evil he imagined would exist. He contended that they ought to appoint as inspector of final examinations a man who was in touch with the schools and with the hospitals. It was 15 or 16 years since Mr. Bryant resigned his position at Guy's Hospital and he thought that they could have done better by appointing not a gentleman who was so recently a member of the General Medical Council but a younger man.

Mr. BROWN agreed that if they were to appoint an inspector of final examinations he ought, in justice to the candidates, to be up to date. Mr. Bryant could not be expected to be so efficient an inspector as one who had been in touch with modern methods. He asked whether Mr. Bryant would be required to attend the final examinations of the Apothecaries' Hall of Ireland and said that they ought to have some information as to the examinations which he would attend.

The PRESIDENT said that these were the Scottish Universities and the Universities of London and Oxford. Mr. Bryant's appointment was really to complete the cycle and for that purpose only. He did not wish to re-argue the reasons why Mr. Bryant was selected. He had already given those in his address and nothing that he had heard had led him to alter his opinion.

The report was adopted.

Dental Business.

Dr. MACALISTER moved that the report from the Executive Committee on the dental business transacted since the last meeting of the Council should be received and adopted. The first paragraph stated that the prescribed conditions having been duly fulfilled in each case the names of the following persons had been restored to the Dentists Register from which they had been erased in conformity which the provisions of Section 12 of the Dentists Act, 1878: Reuben Davis, George Neep, Ellis Parsons, William A. Sleigh, and Alice Wilkinson. In paragraph 2 it was explained that the committee had considered an application from Mr. James Dickson Hamilton, a registered dentist of New South Wales, requesting that his name might be placed on the colonial list of the Dentists Register of the United Kingdom and directed that this application should be referred to the General Medical Council and that Mr. Muir Mackenzie should frame an answer for the consideration of the Council. This, said Dr. MacAlister, would be laid before the Council. Paragraph 3 stated that the committee had also considered an application from Mr. Edwin Burton Roper, a dentist of British nationality but domiciled in France, requesting that his name might be placed on the foreign list of the Dentists Register in virtue of his French diploma of Chirurgien Dentiste, which he had obtained after passing three examinations held by the Faculté de Médecine de Paris. This was the first instance of the kind and the merits of the diploma would have to be investigated. The next paragraph chronicled the receipt from the Privy Council Office of a copy of a circular respecting a dental congress at St. Louis, U.S.A., to be held in August next. Paragraph 5 was to the effect that the committee had received from the Colonial Office a copy of an ordinance of the Orange River Colony on the subject of the registration of medical practitioners, dentists, chemists and druggists, midwives, and nurses in that colony which embodied the provisions contained in a proclamation which had been transmitted to the Council in 1902. The Executive Committee, Dr. MacAlister interpolated, expressed its great satisfaction with the provisions which were included in the ordinance, provisions which would be well included in any legislation on the subject that might be undertaken in this country because they absolutely prevented unqualified practice in any of the departments of medicine, dentistry, and so on, and, more than that, they took precautions which seemed to the committee to be sufficient to prevent practice by joint-stock companies. The committee had thought it well to communicate to the Secretary of State for the Colonies its satisfaction at the character of the ordinance. The only remaining points in the report were that the committee had received from the Colonial Office a copy of an Act to consolidate and to amend the law relating to dentists in Tasmania and from the Irish branch of the British Dental Association a communication calling attention to a judgment in regard to medical or dental joint-stock companies.

Dr. LINDSAY STEVEN seconded the motion which was agreed to.

Mr. BROWN asked whether it was intended to take any official action in regard to the last point in the report—the communication from the Irish branch of the British Dental Association.

Dr. MACALISTER said that the Executive Committee

Looking Back.

FROM

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Physiology.

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The chair was taken by Dr. H. MACNAUGHTON-JONES who said that he was qualified to speak on this subject as he had been for several years a Poor-law medical officer both in a large city and in a country district and had nearly lost his life in the discharge of his dispensary duties. The complaints of the dispensary medical officers might be classified as follows: (1) the abuse of dispensary tickets; (2) no allowance for travelling expenses; (3) no definite arrangement for annual vacation; (4) no superannuation or pension for the widows and orphans of those officers who lose their lives in the discharge of their duties; and (5) no arrangement for extra professional service. The Chief Secretary for Ireland had taken a definite stand on the recent report of the Local Government Board for Ireland and in reply to a question asked by Dr. E. C. Thompson in the House of Commons stated that the report contained all the information required. There was evidence that the Local Government Board was aware of the disaffection existing in the medical service but it did not venture to express its sympathy with the medical officers while being in full sympathy with those boards of guardians who might desire to improve the condition of the medical officer. The Board proposed to meet the demands of the officers by reducing their number and uniting the dispensary districts, so in this way increasing the duties and responsibilities of the few remaining officers.

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The following motion was then put to the meeting and carried unanimously:—

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Mr. P. J. FREYER said that the recent report of the commissioner of the British Medical Association revealed facts which formed pathetic reading and almost moved one to tears. He considered that the position of the Poor-law medical officer was a disgrace to humanity and no one ought to be placed in such a position where it was impossible to perform his duty to his patients who were of the poorest and most destitute class. The amount of salary given was about equivalent to that allotted to the constabulary officer for the keep of one horse and no one could efficiently serve the sick poor in such circumstances. He proposed:—

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Dr. HUGH WOODS seconded the motion and said that the grievances of the medical officers were obvious and the pay was totally inadequate. The remedy, however, seemed to him to be evident and that was combination and coöperation among the medical men themselves.

The motion was carried unanimously.

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[†] Vide LANCET, Vol. X., No. 5, p. 140.

The third and last piece of penal business was the consideration, adjourned from Nov. 26th, 1903, of the case of Robert Fawcitt Granger, registered as of 85, Church-street, Whitby, with the triple qualificat [illegible] had been summoned to appear [illegible] sequence of his conviction in Ply [illegible] children.

The PRESIDENT, addressing Mr. Granger, said he would recollect that in November he was asked to appear before the Council in May to give some evidence of what he had been doing between these two dates. There had been put into his (the President's) hands a certificate by Dr. Robert Milne, Sturg House, 32, Bow-road, E., and a statement by Mr. Granger himself, from which he gathered that he had been in practice in the Mile End-road since the beginning of the year. He also gathered from this statement that he had had many difficulties to overcome in connexion with the obtaining of a practice, but at the end of the statement it was mentioned that three weeks ago he was appointed medical officer in a dispensary and that his prospects were better now than at any time during the last two years. He would just ask him this question, Had he been what he promised he would be—namely, an abstainer?

Mr. GRANGER: Practically.

The case was then considered *in camerâ*, after which

The PRESIDENT said: The Council has now given further consideration to your case and we have had before us Dr. Milne's letter, a letter from the inspector of the National Society for the Prevention of Cruelty to Children, and also your own letter, and the Council has come to the resolution not to proceed any further with the case, so that you can leave the council chamber feeling that this matter is done with. All I would like to say is that I hope you will have profited by this experience and that your conduct in the future will be all that we should desire it to be.

Mr. GRANGER then left.

The Registration of a Colonial Dentist.

Dr. MACALISTER submitted the next business, which was an application from Mr. James Dickson Hamilton for registration as a dentist in the United Kingdom. On Oct. 5th, 1903, the application was received from Messrs. Sparke and Angus, a firm of solicitors in Sydney, on behalf of Mr Hamilton that he might be registered as a colonial dentist in the Dentists Register under Section 8 of the Dentists Act, 1878, the grounds of the application being that he was already registered under the Dentists Act of New South Wales and [illegible] had been th [illegible] spondence [illegible] Committee [illegible] Messrs. Sparke and Angus for the consideration of the Council. The following was the proposed answer prepared by Mr. Muir Mackenzie:—

> [illegible] er of Nov. 23rd, 1903, I have to [illegible], James Dickson Hamilton and [illegible] and your letter have been con- [illegible]
>
> [illegible] 274).
>
> With [illegible] registere [illegible] determir [illegible] (Victoria [illegible] ised, but the [illegible] ces stated in [illegible] e registration [illegible] tions will be [illegible] 216, 242, 162, [illegible] has therefore been refused by the Council on the grounds above stated.

Sir VICTOR HORSLEY moved that the Council adopt this answer. Those, he said, who had followed the case of Oldfield in times past would be much obliged to Mr. Muir [illegible] for producing such an extremely clear and convincing statement of the attitude of the Council on this, at first sight, rather complicated matter.

Dr. MACALISTER seconded and the motion was agreed to.

Appointment of Committees.

The nominations for the following committees were adopted:—

Examination Committee.—By the English Branch Council: Dr. Pye-Smith, Dr. Payne, and Mr. Young. By the Scottish Branch Council: Sir Patrick Heron Watson, Dr. Finlay, and Dr. McVail. By the Irish Branch Council: Sir Charles Ball, Dr. Little, and Sir W. Thomson.

Education Committee.—By the English Branch Council: Dr. Norman Moore, Dr. MacAlister, and Dr. Windle. By the Scottish Branch Council: Sir John Tuke, Dr. McCall Anderson, and Dr. Mackay. By the Irish Branch Council: Dr. Bennett, Sir C. Nixon, and Sir W. Thomson.

Public Health Committee.—By the English Branch Council: Sir G. Philipson, Mr. Power, and Mr. Jackson. By the Scottish Branch Council: Dr. Lindsay Steven, Dr. McVail, and Dr. Bruce. By the Irish Branch Council: Sir Charles Ball, Mr. Tichborne, and Dr. Bennett.

It was also agreed that the following should be the members of the Dental Committee: the President (chairman), Sir Charles Ball, Sir Patrick Heron Watson, Mr. Tomes, and Mr. Henry Morris; that the following should be the members of the Dental Education and Examination Committee: Mr. Tomes, Mr. Brown, Dr. Lindsay Steven, Dr. Finlay, Sir Charles Ball, Dr. Bennett, and Mr. Henry Morris; that the following should be the members of the Pharmacopœia Committee: Dr. MacAlister, Dr. Norman Moore, Dr. Payne, Sir George Philipson, Sir John Batty Tuke, Dr. McVail, Sir John Moore, and Mr. Tichborne; and that the following should be the members of the Students' Registration Committee: Sir Hugh Beevor, Dr. MacAlister, Sir John Batty Tuke, Dr. Mackay, Dr. Bennett, and Sir William Thomson.

The Council then adjourned till Friday.

FRIDAY, MAY 27TH.

The session was resumed on Friday, Sir WILLIAM TURNER being in the chair.

Preliminary Scientific Education and Examination.

Dr. NORMAN MOORE moved that the report from the Committee on Preliminary Scientific Education and Examination be received and entered upon the minutes. He said the Council would remember that a joint committee of the Education and Examination Committees was appointed to go into the whole question of preliminary scientific education and examination. Everyone who had read this report would find that it contained a most valuable collection of information on the subject. With the aid of the President the committee obtained information from a very large number of licensing bodies and medical and scientific institutions. He might add that the reason why the number of medical and scientific institutions was not increased by other medical schools in London was that these schools considering they were part of the University of London intimated that they would reply through the university. The university was unable to ask each school to express its opinion. That would have been an enormous labour, so that only one or two of the London medical schools had actually replied to the Council. The others would have been perfectly willing to do so if the university had seen fit to consult them on the matter. The answers, which had been very carefully summarised, were singularly of one complexion. There was no very great difference of opinion among any of those bodies. The committee having thoroughly discussed and digested the reports had drawn up eight recommendations which it suggested should be communicated to all the licensing bodies. He ought to say that these resolutions practically embodied what the licensing bodies and the teaching institutions approved of. They were not absolutely unanimous but the general agreement was obvious.

Dr. WINDLE seconded the motion which was agreed to.

Dr. NORMAN MOORE then moved that the first recommendation be adopted, viz:—

> That an examination in chemistry in order to be sufficient should comprise a written paper, a practical examination, and an oral examination.

Dr. WINDLE seconded the motion which was agreed to without discussion.

Dr. NORMAN MOORE moved the second recommendation which was as follows:—

> That in respect of chemistry a synopsis of subjects should be issued by each licensing body and that the scope of the examination in chemistry should not fall below that which has been indicated in the report of the visitors and has been generally approved by the licensing bodies.

Dr. WINDLE seconded the motion.

Dr. MACALISTER said the publication of the synopsis of subjects was useful not only to the schools as a guide and the examiners as a control but to other bodies in estimating the scope of the examinations held by any particular bodies. This was one of the strongest reasons given for the publication of the synopsis in all cases. Another reason was to emphasise the very general approval which was given by various experts in different licensing and teaching bodies to the outlined scope of an examination in chemistry which was submitted by Dr. Campbell Brown and he could not help thinking that it emphasised their appreciation of the report which he and Dr. Windle previously presented to the Council.

Sir JOHN MOORE suggested that the words "or syllabus" be inserted after "synopsis." That was a recommendation of the Irish Royal Colleges and he thought there was something in it. The syllabus gave a little more information to the students than the synopsis did.

It was agreed to insert the words "or syllabus" and the recommendation so amended was adopted.

Dr. NORMAN MOORE moved the adoption of the third recommendation which was:—

> That the examination in practical chemistry should not be limited to simple qualitative analysis but should include easy preparations and simple experiments illustrating important principles.

Dr. WINDLE seconded the motion.

Mr. TICHBORNE considered that the question of volumetric analysis should be specifically introduced.

Sir VICTOR HORSLEY remarked that this matter arose more in connexion with the course of study than examinations. The motion only related to examinations.

Dr. PYE-SMITH, while acknowledging the value of volumetric analysis, said that for the Council to impose it as a necessity for every medical student seemed to be pushing things too hard. Whatever they did he ventured to predict that the chemist would give papers which would not be either simple or easy. If he had his way he would print these two adjectives in italics. The university examination should insist on chemistry carried as high as it was reasonable to do. It was most important that every man who was a doctor of medicine in this kingdom should be a good physiologist and a good chemist, but they were not legislating for a university degree and they would not do any good by making the student's access too difficult.

Mr. TICHBORNE said that in regard to volumetric analysis they would be examining a man practically. It was a mode of manipulation which must have extensive use. He therefore moved as an amendment to insert after the word "preparations" the words "rudiments of volumetric analysis."

Dr. BRUCE seconded the amendment.

Dr. PAYNE said the syllabus would be somewhat defective if volumetric analysis were not introduced. Volumetric analysis was a method, not a thing learned by heart, and it was very necessary, if not absolutely necessary, in the daily practice of medicine.

On the suggestion of Sir JOHN MOORE Mr. TICHBORNE agreed to alter his amendment so as to read "simple volumetric analysis."

It was agreed to insert these words in the committee's recommendation which was then adopted in its amended form.

The fourth recommendation—viz.,

> That an examination in physics in order to be sufficient should comprise a written paper and an oral examination, the latter to include practical questions on the use of physical instruments and apparatus—

was agreed to without discussion on the motion of Dr. NORMAN MOORE, seconded by Dr. WINDLE.

The fifth recommendation was similarly adopted, viz.:—

> That in respect of physics a synopsis or syllabus of subjects should be issued by each licensing body and should include the elementary mechanics of solids and fluids and the rudiments of heat, light, and electricity.

Dr. NORMAN MOORE stated that this recommendation was a re-affirmation of the resolution of the Council, now of many years' standing.

Dr. NORMAN MOORE, in moving the adoption of the sixth recommendation, which was—

> That elementary biology should be retained in the curriculum,

said there was greatest room for discussion on this clause. After receiving the various reports he thought he was justified in saying that the conclusion the committee came to was that its recommendation represented the feeling throughout the world of medical education.

Dr. WINDLE seconded the motion.

Dr. MACKAY said most of them knew what tremendous difficulties medical students were at once plunged into by the faults of the curriculum. The medical subjects had increased greatly of recent years. The subjects of bacteriology had increased, public health had become of tremendous importance and would go on increasing in importance. The examiners were paying more attention to details of medical studies such as mental diseases and ophthalmology and when it was sought to relieve the curriculum they were forced to turn to the subjects of the first professional examination. He should be loath to propose anything which should diminish the care given to physics and chemistry but in regard to biology he held a different opinion. He was well aware that the great majority of the teaching institutions had replied to the Council that the subject of biology ought to be retained in the curriculum and he believed with them that biology had a very considerable educational value. But at the same time he thought that in view of the overburdened state of the curriculum biology should only be retained in a way that would interfere as little as possible with the other professional subjects. It was absolutely impossible for any student properly to study four great sciences within the first year of his curriculum. His proposal therefore was that while retaining biology in the curriculum they should exclude it from the examination subjects. Of course, this method of treating the subject opened up the possibility of putting other subjects on a similar footing. The proposal he now desired to submit was in the form of the following amendment:—

> That the Council is of opinion that while the subject of biology should be retained in the curriculum it will not regard it as necessary that a professional examination in the subject should be demanded, provided the student has attended and duly performed the work of a satisfactory course of instruction in the subject as part of his curriculum at a university or duly recognised school of medicine.

Sir JOHN BATTY TUKE said that he seconded the amendment with very great pleasure, more especially as it brought before the notice of the Council the principle of instruction without examination in order to reduce the amount of weary grind that went on and resulted in no intellectual activity and the acquisition of the minimum of knowledge.

After some discussion on procedure it was agreed to go into committee, so that paragraphs 6, 7, and 8 might be taken in conjunction and more freely debated. The three paragraphs were as follows:

> That elementary biology should be retained in the curriculum.
>
> That an examination in elementary biology in order to be sufficient should comprise a written paper and an oral examination, the latter to include practical questions on specimens and dissections and on methods of microscopical investigation.
>
> That, in respect of elementary biology, a synopsis of subjects should be issued by each licensing body.

Meanwhile, Dr. MACKAY withdrew his amendment. The Council having resolved itself into committee, Sir VICTOR HORSLEY proposed as a motion:

> That the further consideration of recommendations 6, 7, and 8 of the report of the Committee on Preliminary Scientific Education be suspended and that the committee be reappointed and instructed to report upon the courses of study and synopses of subjects for the preliminary scientific examination with especial reference to the branches of biology as subjects of study and examination.

He said that everything turned on what was meant by biology, and naturally they looked into the report of the committee to find what the committee meant by the term. For the first time he was a hostile critic of that body. The reference to the committee was far wider than it appeared to have accepted; it included the whole question of preliminary scientific education and examination, but the committee had not fully reported upon the courses of study and the synopses of subjects. Personally he felt that the Council owed it as a duty to the licensing bodies to indicate what it considered should be the courses of study and the subjects for these scientific examinations and until the Council had done that he thought it had not done its duty towards the medical student. The only way to fulfil this duty was obviously to reappoint the committee and to ask it to report upon the subject, say, next session. There was no hurry. Another consideration in support of the reappointment of the committee was that in England there were a great difference of opinion and considerable feeling in the minds of some members of the profession as to the relative value of biology. They must have advice and instruction from the committee and he thought that his amendment covered Dr. Mackay's point.

Sir **CHARLES BALL** seconded the motion.

Dr. **MACALISTER** said that if the proposal meant that the committee or the Council afterwards was to draw up anything like an ideal synopsis of the contents of elementary biology then he thought that the Council was embarking on a task for which it was not fitted. It was quite impossible for the Council without taking expert advice to frame anything like an ideal, uniform, and universal syllabus on the subject. What the committee did was to go to those who had experience in the teaching and examination of this subject for many years. It sent an extremely fair letter to all the teaching and examining bodies concerned with this subject in the United Kingdom and the result was very striking. Every single licensing body in the country except the Apothecaries' Hall of Ireland and the Royal College of Surgeons in Ireland thought that biology ought to be retained in the curriculum as a necessary subject of preliminary medical examination. Was it, after all, practicable for the Council to lay down that a subject should be a subject of teaching and not a subject of examination? If a subject was explicitly excluded from examination by the Council it would very soon be excluded from study. The real question was: Did the teaching of biology do any good? He thought it did; the teaching of the subject in the first year saved the student's time afterwards.

Sir **WILLIAM THOMSON** said that the speech just made showed that the further consideration of the subject ought to be postponed. Dr. MacAlister had shown what were the arguments in favour of the retention of the subject, and, on the other hand, they had heard from Dr. Mackay a speech which for the moment he thought carried considerable conviction to the Council. Dr. Mackay had proposed a procedure which was very novel and perhaps very attractive to the student but he did not know whether it would be attractive to those who had to do with medical education at large. Year by year they had been piling up the work of the medical student and it was becoming more and more evident that five years were quite insufficient to enable him to master the details of his course, if, indeed, he was making any attempt at the result. Dr. Mackay's suggestion was a most important one. It was entirely new and once they adopted it they must apply it to other subjects. He should like the committee to suggest some means by which, if biology was only to be an instructional course, it should be a *bonâ fide* course and not a farce. It would not do for the Council to associate itself with any arrangement which could be evaded by any corporation or teaching body.

Sir **CHARLES BALL** expressed the opinion that the matter was not in any way ripe for decision that day. There should be delay.

t seemed to him an
of opinion that had
glish Royal Colleges
in connexion with the preliminary subjects of medical education, and especially in connexion with biology, that they should now have a proposal that biology should merely be made a subject of instruction and not of examination. It was quite clear that if the proposal were agreed to biology would be excluded *from instruction as well as from* examination.

Dr. **PYE-SMITH** remarked that it had been said that biology was a vital question in the student's curriculum and he thought it would be a great pity if the Council did not stand up to what it had already done in this respect. He was sure that the result put before the Council by the committee whose report they were now discussing was very valuable indeed. He would urge the Council not to let the present opportunity pass. He was of opinion that this important subject was ripe for decision. None of the members of the Council spoke of it without at least some knowledge of the subject and in these circumstances he deprecated referring the matter to experts. He believed that biology was a valuable subject for preliminary medical study. He did not see how they could in the face of the reports which they had strike out such an important subject. They must not try to turn the students into automatons. Biology was a subject which could not well be taught in schools. That
favour of retaining it. But,
was the all but unanimous
He did not think that the Council ought to go beyond that. However, he considered that the Council should not try to fetter with a minute syllabus the teaching or the examining of this subject. He thought it would be as disastrous to make a minute supervision of the subjects to be examined in as to make everyone go through the same mould.

Dr. **WINDLE** agreed with Dr. Pye-Smith that it would be inadvisable for the Council to draw up a syllabus of biology. There was a divergence of opinion respecting the best way in which biology should be taught. Biology was essentially a growing subject in which a great deal of elasticity should be allowed to teachers and in which experiments should be made. For these reasons it would be injudicious to try to draw up a syllabus on the subject. Dr. Mackay's point was one of the most important which had been before the Council. He thought that in the principle of instruction without examination the Council would find the solution to many of their difficulties. The crux of the situation was that the institutions which were the teaching were not always the examining bodies. The solution to his mind was that the bodies which carried out the examinations should satisfy themselves that the instruction in the schools was of a sufficient and proper character. He was highly sceptical as to the teaching of biology saving time for anatomy. He did not think that it had saved those of them who were anatomists much trouble. It was of help to the student when he came to pathology. The teaching of biology was very important in the part it took in building up the medical character.

Dr. **MACALISTER** moved as an amendment—

> That it was desirable that elementary biology should be retained in the curriculum.

Sir **VICTOR HORSLEY** said that he was personally in favour of retaining biology but he did not think that the amendment was in order.

Dr. **MACALISTER** said that when they discussed the recommendations someone must make a specific motion.

Dr. **MCVAIL** thought that Sir Victor Horsley was right in thinking that Dr. MacAlister's amendment was not a proper one. Continuing, he said that nothing had emerged to show him that the committee could bring in any more satisfactory report six months hence on the subject of teaching in biology than it had done. It was not possible at the present time with the existing development of the subjects included in biology for any committee to draw up a syllabus in it which would be a working syllabus for all the bodies in the *United Kingdom*. It would, he thought, be quite impossible to draw up a syllabus which would suit the University of London and the University of Cambridge, and also the Apothecaries' Society. Nor did he consider it possible for any committee of the Council to say that there was a minimum syllabus of biology. When biology was brought in first it was very carefully considered, but nobody then could lay down more than "elementary biology." They had received a syllabus from each of the bodies throughout the country with one exception respecting the teaching of biology. There was not one syllabus which was not sufficient, but they differed not only as to standard but as to the subjects which were taken up. Some gave more attention to one department, some to another. He did not think, therefore, that any committee would be able to lay down any such minimum syllabus of biology as the Council would be justified in making a requirement and in demanding that the licensing bodies should adhere to. Nevertheless he strongly went in for the retention of biology. No case had been made out for giving it up. What a tyranny there would be in the school in which at the end of the session it should lie with the teacher to say that a man was to go on or not. Anything more retrograde than the proposal of Dr. Mackay he had not heard for a very long time and he hoped that the vote would go against Sir Victor Horsley's motion.

Dr. MacAlister's amendment was allowed to drop.

Dr. **NORMAN MOORE** observed that it would be wasting the time of the Council if they were to go further into a subject which the committee had considered at great length. It had also been discussed in a very large number of teaching institutions whether biology should be retained in the curriculum. The general consensus on the part of teachers had been that it was desirable to retain biology as a part of medical education. They could not get beyond that. He therefore moved, as an amendment to Sir Victor Horsley's motion:

> That instead of postponing the consideration of the report of the committee, Clauses 6, 7, and 8 be approved of by the Council in committee.

Mr. MORRIS seconded the amendment. He said that he did not think further postponement of the subject would bring forth further information. The very large number of replies received in answer to the questions sent out, the great unanimity of those answers, and the very admirable, concise, and clear report itself did not lead him to anticipate that they would get anything else in the form of information which the committee had not before it at the present time. It was sought to introduce a very important new principle into the curriculum—namely, that subjects should be taught but that the students should not be examined in them. He did not think that the time had arrived for that. He did not think it reasonable that any subject should be introduced into the curriculum for study and not be followed by examination. It would be of the nature of a dead letter.

Sir VICTOR HORSLEY submitted that the amendment was not a competent one. He had already pointed out that the committee had only dealt with the subject of examination and not with the course of study. He put forward a course of study and he did not think the amendment was quite in order to his motion.

Dr. MCVAIL considered that Dr. Moore's amendment should be put as it stood. If carried it would become a substantive motion.

The PRESIDENT said that he should put the motion as a whole and the amendment as a whole.

Dr. Norman Moore's amendment was carried by 19 votes to 10.

Upon its being put as a substantive motion,

Dr. MACKAY said that he should still like to take the view of the committee on his own proposal pure and simple.

Dr. MACALISTER, on a point of order, said that Dr Mackay's proposal did not concern clauses 6, 7, or 8 in any essential sense but was a general question.

The PRESIDENT pointed out that the proper stage for Dr. Mackay's motion would be after the Council resumed.

Sir VICTOR HORSLEY said that on the motion now before them he agreed that elementary biology should be retained in the curriculum, but if he were to agree to the motion as it stood he must know what he was voting for He must know what was meant by elementary biology. He was quite ready to vote for clauses 6, 7, and 8 on the ground of pure examinational requirements but he must have some sort of idea of the subjects and courses of study for the examination. He wished to know whether if he voted for clauses 6, 7, and 8 he would be precluded from bringing forward the question of courses of study.

The PRESIDENT said that No. 6 was a general proposition to the effect that elementary biology should be retained in the curriculum. There was nothing in clauses 6, 7, or 8 to define what the course of elementary biology should be. The feeling of the committee was that they should not define elementary biology in any minute sense, but that it should be left to the educational bodies and the licensing bodies themselves to stipulate what the course of study was to be which they would require for examination.

Sir VICTOR HORSLEY said the recommendations of the committee only related to examinations. He therefore wanted to come back to the question of study and take the opinion of the Council by a clear vote on this matter. He asked whether he would be able to do so after passing clauses 6, 7, and 8

Dr. MCVAIL said that Sir Victor Horsley wanted the committee to consider what should be in a synopsis. No. 6 was quite general, being simply to retain elementary biology. It did not refer to examination or curriculum. No. 7 was that there should be an examination. No. 8 did not refer specifically to examination at all. It said that in respect of elementary biology a synopsis of subjects should be issued by each licensing body. That synopsis might be for examination or curriculum, or it might be for both. Sir Victor Horsley from his own point of view should move an amendment to Dr. Norman Moore's motion that Nos. 6 and 7 be approved, and when that was carried he could raise the question of referring No. 8 to the committee.

Sir VICTOR HORSLEY said he thought that it would be more convenient if he raised his motion at the end of these recommendations. As to No. 7, on its merits he thought the subject should be in the curriculum, but he agreed that the time had now come when they should consider whether it was necessarily an examinational subject. He did not agree with the statement that their curriculum only included subjects necessarily examined in, because it contained subjects which could not be examined in, in the true sense of the word, and some minor subjects which were not examined in at all. No. 7 as it stood was a very important resolution of the Council, because if they looked at it they would see that it put biology on exactly the same footing as chemistry and physics. Personally he did not feel that biology should be on the same footing as chemistry and, he would add, physics. If there was to be a reconsideration of the degree and status of examination and if they were only carrying a vague kind of principle just now he would vote for it.

Dr. Norman Moore's amendment as a substantive motion was then agreed to and the Council resumed. What had been done in committee was formally approved of.

Dr. NORMAN MOORE moved

> That resolutions 1 to 8 adopted by the Council be communicated to all the licensing bodies.

Mr. MORRIS seconded the motion which was agreed to.

Dr. MACKAY said he thought that the matter which he had raised should be carefully considered. There were many who thought that the time was ripe for the change; if it was found that the time was not ripe no harm would have been done by the consideration. He would therefore propose:

> That the Preliminary Scientific Committee be re appointed and that the following suggestion submitted to the Council be referred to them for report—namely, that the subject of biology should be retained in the curriculum but that it should not be regarded as necessary that a professional examination in the subject should be demanded provided the student has attended and duly prepared and performed the work of a satisfactory course of instruction in the subject as part of the curriculum at a university or duly recognised college or school of medicine.

Sir JOHN BATTY TUKE seconded the motion.

Dr. FINLAY expressed the opinion that it would be a mistake to make the reference too narrow. The committee ought to be able to take up the question of non-examination in many of the subjects.

Dr. LINDSAY STEVEN also took the view that the inquiry should be general and not particular.

After further discussion

Dr. FINLAY moved as an amendment to Dr. Mackay's motion

> That the committee be re-appointed and instructed to consider and report as to the advisability of dispensing with examinations in the case of any of the subjects in which courses of study are prescribed by the licensing bodies.

Mr. MORRIS seconded this amendment

Dr. MCVAIL said that the Council had just decided to send out an opinion as to the examination in biology and here they were now proposing to send out an entirely different, in fact, contradictory, opinion. If it were desired to make the Council ridiculous he could not imagine a better way of doing it. The thing was absurd; it was utterly unworthy of the Council and of the great universities and corporations that the Council was supposed to assist and to direct.

Mr. MORRIS said that although he had seconded Dr. Finlay's amendment he had done so merely to escape from the position that would be created by the passing of Dr. Mackay's motion and so little was he in favour of Dr. Finlay's amendment which he had seconded that he would be happy to vote against it when it came to be put as a substantive motion.

Sir VICTOR HORSLEY said that surely the speech they had just listened to was the way to make the Council absurd. He considered that Dr. McVail's observations were entirely unwarranted by the facts. Personally, he preferred Dr. Finlay's amendment as being the wider statement of the same proposition.

Dr. BRUCE said he thought that the Council was not in a condition to decide the question that day. Due notice of the proposals should be given.

Dr. BENNETT then moved the previous question and Dr. MCVAIL seconded the motion.

On a vote 13 members supported the motion and 14 voted against it. The previous question was accordingly lost.

Dr. MACKAY suggested that they should put the matter on the next day's programme of business for discussion.

The PRESIDENT: You ask that for your own motion?

[illegible] Dr. Finlay): Are you agreeable [illegible]

Dr. FINLAY: No; I am not. Continuing, Dr. Finlay said [illegible] ement would be a waste of the [illegible]

[illegible] put Dr. Finlay's amendment to [illegible] 16 votes to 12. Two members did not vote and two were absent. Names and numbers were taken as follows:—For (16): Dr. MacAlister, Dr. Norman Moore, Mr. Morris, Sir Charles Ball, Dr. Mackay, Dr. Caton, Mr. Jackson, Sir Christopher Nixon, Sir Victor Horsley, Dr. Windle, Dr. Finlay, Sir William Thomson, Dr. Bruce, Dr. Little, Sir Hugh Beevor, and Sir John Batty Tuke. Against (12): Dr. Payne, Dr. Pye Smith, Sir John Moore, Mr. Young, Dr. McVail, Sir Patrick Heron Watson, Dr. Lindsay Steven, Mr. Brown, Mr. Tichborne, Sir John Williams, Dr. Bennett, and Sir George Philipson. Did not vote (2): The President and Dr. McCall Anderson. Absent (2): Mr. Power and Mr. Tomes.

Dr. FINLAY'S amendment was then put as a substantive motion. 13 members voted for it and 15 against it and it was declared lost. Two members did not vote and two were absent. Names and numbers were again taken as follows:—Against (15): Dr. MacAlister, Dr. Norman Moore, Mr. Morris, Dr. Payne, Dr. Pye Smith, Sir John Moore, Mr. Young, Dr. McVail, Sir Patrick Heron Watson, Dr. Lindsay Steven, Mr. Brown, Mr. Tichborne, Sir John Williams, Dr. Bennett, and Sir George Philipson. For (13): Sir Charles Ball, Dr. Mackay, Dr. Caton, Mr. Jackson, Sir Christopher Nixon, Sir Victor Horsley, Dr. Windle, Dr. Finlay, Sir William Thomson, Dr. Bruce, Dr. Little, Sir Hugh Beevor, and Sir John Batty Tuke. Did not vote (2): The President and Dr. McCall Anderson. Absent (2): Mr. Power and Mr. Tomes.

The PRESIDENT: Dr. Mackay, your original motion is also gone.

Notices of Motion.

The following notices of motion were given:—

By Sir VICTOR HORSLEY:

That the Preliminary Scientific Committee be reappointed and instructed to consider and report upon courses of study in chemistry, physics, and elementary biology.

By Dr. MACKAY:

That the Education Committee be requested to collect information and report on the subject of the possibility of including certain subjects in the curriculum without requiring examination in them.

By Dr. LINDSAY STEVEN:

[illegible] ituted by himself and involving the [illegible] of the entry money and the subscrip [illegible] s looked upon by this Council as con [illegible] ing to have been guilty of infamous conduct in any professional respect.

The Council then adjourned till Saturday.

SATURDAY, MAY 28TH.

The Council resumed business on Saturday, Sir WILLIAM TURNER presiding.

The Curriculum and Examination in Scientific Subjects

Dr. NORMAN MOORE moved that the communications referred to the General Medical Council by the Executive Committee from the Royal College of Physicians of London [illegible] England in regard to [illegible] itific subjects should [illegible] ch was agreed to.

The following are the terms of the communications:—

(a) [illegible]

DEA[illegible]

[illegible] nich have now been adopted by this [illegible] e of Surgeons of England [illegible] es will be incorporated in the regula [illegible] take effect from March, 1905.

I am, dear Sir, faithfully yours,
EDWD LIVING, M D, Registrar.

H. E. Allen, Esq, Registrar, General Medical Council.

COURSES OF INSTRUCTION.

1. That a minimum length of courses be required in chemistry, physics, and biology before candidates are admitted to examination in these subjects.

2. That the minimum course in the several subjects be:

In chemistry 180 hours' instruction and laboratory work.
In physics 120 " " "
In biology 120 " " "

3. That these courses need not run concurrently, nor be completed within one year.

[illegible]

6. That the study of anatomy and physiology be not recognised until after the first examination in chemistry, physics, and biology has been passed.

7. That no student be admitted to examination in medicine and [illegible] udy after [illegible], towards [illegible] ounted, if [illegible]

FIRST PROFESSIONAL EXAMINATION.

That Part I. Chemistry, Part II. Physics, Part III. Biology, and, at the option of the candidate, Part IV Practical Pharmacy, be the subjects of the first examination.

Chemistry.

1 That the paper in chemistry do consist of nine questions, six to be answered and no more, for which three hours shall be allotted.

2 That the time for the practical examination be extended from two to three hours

3. That the use of books and tables be allowed in the practical examination.

Physics.

4 That there be a separate paper in physics consisting of six questions, four to be answered and no more, for which two hours shall be allotted

5 That there be a *vivâ voce* examination on the use of physical [illegible] chemistry and physics [illegible] rded in chemistry and [illegible] lates who obtain 40 per [illegible] ss provided that they [illegible]

Biology

7. That in addition to the *vivâ voce* examination there be a paper in biology for which two hours shall be allotted, consisting of six questions, four to be answered and no more.

8. That each candidate be examined orally for 15 minutes.

Then follow synopses [illegible]

(b) From the Royal College of Surgeons of England —

Royal College of Surgeons of England,
Lincoln's Inn Fields, London, W.C, May 2nd, 1904

[illegible]

H E Allen, Esq, Registrar, General Medical Council.

*** The information as to the courses of instruction and first professional examination is identical with that from the Royal College of Physicians.

(c) From the Royal College of Physicians of London, inclosing a copy of the full regulations of the Examining Board in England as now revised:—

Royal College of Physicians, London, S.W., May 13th, 1904.

DEAR SIR,—Referring to my previous letters for a statement of the [illegible] oidable delay in the [illegible] reply to the letter [illegible] essed to myself as [illegible] port of the visitors [illegible] try, physics, and [illegible] *United Kingdom* [illegible] College. I now [illegible] nation of the Pre [illegible] e answers to them in a parallel column adopted at a general meeting of the Fellows held yesterday May 12th.

[illegible]

I am, dear Sir, faithfully yours,
EDWARD LIVEING, M D, Registrar.

H. E Allen, Esq, Registrar.

Sir VICTOR HORSLEY moved:—

That the cou [illegible] Examining Boa [illegible] London and of [illegible] in March, 1905, a [illegible]

He said that he felt it was his duty to put this motion on the paper because in a previous session he had made a proposal which the Council agreed to—namely, that the then courses of study and examinations of the Conjoint Board in England were insufficient. This session they were given to understand in the course of discussion that the Conjoint Board of England was considering this matter and that it had already published a kind of preliminary account of what it meant to do. It was obvious that the preliminary account satisfied the members of the Council to a very large extent. At any rate, the matter proceeded no further at that point. They had now before them these new regulations and the synopses relating to them. They ought not, as they seemed to do the previous day, to regard the synopsis and a course of study as synonymous terms. The synopsis was only part of the documents relating to the course of study. The previous day he had been interrupted by Dr. Norman Moore when he spoke of the requirements of this Council in the arrangements of the curriculum. Dr. Norman Moore had corrected him and said "recommendations," and he had accepted it at the time. Dr. Norman Moore, however, knew perfectly well that the word used by the Council in the details of the curriculum was "requirements."

Dr. NORMAN MOORE: No, I do not.

Sir VICTOR HORSLEY said that in that case he was sorry to say that Dr. Norman Moore did not know the principal document of the General Medical Council which laid down what the Council "required" in the curriculum—subjects, courses of study, and examinations. This document was their Magna Charta. It began: "A. The requirements in regard to professional education," and with regard to the course of study and examination the Council "required," &c. The same document in the second part had a few recommendations of the Council relating to practical work. This Council was the supreme authority in medical education and all he had to say was that the course of study and examinations were "required" by the Council. That governing the position, as it appeared to him, they might proceed to look at the communication from the Royal Colleges. The communication consisted of two parts. It dealt with the course of study and with examinations. His motion only related to the first part—the course of study—because he personally was quite satisfied with the details of the examinations. They coincided with what the Council passed the previous day. The courses of study were to fit the student after he was registered to show that he was possessed of the requisite scientific knowledge. In resolutions 3, 4, 5, 6, and 7 they found embodied the opposite of what he expected to see after the discussion of last session. At the last session he really thought from what fell from Dr. Norman Moore and Dr. Windle and others that a kind of *modus vivendi* had been arrived at in the minds of members of the Council, but they found here, with one exception, precisely the point which the Council had taken exception to in the past and had voted against again and again. In other words, all the previous debates of the Council and all the money of the profession which had been expended on this question were thrown away if these regulations were now to be accepted by the Council as adequate. Taking No. 3, which said that these courses of study need not run concurrently nor be completed within one year, he submitted that in other words the students might begin at any age—at ten years of age if they liked. The next resolution said that these courses might be commenced or attended before the required preliminary examination in general education was passed. He was quite sure that he was reflecting the opinion of the majority of the Council when he said that they laid down that the curriculum of education for the medical student should be divided in an orderly manner, that he should have done with his preliminary education first, that then he should take his general education, and after being done with that he should go on to his anatomy and physiology and so on. The Council had therefore decided against this No. 4. No. 5, which stated that study at an institution other than a recognised medical school be counted for not more than six months of the curriculum, was the only concession which the Colleges had made, but it did not affect the general issue. Pointing to No. 6 resolution he remarked upon the difference which the Colleges were making in their treatment of the scientific education of the student on the one hand and his education in anatomy and physiology on the other. The Colleges said that anatomy and physiology were not to be recognised, or in other words not commenced until the scientific part of the education was got rid of. Precisely the same treatment ought to be meted out to the scientific part of the education if it was of equal importance. If the Colleges took the line that it was not of equal importance that would be a legitimate position, but the Council had decided in the opposite way. With regard to the seventh resolution they had it stated again that the curriculum, as the majority of the Council understood it, was definitely to be evaded by the Royal Colleges. It was not to be any longer five years of study but four and a half years. He would not labour that point as it had been discussed in detail by the Council. Coming back to general principles, it was clear that these regulations violated the principles which the Council had laid down after wearisome and prolonged debates during a period of ten years. He therefore submitted that whatever step the Council took in regard to preliminary scientific education it ought not to accept these regulations as being sufficient.

Sir WILLIAM THOMSON seconded the motion.

Dr. MCVAIL, after drawing attention to several resolutions come to since 1894, said that the great point of dispute had been that the English Royal Colleges were admitting men who were taking their scientific course before they had passed the preliminary examination. That matter was keenly fought for two or three years and the Council in the end gave way and authorised the admission of men who had taken this course prior to the preliminary examination on condition that the curriculum should be five years in duration. The next great subject of dispute was the one regarding the institutions at which those subjects might be studied and it began about 1898. The Council had a few years' quiet on conceding that point to the Royal Colleges and then came in another great subject of dispute which had lasted down to the present time. Sir Victor Horsley would see that the minutes did not bear out his view of the requirements since 1894. He entirely agreed with him in principle that those subjects should be taken after the preliminary examination was passed. That was his own personal opinion but the Council for nine and a half years had practically conceded the point to the Royal Colleges.

Dr. MACALISTER said that he thought it was desirable to emphasise three points on which a new departure had been made by the Royal Colleges. It was important to consider whether or not the substance of all that they had been con- tending for had now been obtained, even although the form in which it was presented might be different from what they had originally desired. First of all for the first time the length of the minimum course of instruction in chemistry, physics, and biology was prescribed. The discussion between the Colleges and the Council as to what should be preliminary scientific instruction, whether it should be ordinary school work or special lectures at a medical school, turned very largely on the question what was the kind of instruction that was given at ordinary secondary schools and whether the instruction received by the boys was adequate. On that point the inquiry made by the Education Committee seemed to afford evidence that much was still to be desired in the requirements of the Royal Colleges in this respect. It appeared that in some of the schools which they recognised the number of hours given to a subject per week was not such as to insure to young students a thorough acquaintance with the subject. Now a minimum course of 180 hours' instruction and laboratory work in chemistry, 120 hours in physics, and 120 hours in biology was to be the *sine qua non* of the recognition of any such course of instruction. Looking to what happened in ordinary medical schools and in universities and other insti- tutions of higher instruction he should have no hesitation in saying that that minimum course was at least equal, and in many instances superior, to what at present was received by the ordinary medical student so far as duration was con- cerned. The second point was that if the boy spent three years in doing his course he would get credit at the very most for six months. It was true that he might pass this scientific education examination immediately after the preliminary examination, but that was permitted by the Council's regulations and was not contrary to any- thing the Council had laid down. The Colleges had gone further than that and laid down the regulation that until the student had passed his examination in chemistry, physics, and biology no study in anatomy and physiology would be recognised at all. On the whole, although they had not formally put themselves exactly in line with what the Council had put down, their conditions were more drastic than what the Council would have been prepared to regard as a minimum. It would be grossly unjust to say that these conditions were insufficient. They might not be perfectly happy in their form but they certainly could not be regarded as insufficient in severity or comprehensiveness.

Mr. BROWN said that although some of them might agree with Regulation No. 3 many of them would disagree with Regulation No. 4, which stated that the courses might be attended before the preliminary examination was passed.

Dr. NORMAN MOORE: That is a regulation of the Council.

Mr. BROWN said that to his mind it was one which should not exist. He would be glad if the sense of the Council were taken on the point.

Dr. WINDLE said with regard to the meaning of the word "require" it appeared to mean this, that when the Council laid down something as a requirement and it was not carried out they were at liberty to report the body to the Privy Council. That was what was meant by "requirement" and nothing more. The courses of instruction of the English Royal Colleges appeared to meet a great many of the difficulties which had been previously felt. One which previously appealed to him was that in the recognised institutions apparently no definite instructions as to length of course or nature of course were given. Those institutions had now full guidance. The only thing he regretted was that some regulation had not been laid down as to the length of time over which this instruction might be spread. There was something to be said for intensity of instruction as well as length of instruction. Looking at the regulations from the common-sense point of view it was extremely unlikely that a boy would come up for examination in chemistry and succeed who had spread his 180 hours over six years. He would require to be a very brilliant boy. The Council now got from the Conjoint Board a great deal more than they got from the University of London about which there was no complaint. After passing the preliminary examination of the University of London the student might attend for instruction anywhere or nowhere. He might work in a back attic. It was not laid down that he was to go to any institution or to receive instruction of any particular length. Of course, the answer was that the position was covered by a hard, severe examination, but to his mind that was no answer. The curriculum was the important thing. He saw no reason to regard the instruction which was demanded by the Conjoint Board as other than sufficient. It was perfectly true that a student might obtain his qualification in four years and six months, but this period was more likely to be six years and four months. Although the regulations of the Colleges did not in every respect conform with the letter, they more than conformed with the spirit of the finding of the Council and he could not, therefore, support the motion.

Sir CHRISTOPHER NIXON said it was not necessary to labour the reduction of the five years. The course of instruction and examination in connexion with the first year's course of study was more than adequate for the ordinary medical student. It was more than any other examining body in the United Kingdom required. The number of hours in connexion with physics, chemistry, and biology afforded a marked contrast with what was required in the Royal University. The position of the Colleges was very favourable for medical education in respect of the fact that physics, chemistry, and biology might be taken up before passing the preliminary examination and the over-burdened curriculum might thus be lightened. By the tables presented by the Examination Committee they had been shown that in the great majority of instances the student did not go to medicine until he had reached his nineteenth or twentieth year. Assuming that he had chosen medicine for his profession at 16 or 17 years of age what, he asked, was the boy to do in the intervening years? In those years there was ample time to take up the subjects of physics and biology and a certain amount of useful chemistry. If they allowed a boy after passing his preliminary examination to present himself a month or two afterwards for the preliminary scientific examination then he would have all his time at his disposal to devote himself to essentially medical subjects. He thought the differences between the Colleges and the Council were very trivial and that the action of the authorities emphasised the principle, which he would like to see generally recognised, of leaving a student free to take out scientific subjects before he passed his preliminary examination.

Dr. MACKAY said that if he read the regulations rightly he could not understand the criticisms. Probably a boy would never begin to study chemistry or biology before he was 16 years of age. He could not think that in substance these regulations transgressed any of the Council's orders. He thought they were in keeping with all that they had laid down in principle at least if not exactly in form.

Sir JOHN BATTY TUKE said that although he was not perhaps in accord with certain of the regulations he recognised the essential necessity of good scientific education. Tremendous efforts had been made by the Colleges to bring themselves into line. He could not say that there was justification for such a motion as was now before the Council.

Sir PATRICK HERON WATSON asked why midwifery had been left out in Resolution 7, which stated:—

> That no student be admitted to examination in medicine and surgery until he has completed five years of professional study, &c.

Dr. NORMAN MOORE said that no alteration whatever had been made in the regulations about midwifery.

Mr. MORRIS said that the midwifery examination could be taken before the expiration of five years but, of course, no one could get the diploma until he had passed the whole examination in medicine and surgery.

The PRESIDENT said he was under the impression that the manner in which this question had been interpreted by the Council was that those three subjects were to be the subjects of the final examination.

Dr. NORMAN MOORE: So they are.

The PRESIDENT: Do you divide your final examination into two parts with the intervention of a year between midwifery and surgery?

Dr. NORMAN MOORE said that was not compulsory. The regulations were sent to the Council every year and if the arrangement was not legal he had no doubt the Colleges would alter it.

Dr. MCVAIL thought that the matter was quite clear in the regulations. At the English Conjoint Board candidates might present themselves for midwifery at the completion of the fourth year but they could not present themselves for examination in medicine or surgery until the completion of five years. That was their custom. Perhaps the Colleges might be continuing some old arrangements but he thought as Dr. Norman Moore's attention had been called to the matter he might look into it.

Dr. MACALISTER recalled the fact that this matter was discussed in 1890 and the legal opinion obtained then was that there was nothing to prevent the authorities from separating the examinations on the three subjects and holding them at different times.

Sir WILLIAM THOMSON said that it was because he was in entire accord with the spirit of the motion that he had seconded it. The matter to which it referred was an old and very painful story and as a very young member of the Council he had protested against the action which these two English Colleges had taken in assuming a position hostile to the views and rules which the Council had laid down and which they insisted that other bodies less strong perhaps and less pugnacious should carry out. That always seemed to him an extravagant position and as the Council knew the matter had come up year after year. What was the position they were in now? Those bodies after telling them last year that they were bringing in a scheme which would satisfy the requirements of the Council had brought in a scheme which, although he had heard some members say was entirely satisfactory in the spirit, still allowed them to maintain a position of independence with regard to the Council. The Council had either power to deal with educational matters or it had not. If it had power to deal with educational matters then some respect ought to be paid to the views which it from time to time expressed and which it submitted for the guidance of the licensing bodies. Some who had spoken maintained that the Colleges were now ready in spirit to do a great deal more than the Council had ever required. He would not assent to that view. The bodies came in, not surrendering at all, but thinking that the Council having admitted their rules on other occasions would accept their regulations now. That was not a satisfactory condition of things. If there was to be a perpetual wrangle over the instruction in the preliminary scientific studies it would be better for the Council and the various bodies, and also for the higher education of the students, that those subjects should be made the subjects of an entrance examination and the professional education limited to four years. Of course, he was glad that to the minds of several members of the Council who had spoken there had been an approximation to the rules of the Council with regard to these subjects. He still held that the Colleges had not taken the attitude in relation to the Council which ought to be taken. The Colleges were two old and distinguished bodies. They ought to be the leaders in acquiescence in the judgment of the Council. They ought not to set the example of resistance to its regulations. The suggestions of the two bodies would be always considered. The Council wanted to arrive at a scheme which would be best for the development of medical education and he hoped that all would come into line in the matter.

Dr. **BRUCE** said that he was going to vote against Sir Victor Horsley's motion and he did so from the point of view that he thought this was not a question of fighting or anything else. The less they heard of any autocratic demands by the Council the better.

Sir **VICTOR HORSLEY** remarked that six months ago members said that the instruction in the preliminary scientific subjects at the recognised schools was not sufficient. If they voted against his motion they would be saying that it was sufficient.

Dr. **MCVAIL** said that whilst he would vote against the motion he was giving no opinion as to the schools in which those courses of study would be carried on.

Sir **VICTOR HORSLEY**, continuing, could not admit that this question of teaching institutions was a trivial matter. The Council was still exactly in the position which it had been in, as the Colleges could recognise any school they liked. They could demand any preliminary examination they liked and they could recognise it without any reference to the Council. The situation with regard to medical education, which was looked upon with great gravity six months ago, was still to his mind a subject of great gravity.

On a division, six members voted in favour of Sir Victor Horsley's motion and 22 against it. It was accordingly declared lost. Three members did not vote and one was absent.

Mr. **BROWN** then moved

> That the new scheme of courses of study under the new regulations of the Examining Board in England by the Royal College of Physicians of London and of the Royal College of Surgeons of England be referred to the Education Committee for examination and report.

Dr. **BRUCE** seconded the motion.

On a division 11 members voted for the motion and 13 against. It was accordingly defeated.

Visitation of Preliminary Scientific Examinations.

Sir **PATRICK HERON WATSON** moved that the following recommendation by the Examination Committee should be adopted by the Council:—

> That the Council complete the visitation of the preliminary scientific examinations held by the bodies mentioned in Schedule A by appointing visitors to visit these examinations in the universities.

Dr. **MCVAIL** seconded the motion.

Dr. **MACALISTER** thought that the present time was inopportune for making this proposal. The Council had just passed a number of recommendations as to what subjects preliminary examinations in science ought to include. It was probable that changes might be made in some examinations in consequence of the communications which would be sent out by the Council. Time should be given for these changes to be introduced. In these circumstances he thought they might postpone the visitation until next year.

Dr. **MACKAY** considered that there was no necessity at the present moment to have a system of examining the preliminary examinations. He thought that the Council should inspect final examinations, but only from time to time on occasions when it seemed necessary should they carry out the inspections of others.

Sir **JOHN BATTY TUKE** said that he had sufficient confidence in the universities carrying out their work and he thought that it was unnecessary to go to the trouble and expense proposed in the motion.

Dr. **NORMAN MOORE** remarked that when this matter was taken up by the Council it was intended to review the whole subject of examinations. He thought that even if they were put to some inconvenience and expense they ought to go through with the work which they definitely undertook.

Dr. **LINDSAY STEVEN** agreed that it would be little less than an injustice if the inspection was not carried through to the end.

Dr. **MCVAIL** said that they had visited the examinations of the corporations and certainly it was a most extraordinary thing that Dr. MacAlister should propose that they should not examine the universities also. He hoped that the Council would be quite consistent and carry the policy through.

Dr. **PYE SMITH** protested as treasurer against the proposal as extravagant. He confessed that the series of inspections which they had gone through had had good results. However he did not think that the further inspection which was proposed was necessary at present. He thought that in view of the financial statement which he had to present they should not spend money now on this object.

Dr. **MACALISTER** then formally moved as an amendment:

> That the visitation of the university examinations in chemistry, physics, and biology, be not continued until after the inspection of the final examinations is completed.

Dr. **WINDLE** seconded this amendment.

Sir **VICTOR HORSLEY** submitted that the Council ought not to consider the expense when they were dealing with a matter of importance in the curriculum. He hoped the amendment would not be carried.

Dr. **FINLAY** said that he saw nothing inconsistent in approving of both the motion and the amendment. They might pass the motion and add the amendment to it.

On a division 19 members voted for the amendment and 10 against it. Dr. MacAlister's amendment was accordingly carried.

When put as a substantive motion the amendment was adopted by 19 votes to 10. Two did not vote and one was absent.

Suggested Uniform System of Marking.

Dr. **MCCALL ANDERSON** moved—

> That the Registrar be instructed to communicate with each of the licensing bodies, recommending a uniform system of marking in all cases in connexion with their examinations.

He said he was not aiming at a uniform system of examination. That was not possible. If it were possible he questioned whether it would be desirable. Each licensing body should be entitled to carry out the details of its examination as it thought best, always subject to the approval of the Council. But what he wanted to direct attention to was the great variety in the systems of marking that were adopted by the various licensing bodies. A uniform system would, he submitted, be a great convenience, and he thought that the best would be a percentage system, that each subject should have a special mark. If a man passed a perfect examination let him have 100 per cent. and 50 per cent. could be a pass mark.

Dr. **BRUCE** seconded the motion.

Dr. **MACALISTER** proposed as an amendment:

> That the question be referred to the Examination Committee for consideration in connexion with their final report on the completion of the cycle of visitation of inspections.

Sir **CHARLES BALL** seconded this amendment.

The **PRESIDENT** pointed out that in 1895 the Council passed a motion for the adoption of a uniform system of marking. That had been on the minutes of the Council for nine years and what had been the result? *Nil.* And he ventured to say that if the motion was re-affirmed now the result would again be *nil.* It must be left to the different examining bodies which had the experience to guide them to decide whether in their judgment a man was competent to pass or not. As an old examiner—for he had been engaged for 40 years in examining and thousands of students had passed through his hands—he might be permitted to say that the only thing that was in his mind when a man came before him for examination was, "Is that man fit to pass or not?" It would be quite absurd to go into all the minutiæ of marking.

Sir **VICTOR HORSLEY** claimed to say a word for the poor student. The object in having a uniform system of marking was that justice should be done. Without some definite system they could not say that one man was not obtaining the privilege of entering upon the Register on more easy terms than another.

Sir **PATRICK HERON WATSON** said that to lay down a strict rule to be followed by every examining body would simply be an act which would make the Council jeered at by all these bodies.

Dr. MacAlister's amendment having been withdrawn leave was given, after a show of hands had been called, for the withdrawal of the original motion.

Instruction without Examination.

Dr. MACKAY moved :—

> That the Education Committee be requested to collect information and report on the subject of the possibility of including certain subjects in the curriculum without requiring examination in them.

He said that on the previous day it had been suggested that this subject should be referred to a committee with the view of action being taken on an early date. And as the question was in a way discussed on the previous day he did not consider it necessary to go once more into details. He trusted that the question would be discussed outside and that all the bodies concerned in medical education would sooner or later take up the matter and deal with the whole question of the overcrowding of the curriculum and the great pressure upon students at the present time. It was an important educational question and he had thought it right that the Education Committee should be asked to find out what was being done in other countries and by other teaching institutions in this country.

Dr. NORMAN MOORE seconded the motion. The subject was worthy of discussion. Whether it was practicable or not could be proved.

Dr. MCVAIL rose to ask a question. What were the "certain" subjects?

Dr. MACKAY: Whatever subjects which it may be found possible to include.

Dr. MCVAIL: That means uncertain subjects. It is absurd to talk about certain subjects when the whole thing is uncertain.

Sir JOHN BATTY TUKE said he did not think it would be possible to define the subjects.

Dr. LINDSAY STEVEN said he would vote against the motion chiefly upon the ground that the matter was decided on the previous day when Dr. Finlay's proposal was rejected.

Dr. MCVAIL said that the proposal would only unsettle the minds of teachers and students.

On a division the motion was carried by 13 votes to 11. Four did not vote and four were absent.

The Council then adjourned till Monday.

* * *

MONDAY, MAY 30TH.

The Council resumed its deliberations on Monday, Sir WILLIAM TURNER presiding.

The Registration of Medical and Dental Students.

The first business on the notice paper was a motion by Sir John Batty Tuke regarding a Bill for the registration of medical and dental students.

The PRESIDENT said that before this was taken up he thought it was right that he should make a preliminary statement so that the members of the Council might be in a position to know what was the state of matters at this moment. As that statement would require him to call attention to certain official communications that he had had he thought he should make it *in camerâ*.

The statement was accordingly made in private and when the public were readmitted the business was proceeded with.

Sir JOHN BATTY TUKE moved :—

> requested to intro-
> ral Medical Council
> ers of medical and
> [illegible] £1 for registration
> therein.

He said that he desired to support the President's opinion given *in camerâ* regarding the position taken up by the authorities of the Privy Council. It was that the adoption of a registration fee for students was the most convenient way of adding to the resources of the Council. But apart from those authorities he had consulted men versed in affairs and without exception they had given the opinion that the Privy Council having made the statement which it had made to the President in this matter, it would be advisable for the Council to follow the advice of the Privy Council. They recognised that the line taken by the Privy Council was one of the least resistance, and they advised him personally that the proposal of the Privy Council was the most likely one to meet the objects which the Council desired. For these reasons and for others which he would give he had tabled this motion. The proposal required to be regarded from two points of view—firstly the monetary, and secondly the administrative. As to the monetary point, the report of the Finance Committee of the Council was not altogether a satisfactory document; in fact, it would be easily seen that the Council, if matters went on as at present, was within measurable distance of bankruptcy. He had taken the five years ending 1903 and he found that during those years the average excess of expenditure over income was £1525. In other words, during those five years they had eaten into capital to the amount of £7500. No one doubted that money must be got somewhere. They had of their own motion exercised certain economies, they had reduced the fees payable to members, and they had added extra fees to certain registrations which it was within their power to increase. Might he also be allowed to express the hope that in the next few years they would have a stoppage of the cycle of inspections. In the cycle almost concluded they had had very good results; bodies that were criticised had accepted the criticisms in the best spirit and had either introduced reforms or intimated their intention of doing so. There were two means of increasing their receipts—the increase of fees and the economies they had exercised in their own arrangements as a Council. If the Council accepted the proposed Bill and that Bill passed, the Council would be in receipt of an increase of revenue of £1700. That was a low calculation. He based it upon the fact that in each of the five years ended 1903, 1715 students registered—1518 in medicine and 197 as dental students. But he had a strong suspicion that he might place the receipts somewhat higher than £1700, for judging from the evidence of a report which he would submit later he thought that a not inconsiderable number of students neglected registration. He found that in England there were 629 students registered and 568 in Scotland—a difference of only 61—and he was not aware of any material increase of students in Scotland nor of any decrease in England to such an extent as was indicated by these figures. He might be wrong; if he was wrong there was all the more necessity for this Bill, but however he was quite content to base his calculation on an increase of receipts of £1700. He believed that in the economies made and the extra fees which they had charged they would be able to produce a surplus of between £1000 and £1200, and that money the Council absolutely required. They must in the next few years lay up a surplus in order to perform their statutory duties and for other purposes, and amongst those other purposes they would probably require more money for the Pharmacopœia. At present they were dependent to a great extent on almost gratuitous services and that placed the Council in a somewhat false position. Now as to the tax upon students. Was it fair or unfair? He held that it was a reasonable initial expense, for it must be remembered that the Council even in existing circumstances went to considerable expense in the matter; they had to maintain a staff, to print schedules, to print regulations, and to keep a students' register. That all cost money and it came out of the pockets of the practitioner. He had thus roughly foreshadowed what would be the effect from a monetary point of view. In the second place he would state his opinion as to what would be the effect administratively. In the first place the Council would by legislative enactment be made responsible for the carrying out of the registration of students, and being so it would be the duty of the Council to lay down conditions. The power of laying down conditions would be an absolute *sequitur* to their obtaining power to register students. Now what would the Council gain and what would it lose? It should gain a certain assurance that its first and principal and great requirement—the study of medicine for five years after registration—would be complied with by all. At present the Council had no official assurance that this chief requirement was complied with in the case of students who neglected to register. Secondly, the Council would be able to assure itself that each student had passed a satisfactory examination in Arts. Thirdly, the Council would have the power of approving or disapproving of those institutions recommended by the various bodies at which medical study would be begun. The Council would be able to put into force what it at present laid down as requirements, which were not universally followed. In plain terms, there would be compulsory registration under the Council's conditions. Every member of the Council would admit that such a state of things would be convenient to the Council, to the profession, and to the public and after all the public was a part of the community whose interests required to be looked after carefully. He did not expect that everyone would agree with him on this matter beyond convenience. But he should like to ask what the licensing bodies would lose. When he said licensing bodies he meant every one of them. They would merely lose in two matters—the right to nominate educational bodies whose examinations in general education were accepted by them and the right to nominate bodies at which medical education could be begun. In no other respect whatever would the autonomy of any individual body be interfered with. And when they came to consider the important bearing of such a measure on medical education at large he asked was it worth while fighting for the supersession of such comparatively unimportant matters? All cases of friction would disappear. The poor student would not be bewildered between his duty to the Council and the body whose school he might attend and all bodies would come into line on equal terms. There was one other point. It was extremely likely that the motion might be met by a suggestion for delay—a suggestion that the bodies should themselves be first consulted. He hoped the Council would take the ordinary constitutional method of passing or rejecting the proposal. If it was passed each licensing body could express its opinion on the action of its representative and it would also be left to each body to take action to further its interests when legislation was proposed.

Sir Victor Horsley seconded the motion. He said he wished to speak in support of the Bill solely from the point of view of the material interests of both the professsion and the public. Everyone interested in medical education knew that the registration of a student was an essential of the perfection of the medical curriculum. That essential had been wanting hitherto and this motion proposed to provide it. The autonomy of the licensing bodies was not touched at all. These bodies had no autonomy in the Council. By the Act of 1886 it was hoped that the individual interests of the licensing bodies would be harmonised or if necessary suppressed in the Council's discussions and that the decrees and laws passed by the Council would represent the feelings of those who were anxious to advance medical education independently of the autonomous interests of any licensing body. That was the feeling of the profession at large.

Dr. Payne said that there were one or two points which possibly might not have received sufficient attention. It was entirely a good thing in general that every medical student should in some way make his existence known to the Council and be recognised. But he did not quite see that compulsory registration would give the Council unlimited power of fixing the conditions of such registration. There was only one method of making it compulsory and that was to lay down that unless a student registered himself at the proper time and under proper regulations he should not be admitted to final registration as a practitioner when he had passed the examinations. Unless that was put down absolutely in black and white in the Act of Parliament he did not think that the Act would have any force at all. It seemed to him that it would be a very good thing if they could once for all simplify the question of preliminary education by saying that only one authority—that was the Council—should lay down what was the preliminary education for a medical student. He thought that they should have power in an Act of Parliament to refuse to register any student who did not show evidence of preliminary education. That seemed to him a reasonable course, but, on the other hand, he did not think they should try to control the course of the student beyond that. If they wanted to use power of that kind it must be literally defined and, in his opinion, they ought not to go too far.

Dr. Norman Moore said that there were two things which the Council wanted to get. It wanted money. That was apparently an immediate and pressing need. The other thing which, speaking from his own time of service on it, it appeared to have even a larger appetite for, was power. Every session that he had sat on it motions had been brought forward to try to increase its powers. The Council discharged under the Act of Parliament a most important duty in maintaining the Medical Register. It discharged certain duties with regard to education and qualification. It had never, however, been given the power of absolute supremacy in every point referring to medical practitioners in the country. He hoped that that power never would be given. The Council had shown an inclination to lay down what it called requirements at every stage of medical examination with regard to what candidates were to be examined in and where they were to study. He thought that the power ought not to be taken from the universities and licensing bodies and given to the Council. There had been a good deal said about licensing bodies not having any particular curriculum of studies. Universities had that curriculum. He believed as a member of a university that it was a better authority to determine what was best for the students of its several faculties than a body like the Council. The University of London had arrived at a decision as regarded its matriculation examination. The General Medical Council had said that it would not recognise that as a sufficient education for men about to commence medical studies. Unless the student who had passed this examination of the University of London could produce in certain circumstances further evidence of education he would not be acceptable to the Council. He thought that was a good example of how the Council would take it upon itself to dictate to the universities.

The President said that Dr. Norman Moore stated his argument rather too strongly about the University of London.

Dr. Norman Moore explained that the student who wished to matriculate at the University of London had a choice of subjects. Supposing he selected a group not containing a subject or subjects required by the Council and passed it the Council would not admit him. Fortunately this power of the Council was at present limited. This desire for increased power on its part ought to be resisted. Now what would the student get in return for his sovereign registration fee which was proposed? Nothing at all. What would the public gain from it? Nothing at all. It would be a sovereign taken in the Council's own interests and for its own purposes. He opposed this proposal because it would give to the Council a power which by its own acts it had already shown ought not to be given to it and because it proposed to impose a fee upon students without giving them any return.

Sir William Thomson remarked that the Council had heard itself painted in very strong colours. The members had been described as if they were a lot of bandits setting out to assault the unfortunate but innocent student and to extort a sovereign, not for his benefit and not for the benefit of the public, but for the benefit of members of the Council. That was an aspect which had hardly been justified by the speeches of the proposer and seconder of the motion. Dr. Norman Moore had said that there had been a cry for money and an insatiable desire for more power. He hoped that the Council recalled the proceedings of Saturday and observed the attitude of the representative of the English College of Physicians. The speech which they had just listened to was of the character of a manifesto which would perhaps be adopted by other bodies in their relation to the Council. This was a rebellion against what he would call the powers which were conveyed to the Council by Act of Parliament. What scheme had Dr. Moore brought forward to the Council by which the deficit would be made up?

Dr. Norman Moore said that the scheme he was prepared to support was that members of the Council should not be paid. That would save a very considerable sum per annum.

Sir William Thomson, continuing, declared that he was not one of those people who believed that work which was well done should not be paid for. Work had been given to the Council by Parliament and the way by which it was to raise funds was by charging fees to the practitioner who had just passed his examinations. He did not think that the collection of an annual fee from practitioners was feasible but upon all grounds the method which had just been proposed was one which ought to commend itself to the Council. He did think that it was unfortunate that the Council, representing all the licensing bodies of the country and the general profession, should be described as a sort of insatiable monster seeking to get into its grasp the whole control of the profession. He would venture to say that the Council, composed as it was of men who now were, or had been, medical teachers knowing the practical wants of the student, was able to discharge its duty as no individual licensing body could do.

Mr. Morris said that really there were two matters involved in this discussion. One was the control of the licensing bodies over the preliminary courses of study which they should adopt and over the schools from which they should accept certificates. The other matter was to place a tax of £1 upon the medical student. These had to be considered together. He could not help saying that in his opinion this attempt to get compulsory registration, accompanied with the charging of a fee, was a backstairs way of getting the other object the Council had in view—namely, the control of early education and the control over the bodies which had been recognised by the institutions. On the question of the expenditure of the Council, he pointed out that on some occasions its time was occupied by unpractical discussions. Those sittings, however, involved considerable expense. For instance, nothing bearing upon the essential work of the council had accrued from the discussions on Friday and Saturday. The effects of passing this motion would, he felt, be to threaten the chartered rights and powers of the licensing bodies. The motion would have to meet with their opposition. In saying this he wished to say that it was the desire of the council of the College which he had the honour to represent to consider with due deference and respect every suggestion that came to them and to consider it carefully and fully. He was quite sure that there was nothing which that Council or any member of it would be less desirous of doing than taking up a position of hostility to the General Medical Council. There was nothing they desired more than to act in consonance and in harmony with the Council. The attitude of his College to the Council was simply, so far as any opposition was concerned, one of defence and not one of defiance. He felt it necessary to oppose the motion because he thought a better method could be adopted of raising funds. He was afraid that the imposition of a fee of £1 would not be sufficient for the income desired to be raised, while the tax would cause serious contention amongst the licensing bodies.

Dr. BENNETT opposed the motion as it stood. The Council, for example, had no right to restrict the rights of the University of Dublin with regard to its students. The question had never been raised but he was quite sure that the governing body of Trinity College would oppose the imposition of a tax of £1 on every medical student.

Dr. MACALISTER said that he should prefer to have raised the fee of the medical practitioners to imposing a registration fee, but the choice not having been given to him he could not say that he would oppose the proposal in its present form. He thought they ought not to refuse this source of revenue if it were obtainable. That was his reason for believing that the Council should accept the motion of Sir John Batty Tuke. The motion would also give to them constitutional powers to establish a register of medical students. That seemed to him to be the logical completion of the powers given to the Council by the Act of 1858. *On the mere point of view of making registration* complete and significant he could not help thinking that the members of the Council were justified in asking for power to establish a students' register. They were advised by their lawyers that they had power to establish anything for the carrying out of the Act, and in setting up a students' register they could refuse to register a diploma to any student who had not registered. Of course, an appeal to the Privy Council on the part of the student was possible. They in Cambridge, he continued, did not regard the Council as an external body greedy of power and grasping at functions which it was not entitled to exercise. They regarded it as the only existing inter-university board in the kingdom. It was the only board that he knew of where representatives of all the universities met and took counsel together on matters which were of common interest to them all. Round that board they had the representatives of the great licensing corporations, of the Crown and of the profession and he could not imagine a body more entitled to speak on points such as those raised by Dr. Moore and Mr. Morris. As to the University of London, it had been dealt with in the same way as other universities in the country. He was prepared to support the motion.

Dr. LITTLE said he could perceive that there would be *some difficulty in carrying out the details of the proposed* scheme but he was prepared to support the motion. If it were only a question of raising money he would not do so. He had always felt that one of the most important things was to ascertain when a student began his studies and whether he was fit to begin them at the time. The Council had never exceeded its proper functions in regard to supervision and advice. He thought that some of the bodies which he would not mention had not shown a proper attitude in resisting their advice.

Sir CHRISTOPHER NIXON said it had been a matter of disappointment to him after the period of storm and stress through which the Council had passed to hear the observations of Dr. Moore. Dr. Moore had represented the Council as a number of caterans who desired an amount of money for which they gave no value and who were grasping for power. With what object were they grasping for power? They were grasping for power to try to secure a body of men who would be entitled to be put upon the Register. They made regulations of a minimum character which would apply to all students of medicine. There was no desire or intention on the part of the Council to interfere with the rights of corporations or to interfere in any way with the regulations which the universities might make with regard to their own branches. They did not ask more than that all the men who passed and were entitled to be put on the Register should be sufficiently educated. The requirements *in regard to the subjects of the preliminary scientific* examinations had been to a large extent complied with by the Royal Colleges and the differences between them as to institutions recognised or approved by the Council had come to a vanishing point. Now, it seemed that the action of the Colleges by some indirect and, as the word had already been used, backstairs method in opposing Sir John Batty Tuke's motion was to secure a right which was not to be exercised by any other bodies in the Council. He regretted that the struggle between the Colleges and the Council seemed to be emphasised by the tone assumed by the representative of the Royal College of Physicians of London. He hoped the motion would be carried without delay as no advantage could be gained by sending it to a committee. He strongly urged the Council to accept the proposal inasmuch

all the bodies represented in t

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be superior to that of a small minority and no regulation *inimical to the interests of the profession* was likely to be passed in the Council in face of the representations of those different bodies and interests. What had helped to put the Council in the high position which it held both with the profession and the public was that all its enactments had been made in the interests not of any merely local corporation or university but in the interests of the profession at large.

Dr. PYE-SMITH intimated his intention to vote against the motion on purely financial grounds if on no others.

Dr. MACKAY regretted deeply that opposition had been offered to this motion by representatives of the Royal Colleges and others because if they studied carefully the proposal before them they would see that there could be no attempt to interfere with the rights and privileges of any of the licensing bodies guaranteed under the Medical Act. All that the motion asked for was that a duty which this Council had undertaken on its own responsibility might become a statutory duty imposed on the Council by the law. *Actually the only fundamentally* new fact in the whole situation was that it was proposed to enable the Council to charge a fee. The students' register would not take away from the bodies the right to have their own standard and length of courses. No powers would be taken from the licensing bodies *but the Council would find it easier to do* the work which the Government had laid upon it. He would therefore support the motion.

Mr. BROWN agreed with the terms of the motion. It was obvious that it was an oversight in the Act of 1858 that the registration should not be in the hands of the Council.

Sir JOHN MOORE said he intended to vote for the motion. Up to the present the Medical Acts had been distinctly defective in not giving the Council more power in regard to the registration of students. Registration meant that they would know about the ages of students, where they had been taught, and their antecedents. Education began at school and the sooner the General Medical Council was brought in contact with those young men the better. Law students were registered and had to pay a registration fee. He did not regard this payment as a grievance to the student. It would come out of the pockets of his parents or guardians who would like to know that their sons were being looked after by registration. It was an insignificant tax which would not amount to much more than ¾ per cent. of the money paid for medical education.

Sir HUGH BEEVOR, in supporting the motion, thought the fee was not an unreasonable one. It was unfortunate, he said, that this question should be strongly opposed by representatives of bodies which had recently done far more than the Council had asked them to do in other directions.

The PRESIDENT asked the Council to allow him to speak on this question because he had been intrusted with the making of certain important statements to the authorities in the direction that he had indicated in his preliminary remarks when the Council sat *in camerâ*. It seemed to him that some of the arguments which had been advanced against the motion were not applicable to the motion, but to what was considered might be the nature of the Bill. It rested with those who framed the Bill to specify in that Bill exactly what the statutory powers meant. All they were asking at that moment was that a Bill should be introduced into Parliament to confer on the General Medical Council statutory power, but they must wait till the Bill was drafted before they knew what the statutory power was to be. It was possible, therefore, that some of those who had spoken adversely on this motion had spoken in terms which might not be in consonance with the terms of the Bill. He did not know what those terms might be. Some members objected to the fee. He thought that a fee of £1 was a very proper fee to be paid by a student on entrance to the study of the profession of which he wished to become a member. It was an initial payment which conferred on him the privilege of becoming a medical student and being entered on the medical students' register.. For his part he could not see that there was any hardship in the imposition of this fee and he did not think that the student or his parents or guardians would consider it a hardship. It was simply an entrance fee which found its way into the purse of the Council and which would enable the Council to conduct its business. They had heard references made to charters and the possibility of this Bill being an infringement of the charters. It was a somewhat interesting matter in connexion with this discussion, and other discussions which had taken place from time to time during some years, that those references to charters proceeded from a very limited number of members of the Council. But the institutions represented by those members were not the only institutions which were in possession of charters. The universities were in possession of charters. Other important licensing bodies were in possession of charters. Yet these universities and institutions were not continually, if he might say so, displaying their charters in their arguments. The whole of this question he had been familiar with from the commencement and he knew what happened at the University of Edinburgh. When it was proposed that there should be established a register for medical students the various bodies educationally interested in the matter who were represented on the Council received the information that the Council was desirous of establishing a register of students on a voluntary principle. It was suggested at the time that whilst the registration was to be voluntary it was hoped that the University of Edinburgh, so far as regarded its own work, would not confer its qualifications upon students and candidates for the degrees unless they were registered. The University acceded to that request. The University of Edinburgh looked at the general interests of medical education and the medical profession. It felt that the general interests of medical education and the profession would be greatly advanced if along with the other teaching and examining bodies it fell into line with the General Medical Council. He thought he was right in saying that from the time when the University of Edinburgh did fall into line in this matter, and it was very early, to the present time it had loyally acted up to the decision it then came to. They should keep in view that there were things beyond what could be contemplated in a charter of many hundred years ago. The medical profession had not been standing still since those ancient charters were made out. The medical profession had been advancing on great and important lines and he should like to think that all the great educational and examining bodies that were represented on the Council tried to work with the Council in improving and developing the education of their students. They should all help the Council to see that those who aspired to come within the profession had gone through that preliminary education which the Council conceived to be necessary. It was with a very strong conviction that he had spoken, and he thought the Council ought to move in the direction which was indicated in the motion.

The motion was then put and carried by 22 votes against six.

The PRESIDENT intimated that a copy of the minutes would be forwarded to Mr. FitzRoy for presentation to the Lord President of the Council.

Scientific Education Courses.

Sir VICTOR HORSLEY moved :—

> That the Preliminary Scientific Committee be reappointed and instructed to consider and report upon courses of study in chemistry, physics, and branches of elementary biology.

He said that he wanted more information and he also wished to draw attention to the fact that the Preliminary Scientific Committee had collected in its report a large number of facts but had not given them its view of those facts in a digestible form. The institutions as a whole had reported in favour of the biological system that was being conducted, but the teachers were not satisfied that the student was a great gainer by the courses actually administered to him. If there was this doubt in the minds of some teachers there was considerable doubt in his own mind.

Mr. JACKSON seconded the motion.

Dr. MACALISTER said that as a member of the committee he did not see what it was the committee was asked to do. It had obtained a large amount of information a digest of which was presented in the report.

Sir VICTOR HORSLEY submitted that no conclusions were drawn by the committee from the information it had as to how far those various courses met the requirements of the student.

Dr. MACALISTER said that the committee had very carefully considered what was being done and it had advised the Council that the subject of elementary biology should be retained in the curriculum. The Council had come to that decision and it seemed to him that that part of the question was closed. If any more information was wanted than that which was in the report he did not see how the committee was to arrive at it.

Sir VICTOR HORSLEY said that the committee recommended that elementary biology was to be retained and not a word of indication was given of what was meant by elementary biology. Many of them thought that considerable change should be made in the mode of the course of study but the facts produced by the committee were in confusion and disorder. They had not been tabulated; they had not been considered, and they had not been reported on by the committee.

Dr. NORMAN MOORE said that the committee considered whether any special resolution as to any particular line in regard to biology should be adopted. The discussions in committee amounted to this, that there were many directions in which biology might be useful and that this was not the time to say that such and such were useful. The conclusion of the committee was that elementary biology should be retained.

Dr. McVAIL said that as Sir Victor Horsley seemed disposed to take trouble to give some guidance in the matter there would be no harm in referring the matter, in so far as it affected elementary biology only, to the Scientific Committee.

The PRESIDENT said he thought that if Sir Victor Horsley would confine the motion to elementary biology the Council would be unanimous.

Sir VICTOR HORSLEY agreed and the motion was adopted in the amended form to the effect that the committee should consider and report "upon courses of study in the branches of elementary biology." Sir Victor Horsley was added to the committee.

Examination of the Apothecaries' Hall of Ireland.

Sir PATRICK HERON WATSON moved that the report from the Examination Committee on the inspection of the final examination held by the Apothecaries' Hall of Ireland in January last should be received, entered upon the minutes, and adopted. He said that all that need be read was the conclusion of the committee which was as follows :—

> The report by the assistant examiners in surgery, acting also as inspectors to the General Medical Council, on the final examination of the Apothecaries' Hall in Dublin in January, 1904, without comment- [illegible] ey "were satisfied [illegible] nducted and with [illegible]." The inspectors [illegible] is sufficient" and [illegible] nspectors.

Dr. LITTLE seconded the motion which was agreed to.

Royal College of Surgeons of England and the Council's Inspector.

Sir PATRICK HERON WATSON moved :—

> That a report from the Royal College of Surgeons of England having reference to the last report of the visitor and inspector on the final examinations of the Examining Board in England be received and entered in the minutes.

The Examination Committee stated that "having already presented a report on this matter which has been accepted by the Council we are not now in a position to discuss the remarks of the Court of Examiners, but recommend that it be *entered in the minutes of the Council for future reference.*"

The document is as follows :—

The Court of Examiners beg to make the following report to the Council :—

t, in addition to the oral
e required to furnish a
, the court do not agree
considerable experience of
nation for the Fellowship
on, proved that the two
to be required have been
discontinuing the single
d. The *viva voce* clinical

ge number of candidates presenting themselves. (*During the year ending June 24th last 766 candidates were examined in surgery at the final examination of the* Conjoint Board.)

no special
ourt would
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e year 1890
ldressed to
the medical *schools* in England. Out of the 18 schools consulted only three were found to l
court, in a report datec

almic surgery and that a separate
is undesirable," and further that
that a special pass examination is
surgery it may soon be considered

on in operative

ery which all

her marks will be attached to the *longer* clinical examination. The pass standard will be 50 per cent. as at present.

—	Clinical.	Surgical anatomy.	Pathology, table No. 1.	Pathology, table No. 2.	Paper.	Total.
Maximum ...	12	10	10	10	18	60
Pass mark ...	*6*	*5*	*5*	*5*	*9*	*30*
Minimum ...	3	2	2	2	4	—

Candidates who obtain not less than 30 marks (50 per cent.), provided they do not obtain less than the minimum at any one part, will be adjudged to have passed the examination.

Dr. FINLAY seconded the motion which was adopted.

Sir PATRICK HERON WATSON then moved :—

Mr. BROWN said that this was far *too* important a matter to be tabled *merely for future reference.* It should be *referred to the Examination Committee for further consideration* and a report. He moved an amendment to that effect.

Dr. LINDSAY STEVEN seconded the amendment.

Some discussion ensued but eventually Mr. Brown's proposal was unanimously agreed to as a substantive motion.

Education Committee's Report.

Sir JOHN BATTY TUKE moved that the following report by the Education Committee be received and entered upon the *minutes* :—

I.—AGES OF MEDICAL STUDENTS AT THE DATE OF REGISTRATION.

it the following table
sh the ages of students
at nder which applicants
e *precise date of their birth,*
1st, 1903. *Up to that date satis-*
attained the age of 16 years was
e data at the disposal of the
will be more exact :—

Table showing the Ages of Medical Students registered during 1903 by the Respective Branch Registrars.

Ages of students at date of registration.	England.	Scotland.	Ireland.	Total.
Between 16–16½	8	12	4	24
" 16½–17	22	26	3	51
" 17–18	90	139	42	271
" 18–19	156	102	51	309
" *19–20*	131	68	28	227
" 20–21	51	49	19	119
" 21–22	34	24	12	70
" 22–23	18	21	8	47
" 23–24	15	25	5	45
" 24–25	10	16	5	31
" 25–26	11	23	—	34
" 26–27	7	15	—	22
" 27–28	8	11	—	19
" 28–29	4	8	2	14
" 29–30	2	2	1	5
" 30–31	3	4	1	8
" 31–45	14	23	3	40
Precise age unspecified ...	45*	—	41†	86
Total	629	568	225	1422

months.

it might be a hardship to delay the commencement of professional study.

II.—*RECOGNITION OF CERTAIN PRELIMINARY EXAMINATIONS.*

III.—CONFERENCE WITH THE CONSULTATIVE COMMITTEE ON SCHOOL LEAVING EXAMINATIONS.

In accordance with the resolution of the Council on Nov. 24th, 1903, Sir John Tuke and Dr. MacAlister attended a conference with the Consultative Committee of the Board of Education and explained to that body the relations of the Council to the question of examinations in subjects of general education. No official intimation has yet been received as to the conclusions arrived at by the Consultative Committee of the Board of Education on the important suggestion that a system of school leaving examinations for England and Wales should be established.

Dr. NORMAN MOORE seconded the motion which was agreed to.

Students' Registration Committee.

Sir HUGH BEEVOR proposed that the report of the Students' Registration Committee be received, entered upon the minutes, and adopted.

This was agreed to.

The Council then adjourned till Tuesday.

TUESDAY, MAY 31ST.

The reports of the Education Committee and Finance Committee were received and adopted, the latter report showing a deficit on the year's working of the Council of £2165 1*s.* 8*d.*

Mr. Tomes was elected joint treasurer of the Council and the Finance, Executive, and Penal Cases Committees were chosen.

The Pharmacopœia report was received, when on the motion of Mr. JACKSON a resolution was passed in favour of the Weights and Measures (Metric System) Bill now before Parliament.

After debates upon the registration of joint stock companies as dentists and upon the systematic canvassing on behalf of medical men for subscribers to sick clubs, which will be reported in our next issue, the session came to a close.

THE CENSUS OF INDIA OF 1901.[1]

VERY few people in this country realise all that is comprehended in the word India, its extent of territory and varieties of climate, its huge population and the diversities among its peoples, races, and tribes, in language, caste, religious beliefs, habits and customs. But these voluminous reports, which are a very mine of information on these subjects, will give some idea of how stupendous was the task of numbering nearly 300,000,000 of people under the conditions that obtain in that country. The census of 1901 was the third general census of India and is the most complete yet taken, only a few disturbed tracts in Burma and part of Baluchistan being omitted. Of the total of India, 1,766,597 square miles, 61·5 per cent. is under direct British administration, as is also 78·8 per cent. of the total population, 294,361,056. The Native States comprise over a third of the area with less than one quarter of the population. The largest British province is Burma but by far the most populous is Bengal, which also embraces the most varied physical conditions and the most heterogeneous races. Among the Natives States, Haidarabad, with its 11,000,000 people, stands first. Having started, however, with this brief statement illustrative of the comprehensive character of the work we may say at once that it is not our purpose to deal so much with the statistical portion of it, with its colossal figures and tables, as to pick out here and there some few points which have struck us in going through Part I. of the report as of medical and general interest. These will serve at the same time to afford some indication of the nature and scope of the inquiries instituted and of the great learning and thoroughness with which Mr. Risley, C.I.E., and Mr. Gait, I.C.S., and others have set about and fulfilled their very laborious and absorbing undertaking. The maps, diagrams, and tables are all excellent in their way, clear and pertinent to the subjects in hand. When we think, indeed, of all the labour involved in drawing up these records it is not without a feeling of regret that, despite their intrinsic value and scientific interest, they should not command a wider sphere of consideration and influence than so commonly falls to the lot of official reports to do.

Those who are concerned with the study of demography, ethnology, anthropology, linguistic lore, or the subject of caste will find a large amount of interesting, curious, and instructive material the value of which they cannot fail to appreciate. But for such of our readers as with a limited time at their disposal nevertheless desire to make themselves fairly acquainted with this report we would suggest that they should first of all peruse the introduction and then turn to those chapters in which they are most likely to be interested specially, such as the chapters on sex, infirmities, language, marriage, age, and caste.

The third general census of India dealt with in these volumes was taken on the night of March 1st, 1901, and the system and methods employed in the census operations are detailed by Mr. Gait and Mr. Risley in their introductory remarks. Speaking generally, the census returns show a steady increase of population from 1872 to 1901, but the true rate of progress has been far smaller than would appear from the figures and the reasons for arriving at that conclusion are fully and satisfactorily set forth in the report. Confining ourselves to the period from 1891 to 1901 the true rate of increase of the population is estimated to have been only about 1·5 per cent. There was a gain of 3·9 per cent. in the British provinces but it was accompanied with a decline of 6·6 in the Native States.

With regard to the distribution of the population of India, the most important factor affecting the rural distribution is, as may be easily understood from its connexion with grain and food crops, the water-supply. Tracts of country with heavy and regular rainfall are more densely peopled, while relatively rainless regions have the scantiest population, although this again is modified by such influences as the presence of canals, irrigation, and forests. Taking India as a whole, we find that only one-tenth of the people live in towns. While the growth and population of many old Indian towns and cities are stationary or decadent, Calcutta with its suburbs ranks among the 12 chief cities of the world, and Bombay despite all its troubles is a flourishing and stately city. India, taken as a whole, is not over-populated, for two-thirds of the people live on one-fourth of the area. Burma and Assam have made great progress in the decade, but Bombay and the Central and other Provinces of India have been very gravely affected by famines, plague (which alone probably claimed 1,000,000 victims), and other epidemic diseases.

Chapter III. deals with Sex and we are told that while, with few exceptions, the females outnumber the males in all European countries, in India it is the reverse and in the whole country taken together there are only 963 females to 1000 males. The subject is very exhaustively treated and from various points of view, some of which are pretty well known, while others are relatively new. The chapter abounds with much curious information of various kinds and of more or less interest to the medical statistician and anthropologist.

Chapter IV. treats of Infirmities. It is satisfactory to learn that there has been a decided and continued decline in the number of certain classes of afflicted persons—insane, deaf-mutes, blind and lepers—in the last twenty years. This decline is ascribed to better sanitation and medical relief, improved system of food-supply in times of famine, and largely perhaps in the more careful and exact methods of numbering the people. In Travancore statistics were also collected regarding elephantiasis. There is little insanity in India; Eurasians and Parsees are most affected by it. The mental wear and tear and the strain on the nervous system incidental to the severe competition which obtains in Europe have comparatively no place in the East. The evidence as to the effect of the native consumption of ganja in this respect is somewhat conflicting, but that there is a connexion is no doubt true. As regards social practices the theory that consanguineous marriages have a tendency to produce mental unsoundness receives but little support from the census figures. The influence of race and other conditions in connexion with insanity is discussed and is followed by a consideration of deaf-mutism and leprosy. The latter disease has a very localised prevalence in India. The results of Mr. Jonathan Hutchinson's investigations into the causation of leprosy together with those of the Indian Leprosy Commission and of the Berlin International Conference are passed in review.

Chapter VII. is devoted to "Language" and the subject of Indian languages is handled in expert style. It is headed by a quotation from John Hunter, the father of modern surgery, which is appropriate seeing how many members of the Indian Medical Service have contributed to our knowledge of Indian languages. In the range of philological research there is nothing more provocative of our keen curiosity than the discovery of a tribe or people who speak a language quite unconnected with that of the people surrounding them. At p. 278 of Part I. of the Report will be found a map showing the localities in which the Dravidian and Munda languages of India are spoken. A small isolated patch of colour in Baluchistan, close to Quetta, indicates one islet of the Brahui language, which reminds us that in 1887 Surgeon-Major Theodore Duka, I.M.S., M.R.A.S., a Hungarian by birth, published an excellent and learned essay on the Brāhūi grammar after the German of the late Dr. Trumpp of the University of Munich and in 1874 the late Dr. Bellew, I.M.S., as an appendix to his work "From the Indus to the Tigris" (Trübner and Co.) added a short grammar and vocabulary of the same tongue. It may be useful to those interested in this study to be referred here to vol. v., Part I., of the Linguistic Survey of India, compiled and edited by G. A. Grierson, C.I.E. (Calcutta Government Printing Office, 1903), which deals with the Indo-Aryan family. The survey enumerates altogether 147 languages recorded as vernacular, but as regards their variety and distribution the reader must consult the report. In language, as in other things, India is a land of contrasts—some languages with very rich and others with the most limited vocabularies, some with no past and others with a past of 30 centuries.

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[1] Census of India, 1901. Two vols. By H. H. Risley, I C.S., C.I.E., Officer of the French Academy, Corresponding Member of the Berlin Anthropological Society, and E. A. Gait, I.C.S., Fellow of the Royal Statistical Society, Anthropological Secretary to the Asiatic Society of Bengal. Calcutta: Office of the Superintendent of Government Printing, India. 1903. Vol. I., 7*s.* 6*d.*, pp. xxv.–582; Vol. IA., 6*s.*, pp. 592.

In attempting to review this voluminous report we have fully realised the meaning of *embarras de richesses*, for we are compelled to pass over those sections dealing with occupation, religion, marriage, age, caste, tribe, and race. In nothing is the contrast so strong between India and Europe as in marriage and the information in the report is instructive and well worth reading. As regards religions we may say that out of the total Indian population in 1901 70 per cent. were Hindus, 21 per cent. were Mahomedans, 3 per cent. were Buddhists, and 1 per cent. were Christians.

EPSOM COLLEGE.

THE annual general meeting of the governors of Epsom College was held at the offices in Soho-square on May 27th, when there was a good attendance, including Dr. C. Holman (treasurer), in the chair, Dr. J. H. Galton, Mr. Stamford Felce, the Rev. E. W. Northey, Dr. J. Roberts Thomson, Mr. George C. Croft, Sir R. Douglas Powell, Dr. G. Eastes, Mr. H. W. Kiallmark, Sir W. S. Church, Dr. M. Baines, Mr. W. A. Propert, and Mr. Reginald Harrison. The secretary having read the notice convening the meeting announced the result of the voting, the successful candidates being as follows:—

PENSIONERS.

	Votes.		Votes.
Sudlow, Rebecca E.	5969	Elliott, Eliza...	4381
Thurgar, Caroline E.	5875		

FOUNDATION SCHOLARS.

Sheperd, Charles L. W. ...	8138	Mortlock, Wm. K.	6327
Walker, Wm. J. G.	7534	Bright, H. Norman	5434
Kenny, Hilary A. H. S. ...	7284	Corry, Eric V.	4536

In moving the adoption of the annual report and the income and expenditure account the treasurer adverted to the loss which the institution had sustained in the death of Sir Edward H. Sieveking, M.D. Edin., a Vice-President, one of the honorary consulting physicians, and for very many years a member of the council. He referred to the services rendered to the institution in its early days by Sir Edward Sieveking, who was the first honorary secretary of the College and whose interest in its work continued until his death. The report showed a surplus of income over expenditure of £2763, but this was entirely owing to the most successful festival dinner which was held last June under the presidency of the Prince of Wales, when the record sum of about £7000 was collected. He announced that he had just received through Mr. Reginald Harrison a munificent donation of £500 from Mr. Thomas Moreton, J.P., honorary local secretary and treasurer for Northwich. In giving this donation Mr. Moreton had made no reserve, thus leaving the Council discretion to use the money as it deemed best. Referring to the change of name effected at the extraordinary general meeting in November the treasurer said that whilst those who were familiar with the work of the College had confidence in the result of that change there was naturally some doubt as to how the general public would receive it. So far as he could judge the change was almost generally welcomed and not only had contributions been coming in freely but this term there was one of the largest entries of new boys on record. He reminded the governors of the progress made by the College in recent years, for whilst there was a debt of £7000 when he accepted the office of treasurer 17 years ago, at the present time the institution was out of debt with the exception of a mortgage of £10,000, but to set against this there were over 80 acres of freehold land apart from the extensive buildings. In conclusion he announced the numbers of the respective classes of boys in the school as follows: 49 foundationers, nine council exhibitioners, 133 other boarders in the College, 34 boarders in masters' houses, and 10 day boys.

The report having been adopted formal business was proceeded with, including the re-election of the auditors and the appointment for a further period of three years of the following members of the council: Dr. Matthew Baines, Dr. Charles Drage, Mr. George P. Field, Sir R. Douglas Powell, Bart., Dr. A. E. Sansom, Mr. Clement L. Smiles, Dr. J. Roberts Thomson, Mr. Hugh E. Vardon, Sir Arthur T. Watson, Bart., K.C., and Colonel Gordon Watson. A vote of thanks to the chairman, proposed by Sir R. Douglas Powell, concluded the proceedings.

ASYLUM REPORTS.

Bristol City and County Asylum, Fishponds (Annual Report for 1903).—The average number of patients resident during the year was 854, comprising 386 males and 468 females. The number of cases admitted during the year amounted to 226—viz., 109 males and 117 females. Of these 194 were first admissions. Dr. Harry A. Benham, the medical superintendent, states in his report that the Bristol board of guardians has determined to provide new buildings for their insane inmates, equipped with all modern improvements, an arrangement which will enable chronic patients of the asylum to be transferred thither from time to time as may be considered expedient. Plans for the scheme of extension of the asylum are in course of preparation and new flushing cisterns have been fixed to lavatories in various parts of the house. A pump has been erected to supply the greenhouses with water and a new ironing machine has been purchased for the laundry. "The whole of the recently acquired land is now under cultivation. We were able to supply 36½ tons of potatoes to the institution during the year." The number of cases discharged as recovered during the year amounted to 109—viz., 53 males and 56 females, or 12·7 per cent. of the average number resident. The deaths during the year amounted to 91, or 10·6 per cent. as calculated on the same basis. Of the deaths two were due to cardiac disease, five to epilepsy, ten to renal disease, 11 to congestion of the lungs, 12 to general paralysis of the insane, 13 to senile decay, 16 to pulmonary and other forms of tuberculosis, and the rest to other causes. Post-mortem examinations were made in 81 cases of death. The Commissioners in Lunacy state in their report that all parts of the asylum continued to be maintained in excellent order, that the wards were tastefully decorated and plentifully supplied with objects of interest, that the dormitories were light and clean, that the patients were in a thoroughly satisfactory condition as regards clothing and personal neatness, and that the medical case-books were well kept. Pathological work is also done by the two assistant medical officers of the institution. There have been no cases of zymotic disease during the year and no inquest has been held. Only one serious casualty occurred in the case of a female patient who accidentally fell and fractured her forearm. The committee of management states in its report that among the patients are included three males and 12 females who are private patients, the rest being chargeable to the county.

East Sussex County Asylum, Haywards Heath (Annual Report for 1903).—The average number of patients resident during the year was 873, comprising 373 males and 500 females. The admissions during the year amounted to 311—

viz., 169 males and 142 females. Of these 230 were first admissions. Dr. E. B. C. Walker, the medical superintendent, states in his report that 86 of the 124 male admissions, excluding transfers and second admissions, and 84 of the 141 female admissions were hopeless as regards prospect of recovery and that 33 males and 38 females were on admission over 55 years of age. The number of patients discharged as recovered during the year amounted to 61—viz., 27 males and 34 females, or 6·9 per cent. of the average number resident. The deaths during the year amounted to 92—viz., 53 males and 39 females, or 13·7 per cent. as calculated on the same basis. Of the deaths three were due to renal disease, four to pulmonary tuberculosis, six to pneumonia, seven each to senile decay and to cardiac disease, nine to epilepsy, 20 to general paralysis of the insane, and the rest to other causes. Four coroner's inquests were held during the year. In two of these death was found to be due to natural causes. The other two were cases of fracture of the hip and leg respectively, accidentally sustained, and verdicts were given in accordance with the evidence, exonerating the asylum officials from blame. The asylum has been free from infectious disease with the exception of one case of scarlet fever. The case was that of a nurse who was found to have the disease on the third day after joining the staff. In November, owing to the accommodation for female patients at the asylum proving inadequate, 15 were transferred to the Lincolnshire County Asylum under contract. This relief to the pressure for room proved to be sufficient until the opening of the new East Sussex County Asylum at Hellingly, which took place in July, when 50 male and 50 female patients were removed there. The Commissioners in Lunacy state in their report that all parts of the asylum were found to be in a satisfactory condition, that the wards were bright and comfortable, that the dormitories and bedding were clean and in good order, and that the medical case-books were carefully and well kept. The committee of management states in its report that in consequence of the removal of a number of patients to East Sussex Asylum at Hellingly the sanatorium, which had been used for some years as an annexe, was on August 1st closed for accommodation of ordinary patients and the temporary buildings were closed a month later, those attendants and nurses who had been engaged for service in the latter receiving notice to leave. The necessary and ordinary repairs of the buildings were carried on, as hitherto, to the end of September.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7137 births and 4507 deaths were registered during the week ending May 28th. The annual rate of mortality in these towns, which had been 14·9, 16·1, and 15·5 per 1000 in the three preceding weeks, further declined to 15·4 per 1000 last week. In London the death-rate was 14 3 per 1000, while it averaged 15·8 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 3 9 in King's Norton, 5·5 in Devonport, 8·7 in Willesden and in Handsworth (Staffs.), 9·4 in Leyton, 9·6 in Hornsey, and 10·5 in Ipswich; while the highest rates were 19·9 in Bradford, 20·1 in Plymouth, 20·4 in Sunderland and in South Shields, 20·7 in Rochdale, 21·3 in Burnley, 21·7 in Warrington, 22·0 in Bootle, and 22 8 in Hanley. The 4507 deaths in these towns last week included 519 which were referred to the principal infectious diseases, against 514, 525, and 528 in the three preceding weeks; of these 519 deaths 205 resulted from measles, 163 from whooping-cough, 57 from diarrhœa, 41 from diphtheria, 27 from scarlet fever, 22 from "fever" (principally enteric), and four from small-pox. No death from any of these diseases was registered last week in Hastings, Reading, Ipswich, Burton-on-Trent, Handsworth (Staffs.), King's Norton, Smethwick, Grimsby, Preston, Stockton-on-Tees, or Tynemouth; while the highest death-rates from the principal infectious diseases were recorded in Aston Manor, Coventry, Birkenhead, Wallasey, Salford, Blackburn, Rotherham, and Rhondda. The greatest proportional mortality from measles occurred in Croydon, Walthamstow, Brighton, Birkenhead, Wallasey, Burnley, Middlesbrough, Leeds, and Rotherham; from whooping-cough in Plymouth, Walsall, Aston Manor, Coventry, Birkenhead, Bootle, Bolton, Blackburn, and Merthyr Tydfil; and from diarrhœa in Hanley and West Bromwich. The mortality from scarlet fever, from diphtheria, and from "fever" showed no marked excess in any of the large towns. Of the four fatal cases of small-pox registered in these towns last week two belonged to London, one to Stockport, and one to Bradford. The number of small-pox cases under treatment in the Metropolitan Asylums hospitals, which had been 88, 99, and 96 at the end of the three preceding weeks, had risen again to 118 at the end of last week; 33 new cases were admitted during the week, against 14, 26, and 18 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday last, May 28th, was 1663, against 1590, 1600, and 1630, on the three preceding Saturdays; 194 new cases were admitted during the week, against 242, 239, and 222 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 193, 231, and 210 in the three preceding weeks, further declined last week to 188 but were slightly in excess of the number in the corresponding period of last year. The causes of 52, or 1·2 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Nottingham, Leeds, and in 46 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, St. Helen's, Manchester, Blackburn, Preston, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 18·0, 17·9, and 18·7 per 1000 in the three preceding weeks, declined again to 17·6 per 1000 during the week ending May 28th, but was 2·2 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 14·9 in Paisley and 15·3 in Aberdeen, to 20·0 in Edinburgh and 21·5 in Perth. The 582 deaths in these towns included 29 which were referred to whooping-cough, 15 to diarrhœa, 12 to measles, three to diphtheria, two to scarlet fever, and one to small-pox, but not any to "fever." In all, 62 deaths resulted from these principal infectious diseases last week, against 64, 75, and 58 in the three preceding weeks. These 62 deaths were equal to an annual rate of 1·9 per 1000, which was slightly in excess of the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 25, 28, and 21 in the three preceding weeks, rose again last week to 29, of which nine occurs in Glasgow, nine in Dundee, five in Edinburgh, and four in Aberdeen. The deaths from diarrhœa, which had been 15 and 13 in the two preceding weeks, rose again to 15 last week, and included five in Glasgow, five in Edinburgh, three in Dundee, and two in Aberdeen. The fatal cases of measles, which had been 17 and 16 in the two preceding weeks, further declined last week to 12, of which three were registered in Dundee, three in Paisley, two in Glasgow, two in Edinburgh, and two in Greenock. Of the three deaths from diphtheria two belonged to Glasgow, where the fatal case of small-pox also were registered. The deaths referred to diseases of the respiratory organs in these towns, which had been 100, 90, and 97 in the three preceding weeks, declined again last week to 85, and were 29 below the number in the corresponding period of last year. The causes of 20, or nearly 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 23·1, 21·6, and 21·9 per 1000 in the three preceding weeks, declined again to 21·3 per 1000 during the week ending May 28th. During the past four weeks the death-rate has averaged 22·0 per 1000, the rates during the same period being 15·2 in London and 17·6 in Edinburgh. The 155 deaths of persons belonging to Dublin registered during the week under notice showed a decline of four from the number in the preceding week and included eight which were referred to the principal infectious diseases, against 18, 17, and 13 in the three preceding weeks; of these, four resulted from whooping-cough, two from scarlet fever, one from "fever," and one from diarrhœa, but not any from small-pox, measles, or diphtheria. These eight deaths were equal to an annual rate of 1·1 per 1000, the death-rates last week from the principal infectious diseases being 1·7 in London and 2·2 in Edinburgh. The fatal cases of whooping-cough, which had been 11, ten, and five in the three preceding weeks, further declined last week to four. Two deaths from scarlet fever were recorded, against one in each of the two preceding weeks. The 165 deaths in Dublin last week included 26 of children under one year of age and 31 of persons aged 60 years and upwards; the deaths of infants exceeded the number in the preceding week, while those of elderly persons showed a considerable decline. Two inquest cases and two deaths from violence were registered, and 62, or two-fifths, of the deaths occurred in public institutions. The causes of 12, or nearly 8 per cent., of the deaths in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following qualified candidates for the Naval Medical Service have been appointed Surgeons in His Majesty's Fleet:—Harry Arthur Kellond-Knight, Hugh Bernard German, Douglas Duke Turner, Alfred Berridge Cox, Gordon Moir, Briton Smallman Robson, Alfred Austin Chancellor, Norman Bremer Vickers Jacob, Herbert Stone, Gerald Nunn, Bryan Pick, William Lawrence Hawkins, John Herbert McDowall, George Eric Hamilton, John Duncan Keir, George Oswald Morrell Dickenson, Alex Bedingfeld Marsh, James McCutcheon, John Miller Gordon, William Christian Baumgarten Smith, Thomas Edward Blunt, Leslie Charles Robinson, Francis Edwin McCune, Frank Reginald Featherstone, and Walter Turner Haydon (dated May 23rd, 1904).

The undermentioned gentleman has been appointed Surgeon in His Majesty's Fleet:—William Nichols Horsfall (dated May 23rd, 1904).

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel J. Carmichael has joined at Warley for duty. Captain O. Challis is posted to the Station Hospital, Colchester, for duty. Captain W. R. P. Goodwin is selected to officiate as Personal Assistant to the Principal Medical Officer, Punjab Command.

THE ROYAL MILITARY TOURNAMENT.

A better exhibition of military smartness, nerve, and muscle than that presented at the Royal Military Tournament has never previously been seen at the Agricultural Hall. Compared with other years there is less spectacular effect, but from a purely physical point of view it would be difficult to improve on the present tournament. The first item of the programme which attracts attention is the splendid display by the staff of the headquarters gymnasium at Aldershot who illustrate a method of gymnastic training that not only develops the muscles but quickens the intellect in a remarkable degree. In previous years we have described similar exercises performed by non-commissioned officers under training and by recruits from the marine depôt at Deal and now we have an opportunity of witnessing the performances of the instructors themselves. To those who look beneath the surface of things it is perhaps the finest part of the tournament. Then there is the 12 pounder gun drill by the seamen of H.M.S. *Excellent* and the manner in which the guns are dismounted and remounted, manœuvred, and lifted over a four-foot wall shows clearly that the ability and resource said to be possessed by the men of our navy is no fiction but an absolute fact. The display by the Royal Marine Artillery is another item illustrating the smartness and resource of our "soldier sailors." A five-inch B.L. gun weighing two tons is placed with its mounting as used on board ship and weighing 42 hundredweights, together with the necessary stores on a wagon (total weight six tons), and drawn into the arena. The gun is then mounted by means of an extemporised gin, brought into action, fired, after which the gin is "struck," dismounted, and replaced in the wagon. The display by the Army Service Corps, too, will be watched with interest. The usual displays of riding, jumping, tent-pegging, combats between various arms, the musical drive by the Royal Artillery, the Royal Horse Artillery galloping, Royal Field Artillery trotting, and other items common to the tournament are carried out in a manner which does credit to all concerned. The musical drive of the 1st Life Guards is a fine performance of its kind and always receives the applause it undoubtedly deserves. On the latter days of the tournament this drive will be performed by the 21st Lancers. The pageant representing the rise of the Royal Artillery is an object lesson in British history, introducing the bombard and matchlock of the Middle Ages and various engines of war from Crecy to the Boer war with its 12 pounders and "pom-poms." Pushball as played by a team of the Royal Horse Guards is a performance at once clever and amusing, the horses entering into the spirit of the game, and this quality of the horse is exhibited in a still more remarkable degree in the contest between four mounted men from the riding establishment at Canterbury and four horses with dummy riders. The object of the mounted men is to strike with their swords from the helmets of the dummies paper plumes. The clever manner in which the horses with their dummy riders escape from the mounted men must be seen to be appreciated, while the ludicrous way in which the dummies jerk their limbs about in consequence of the motion of the horses keeps the spectators in a constant roar of laughter. The resources of the executive committee in providing fresh features for the annual tournament seem to be unlimited, but it will be difficult for it to equal the entertainment which it has provided for the public this year.

The sanitary arrangements are as good as the medical officers in charge of the tournament can make them, considering the limited space which a building like the Agricultural Hall, never intended for military shows on such a large scale, allows, and the same thing applies to the comfort of the spectators. It is, however, unfortunate that a larger and more suitable home cannot be found for an entertainment which, in addition to its principal objects of encouraging and developing skill at arms and of benefiting military charities, must of necessity educate the public in naval and military matters and act as an important aid to recruiting. While congratulating the executive committee and the staff generally upon the success of the present tournament we would ask them to consider whether it would not be possible to make its scope still wider and to enlarge its sphere of usefulness by transferring it to a building more suited to large military displays and where the public would have a better opportunity of seeing a bird's eye view of the two services with their auxiliaries which have helped to build our great Empire. The tournament will close on June 9th.

H.H. PRINCE ALEXANDER OF BATTENBERG.

Midshipman H.H. Prince Alexander of Battenberg, who is serving in the *Cæsar*, flagship of Vice-Admiral Lord Charles Beresford, has been seriously ill on board the hospital ship *Maine*, suffering from pneumonia, but is now reported convalescent.

THE WAR IN THE FAR EAST.

That a series of successes on the part of the Mikado's land forces have followed on the great initial one obtained by the Japanese fleet has now become patent to everyone. The two big defeats of the Russians on the Yalu and at Kin-Chau with the capture of 78 Russian guns at the latter battle have been followed by the occupation of Dalny—the great Russian mercantile port and harbour—by General Oku's troops, and a renewed attempt has been made by Admiral Togo to complete the "bottling up" of Port Arthur on the side of the sea. Nor is this all. What happened in the Franco-German war and in the late Boer war in the case of the "entanglement" of Ladysmith seems likely to be repeated in the case of Port Arthur which begins its siege with the return of the defeated troops from Kin-Chau bringing with them their wounded to occupy its military hospitals. Assuming that 500 dead Russian soldiers were found by the Japanese after Kin-Chau and that the proportion be taken as four wounded to one killed we may estimate the Russian losses at 2000 at least on that occasion Kuropatkin with his force at Mukden is in the meantime placed in a most difficult position owing to his very natural desire not to abandon Port Arthur and to leave its garrison to its fate. With Japanese forces to his rear and in his vicinity ready to cut his troops off from their base the situation is obviously one of perplexing jeopardy. The revelation of so much preparedness, strategic skill, daring, and discipline on the part of the Japanese, their minute attention to details, and the splendid coöperation of their army and navy in the work before them have probably caused more astonishment on the continent than in this country. And yet the Japanese troops who took part as a contingent in the operations in China some four years ago made a very powerful impression on General Frey who was then in command of the French troops. The General wrote of the Japanese contingent on that occasion in terms of surprise and the highest admiration. From all we can learn from our own naval and military medical officers who have had personal experience and intercourse with the Japanese they were greatly impressed with their care, skill, and thoroughness in all they undertook. So much, as everyone knows, turns in war on commissariat and transport, and in the case of the Russians a good deal of the sickness among the troops in Manchuria is alleged to be attributable to the character of the clothing, supplies, and foodstuffs furnished by dishonest contractors. The Japanese medical officers are reported to have shown every attention and consideration to the Russian wounded and prisoners that fell into their hands and the Russian medical officers worked in the same spirit among the Japanese sick and wounded. Among the items of news we learn from Peking that an Imperial Order has been issued for the establishment of a Chinese Red Cross Society under the terms of the Geneva Convention.

Some days ago, says the *Novoe Vremya*, two complete portable mechanical medical disinfecting rooms, made by a Warsaw house, were despatched to the Far East. The whole combination is included in two third-class carriages. In the first there is a plant to treat 30 poods of dry linen (the pood being 36 pounds) consisting of a machine for washing, rinsing, and wringing linen, a steam mangle, and water boiler, &c. In the second carriage there are two disinfecting chambers, one acting with dry steam and the other with formalin. A portable artificial ice-producing machine in a goods wagon is also in course of preparation to make 100 poods of ice a day.

The Odessa branch of the Society for the Preservation of the Public Health has opened subscriptions for the families of medical men killed or wounded in the war and of medical men ordered to the front who require assistance. There has been a generous response to the appeal.

The *Novosti* describes a hospital train consisting of nine goods wagons and two Pullman passenger cars just despatched to the Far East which was fitted up at the expense of the Russian "South-Western Railway" employés. The cost was £3500. The staff attached to this train consists of five physicians, a pharmacist, four field medical officers, 14 sanitary officers, eight servants, three cooks, 14 sisters of mercy, and a steward. The train is abundantly furnished with medicines, linen, and surgical instruments.

The Tsaritsa's hospital train, which is described as the finest railway hospital ever constructed, has left St. Petersburg for the East.

Correspondence.

"Audi alteram partem."

THE INFANT ORPHAN ASYLUM AT WANSTEAD.

To the Editors of THE LANCET.

SIRS,—The Infant Orphan Asylum at Wanstead is a charitable institution, supported by the public, containing over 500 children of both sexes, all of whom are of an age when they are particularly liable to infectious diseases and, even more than adults, require skilled nursing when attacked by illness.

The committee has lately, by refusing to make arrangements for the proper isolation of infectious cases and still more by dismissing its staff of trained nurses, taken so retrograde a step that we think it our duty to call the attention of the public thereto. We ask you, therefore, to find space for the following letter conveying the resignation of our respective positions as consulting physician and consulting surgeon to the asylum.

We are, Sirs, yours faithfully,
W. P. HERRINGHAM.
May 30th, 1904. ANTHONY A. BOWLBY.

[INCLOSURE.]

May 3rd, 1904.

To the Chairman of the Infant Orphan Asylum.

DEAR SIR,—Three years ago your committee requested one of your consulting medical staff to report upon the arrangements for the care of cases of sickness occurring at the asylum. The report advised (1) that certain alterations should be made in the existing infirmary; (2) that adequate provision should be made for the isolation of infectious cases and for the disinfection of clothes and bedding by building an isolation block and by purchasing a steam disinfector; and (3) that the infirmary and isolation block should be under the charge of a trained nurse of the status of a hospital sister with at least one trained nurse under her orders.

That report was approved by your committee at the time. Within the last month your committee has decided: (1) "That an isolation block will not be provided." (2) "That trained nurses will be abolished as permanent staff and the infirmary will be under the charge of an untrained head nurse." (3) "That the mild cases now composing and termed out-patients will be treated by their own nurses in the main building."

All these decisions have been arrived at without asking the opinion of any of your medical staff. We have informed you that we consider that these arrangements do not make adequate provision for the health and treatment of the children. These number now more than 500, many of them are babies, and all are of an age at which they are specially prone to many infectious disorders. We consider that so long as our names appear as members of your consulting staff we may be held responsible for these arrangements. We have asked for an opportunity to meet your committee in company with your local medical officer that we may state our opinions and discuss the questions that have arisen. Our request has not been granted and we have therefore no alternative but to tender you our resignation. We reserve to ourselves the right to publish this letter.

We remain, yours faithfully,
W. P. HERRINGHAM, M.D., F.R.C.P.
ANTHONY A. BOWLBY, C.M.G., F.R.C.S.

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ARTHUR JAMES, Hon. Secretary.
69, Gloucester terrace, Hyde Park, London, W., May 28th, 1904.

The following donations have been received :—

	£	s.	d.		£	s.	d.
Mr. Reginald Harrison, President...	2	2	0	Dr. H. D. Rolleston ...	1	1	0
Mr. James Berry	1	1	0	Mr. Cuthbert S. Wallace	1	1	0
Mr. A. A. Bowlby	2	2	0	Dr. F. P. Wightwick .	0	10	6
Dr. R. J. Collie...	1	1	0	P. H.	0	5	0
Dr. F. W. Cock	1	1	0	W. L.	0	2	6
Sir William S. Church ...	1	1	0	F. W.	0	7	6
Dr. Arthur W. James ...	2	2	0	J. R.	0	5	0
Sir E. Cooper Perry ...	2	2	0	M. J.	0	2	6

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I am obliged to Dr. Hawthorne for directing my attention to the mistake and also for the lucid explanation of his view, the detailed discussion of which, and of other theories, was beyond the scope of my paper.

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Birmingham, May 31st, 1904. J. JAMESON EVANS.

THE PRESENT STATE OF MEDICAL PRACTICE IN SOUTH AFRICA: A WARNING.

To the Editors of THE LANCET.

SIRS,—I think a few words on the subject of medical practice in South Africa may perhaps prove useful to those of the profession at home who contemplate coming to this part of the world to engage in practice. Prior to the South

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[1] THE LANCET, May 14th, 1904, p. 1345.

African war there were many openings both in town and country districts where the average medical man could have made certain of working up a good practice. More especially did this apply to up-country districts in Cape Colony and Natal. Over and over again it has been remarked to me by medical men and laymen alike, "If you go to such and such a place you will be fairly certain to capture the present man's practice, he drinks so heavily," and no doubt many practices have been lost and obtained in this way. It is a sad thing to admit, but many medical men in up-country districts are addicted to alcohol and the morphia habit—chiefly unmarried men I believe. The monotony and loneliness of the life are responsible for this apparently. But I am straying from the point. During the war hundreds of civil surgeons came out from England and at its conclusion a very considerable percentage stayed out here. They obtained all the Government billets in the new colonies—e.g., the district surgeoncies—and with such appointments as nuclei they settled in various parts of the country and many are doing well. The result is that small towns and districts which formerly supported one medical man now have their three or even four. Similarly at the close of the war many new men settled in the large coast towns and in these the profession is certainly overcrowded; there must be many who are hard put to it to make a decent living. A friend of mine who is a well-known practitioner in a large town has calculated that in proportion to population there are more medical men out here than at home and I quite believe it. Of course, in the country, owing to its large extent and scattered population, this must needs be, but in the towns the conditions are the same as at home.

Medical men, unless possessed of considerable means, who contemplate emigration to South Africa, should think well on the matter. I would also point out here the great cost of living. House rent is exorbitant in the large towns and as all the colonies are protectionist the prices are naturally enhanced all round. Fees are higher than at home, of course, ranging from 5s. to 7s. in towns and according to distance in the country, but these do not compensate for the increased cost of living. To the general practitioner, then, the cry is "full up" at present. There may perhaps be room in the large towns for men who have specialised in diseases of the eye, skin, nose, throat, and ear, especially the former two. Finally, a word of warning may not be out of place to those desirous of buying practices in South Africa. A great deal of caution is needed to avoid being "let in" for a practice which is rapidly diminishing; this refers chiefly to up-country practices. Medical men, in common with every other class, are feeling the pinch of the present depression, but when this passes away and the country begins to expand and immigration to take place on a large scale then, no doubt, there will not only be plenty of room for the men already in practice here but for many more who are desirous of coming. My object in writing these lines will have been attained if they afford food for reflection to those at home who may be looking upon South Africa as an El Dorado (from a medical point of view) in its present state. Apologising for the length of this communication,

I am, Sirs, yours faithfully,

Maritzburg, Natal, May 6th, 1904. H. J. W.

A VISIT TO LYONS.

(FROM A CORRESPONDENT.)

LYONS has five general hospitals, with an aggregate of 6000 beds, and it is unnecessary to say that its medical school has a world-wide reputation. The professors themselves consider that one of their great advantages is that every section of the hospitals has its own laboratory, so that the professor in charge can do any research work in which he and his assistants are interested without being at the mercy or the good nature of a colleague who may easily be less interested in their particular line of investigation. A statue is being erected to Dr. Ollier, a noted surgeon of the town, who was the first to point out the need of preserving the periosteum in resections of bones and excisions of joints. There are still living some of his old operation cases dating from the war of 1870.

The students are engaged in hospital work during their second, third, and fourth years, and besides passing five examinations they still have to write a thesis. The total fees of their medical course only amount to £56, which is enough to make the parents of London students envious. Each student who passes successfully becomes a doctor of medicine and there is some talk of instituting a higher title such as "doctor of medical science" for those who wish to pass an honours examination and to qualify themselves for teaching posts. The old title of "officier de santé," which was a much lower qualification, now no longer exists. There are in Lyons 1500 medical students, including 45 ladies all of whom are Russian Nihilists except three or four French women. The Russian ladies are always poor, subsisting on bread and tea, and living two or three in one room After being qualified they are employed by the Russian Government as country practitioners. The French lady doctors occasionally make successful practices in Paris but not in the provinces. At the last examination for 40 "internes" a lady student (a French Protestant) was elected at their head. This examination takes place once a year, when about 150 of the best students compete in their third year to become "internes." The successful competitors are kept by the State for four years and the best of them eventually become assistants of various kinds and later professors. For some unknown reason the French women refuse to become druggists. An interesting relic of old times exists in the diploma which is still given to herbalists who are mostly women. Candidates must bring a certificate of being 21 years of age and of good moral character, after which they are examined in their knowledge of medical plants, which includes the gathering, drying, and preparation of the plants. Although Lyons is the leading commercial city of France it has had almost exclusively for a hundred years a medical man as mayor. Each mayor is appointed for six years, so he has time to introduce hygienic reforms.

The Hôtel Dieu with 1200 beds is the oldest and chief hospital, dating from the eighth century, and is now about to be demolished and turned into public museums and libraries. The patients will be transferred to two new hospitals which are to be built outside the town. The large wards are now crammed with patients in four rows of beds, so that only half the sick can ever be near the windows. The windows were mostly shut at my visits, the air seemed stagnant, and it was a relief to get into the corridors and staircases outside the wards. The patients looked anæmic, but this was perhaps due to the great number of tuberculous cases, for there is as yet no hospital for consumption in Lyons. This question has already been before the university, for it is stated that phthisis is on the increase in France. The hospital corridors and many public places were furnished with spittoons attached to the walls, with plentiful notices to prevent all spitting on the floors. In the operating theatres the surgeons have made most gallant efforts to prevent septicism, but the wards are so irretrievably bad that but little can be done there. The whole hospital is nursed by old-fashioned *sœurs de charité* in stuff dresses, devoted pious women quite certain to go to heaven themselves but not always calculated to prevent their patients going there prematurely! Professor Gayet showed me a splendid collection for a future album of enlarged photographs of sections of eyes, and I noticed in his ophthalmic wards that all the windows were draped with dark blue curtains which were only drawn back when it was necessary to examine the eyes.

The medico-legal museum is a unique and valuable collection of photographs, weapons, stabbed organs, fractured skulls, poisons, and models of all kinds. There is the dagger which the Italian assassin thrust into the liver of President Carnot in one of the principal streets of the town, and a piece of string which after being passed into a male urethra was found spontaneously knotted in the bladder. Dr. Lortet, professor of parasitology, kindly allowed me to see his splendid collection of parasites, mostly shown by lantern slides and photographs, demonstrating their effects on the human body. The photograph rooms of the medical side of the university are very well fitted up. Professor Arloing conducted me over the veterinary department where there were five horses in use for preparing antidiphtheritic and antitetanus serums. The energetic Dr. J. Courmont is professor of hygiene, physician of one of the hospitals, and also sanitary inspector of the town. His hygienic laboratory is the newest and most complete in France, with centrifugalisers and other instruments worked by electricity, and a museum of sanitary appliances. Among the students walking about were many in uniform who belong to that portion of the caused more astonishment on the continent than in this country. And yet the Japanese troops who took part as a contingent in the operations in China some four years ago made a very powerful impression on General Frey who was then in command of the French troops. The General wrote of the Japanese contingent on that occasion in terms of surprise and the highest admiration. From all we can learn from our own naval and military medical officers who have had personal experience and intercourse with the Japanese they were greatly impressed with their care, skill, and thoroughness in all they undertook. So much, as everyone knows, turns in war on commissariat and transport, and in the case of the Russians a good deal of the sickness among the troops in Manchuria is alleged to be attributable to the character of the clothing, supplies, and foodstuffs furnished by dishonest contractors. The Japanese medical officers are reported to have shown every attention and consideration to the Russian wounded and prisoners that fell into their hands and the Russian medical officers worked in the same spirit among the Japanese sick and wounded. Among the items of news we learn from Peking that an Imperial Order has been issued for the establishment of a Chinese Red Cross Society under the terms of the Geneva Convention.

Some days ago, says the *Novoe Vremya*, two complete portable mechanical medical disinfecting rooms, made by a Warsaw house, were despatched to the Far East. The whole combination is included in two third-class carriages. In the first there is a plant to treat 30 poods of dry linen (the pood being 36 pounds) consisting of a machine for washing, rinsing, and wringing linen, a steam mangle, and water boiler, &c. In the second carriage there are two disinfecting chambers, one acting with dry steam and the other with formalin. A portable artificial ice-producing machine in a goods wagon is also in course of preparation to make 100 poods of ice a day.

The Odessa branch of the Society for the Preservation of the Public Health has opened subscriptions for the families of medical men killed or wounded in the war and of medical men ordered to the front who require assistance. There has been a generous response to the appeal.

The *Novosti* describes a hospital train consisting of nine goods wagons and two Pullman passenger cars just despatched to the Far East which was fitted up at the expense of the Russian "South-Western Railway" employés. The cost was £3500. The staff attached to this train consists of five physicians, a pharmacist, four field medical officers, 14 sanitary officers, eight servants, three cooks, 14 sisters of mercy, and a steward. The train is abundantly furnished with medicines, linen, and surgical instruments.

The Tsaritsa's hospital train, which is described as the finest railway hospital ever constructed, has left St. Petersburg for the East.

Correspondence.

"Audi alteram partem."

THE INFANT ORPHAN ASYLUM AT WANSTEAD.

To the Editors of THE LANCET.

SIRS,—The Infant Orphan Asylum at Wanstead is a charitable institution, supported by the public, containing over 500 children of both sexes, all of whom are of an age when they are particularly liable to infectious diseases and, even more than adults, require skilled nursing when attacked by illness.

The committee has lately, by refusing to make arrangements for the proper isolation of infectious cases and still more by dismissing its staff of trained nurses, taken so retrograde a step that we think it our duty to call the attention of the public thereto. We ask you, therefore, to find space for the following letter conveying the resignation of our respective positions as consulting physician and consulting surgeon to the asylum.

We are, Sirs, yours faithfully,
W. P. HERRINGHAM.
May 30th, 1904. ANTHONY A. BOWLBY.

[INCLOSURE.]

May 3rd, 1904.

To the Chairman of the Infant Orphan Asylum.

DEAR SIR,—Three years ago your committee requested one of your consulting medical staff to report upon the arrangements for the care of cases of sickness occurring at the asylum. The report advised (1) that certain alterations should be made in the existing infirmary; (2) that adequate provision should be made for the isolation of infectious cases and for the disinfection of clothes and bedding by building an isolation block and by purchasing a steam disinfector; and (3) that the infirmary and isolation block should be under the charge of a trained nurse of the status of a hospital sister with at least one trained nurse under her orders.

That report was approved by your committee at the time. Within the last m[illegible] will not b[illegible] manent sta[illegible] head nurse." (3) "That the mild cases now composing and termed out-patients will be treated by their own nurses in the main building."

All these decisions have been arrived at without asking the opinion of any of your medical staff. We have informed you that we consider that these arrangements do not make adequate provision for the health and treatment of the children. These number now more than 500, many of them are babies, and all a[illegible] they are specially prone to many infectious [illegible] that so long as our names appear as members [illegible] we may be held responsible for these arrangements. We have asked for an opportunity to meet your committee in company with your local medical officer that we may state our opinions and discuss the questions that have arisen. Our request has not been granted and we have therefore no alternative but to tender you our resignation. We reserve to ourselves the right to publish this letter.

We remain, yours faithfully,
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Dr. H. D. Rolleston ...	1	1	0
Mr. Cuthbert S. Wallace	1	1	0
Dr. F. P. Wightwick	0	10	6
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SIRS,—I think a few words on the subject of medical practice in South Africa may perhaps prove useful to those of the profession at home who contemplate coming to this part of the world to engage in practice. Prior to the South which surra disease had been communicated by inoculation. The Pettenkofer apparatus was used and the production of heat was measured by indirect calorimetry. The production of heat rose one day 45·6 per cent. and was greater than could be accounted for by the toxogenic disintegration of albumin. Dr. Staehelin came to the conclusion that in fever an increased metabolism of albumin was not the only process involved, as was proved by the decomposition of glycogen and the excretion of acetone.

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[1] THE LANCET, May 14th, 1904, p. 1345.

Dr. MOHR (Berlin) said that in fever the excretion of carbon in the urine was not increased relatively to the excretion of nitrogen, a fact which showed that there was no considerable alteration of the metabolism.

Diet in Cholelithiasis.

Dr. CLEMM (Darmstadt) said that a sufficient flow of bile was the best means of counteracting inflammations of the bile passages. This result was most easily obtained by the use of a mixed diet containing plenty of lean meat and also of fatty substances (Fett- und Fleischnahrung); the cholagogic action of lean meat was powerful but of short duration, whilst that of fatty substances was more prolonged. The fat of milk in the form either of fresh or sour cream or of butter, the fat of the yelk of egg, salad oil, and raw smoked bacon were the best. The fat which was separated from meat on boiling or roasting was less emulsifiable than it otherwise would be.

Speech Defects in Neurasthenic Persons.

Dr. GUTZMANN (Berlin) spoke on impairment of coördination as affecting the organs of speech and especially on stuttering. Up to the present time stuttering had not been regarded as an effect of neurasthenia, but Dr. Gutzmann had found that a good many stutterers in the course of time developed unquestionable neurasthenic symptoms. On the other hand, neurasthenic patients might become stutterers. Treatment must be directed both to the patient's general state and also to the local conditions.

The Motor Function of the Vagus Nerve.

Professor STARCK (Heidelberg) gave a report of experiments made by him on the function of the vagus. He tried to produce dilatation of the œsophagus in dogs by resection of the vagus within the thoracic cavity above and below the hilum of the lung and above the cardia. Resection of the vagus did not produce contraction of the cardia; dilatation of the œsophagus might, however, be rendered possible by paresis of the muscles of the œsophagus. Atrophy of the vagus could only be accepted as a cause of dilatation of the œsophagus in the event of no hypertrophy of the muscles being found post mortem, as paralysed muscle could not become hypertrophied. Resection of the vagus below the hilum did not cause dilatation, because the motor fibres entered at a point higher up the œsophagus.

"Photodynamic" Action of Some Fluorescent Substances.

Professor VON TAPPEINER (Munich) said that certain fluorescent substances which in darkness were scarcely toxic acquired in sunlight or diffuse daylight the power of destroying infusoria and cells and of neutralising toxins and enzymes. Even weak solutions of the substances in question exhibited this photodynamic action. He had examined eosin, chinolin-red, harmalin, acridin, and fluorescin, and found that their photodynamic action was in inverse ratio to the degree of fluorescence. By the action of the above substances ricin, for instance, lost not only its general toxic quality but also its power to agglutinate erythrocytes, diphtheria toxin was rendered absolutely inert, and tetanus toxin was considerably weakened. By experiments on animals inoculated with diphtheria toxin it was found that the fluorescent compounds had also a certain therapeutic effect. Injections of eosin had a beneficial effect in rodent ulcer, lupus, and chancre. Although the photodynamic action increased as the fluorescence diminished, it nevertheless came to an end completely when the fluorescence disappeared.

Dr. SEIFERT (Würzburg) confirmed the above statements as to the therapeutic results obtained by eosin in lupus and mycosis.

The Action of Digitalis.

Dr. BRANDENBURG (Berlin) said that digitalis rendered the heart muscle more resistant to external irritants, such as the electric current. On the other hand, it imparted the power of motility to portions of the heart where movements could not else occur. This effect took place even when nervous influence was excluded.

The Virulence of Pneumococci.

Dr. STUERTZ (Berlin) said that he had found by numerous researches that the virulence of pneumococci present in pneumonia was proportionate to the severity of the disease, and he therefore concluded that the prognosis might be arrived at by bacteriological examination of the sputum. The virulence decreased only 24 hours after the crisis.

Diabetic Coma.

Professor KRAUSE (Breslau) said that he had found in three cases of diabetic coma a marked decrease of tension on palpation of the eyes. A comparable decrease of tension was not observed in persons kept without water, or in the dying, or even in the dead. An anatomical explanation of the decrease of tension was not forthcoming and Professor Krause tried to produce this symptom artificially by the injection of excreted products which were characteristic for diabetic coma, such as acetone and beta-oxybutyric acid. The symptom was not present in phloridzin diabetes and pancreatic diabetes. It was also absent in other forms of coma such as that of Addison's disease. The symptom appeared only a short time previously to death.

Polycythæmia.

Dr. GRESBOECK (Munich) described an ailment which was characterised by marked polycythæmia. In some cases the blood counts showed that there were from 6,000,000 to 11,000,000 red corpuscles per cubic millimetre. The amount of hæmoglobin was from 140 to 150 per cent. and was equal in venous and arterial blood. The blood pressure was found to be abnormally high. The most striking external symptom was the intense red colour of the skin on the face, the extremities, the mucous membranes, and the retina. The causes of the disease were unknown. The patients observed by Dr. Gresboeck were not engaged in exceptionally laborious or exhausting occupations.

Antistreptococcic Treatment.

Dr. MENZER (Halle) reported a series of cases of rheumatic polyarthritis which were cured by his antistreptococcic serum. According to him rheumatic endocarditis and chorea were also amenable to his method.

Dr. ARONSON (Berlin) said that the fever observed after injections of Dr. Menzer's serum was not of antitoxic but of toxic origin. On the injection of toxin-free serum the temperature ought to become normal at once.

Professor WOLFF (Berlin) said that the fever following Dr. Menzer's injections was the consequence of endotoxins precipitated by the bactericidal serum.

Dr. MICHAELIS (Berlin) said that injections of the same serum could not cure polyarthritis and mixed infections by tubercle bacilli and streptococci. The streptococcus of rheumatic polyarthritis and the streptococcus present in tuberculous cavities of the lungs were two quite different species which were each to be combated by a specific serum.

Dr. MENZER replied that by injections of serum of other streptococci a raising of the temperature was produced. His therapeutic results had proved that his theory was right.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Tibet Mission and the Hardships of the March.—The Plague Death-roll.—A Successful Septic Tank and Sewage Farm.—Caste Prejudices and Sanitary Improvements.

THE ordinary accounts of the advance of the Tibet mission only briefly refer to some of the hardships of this wintry march. It is not generally recognised that the marching and camping are being done at altitudes unknown and impossible in Europe and that while the sufferings from the cold are severe those from the rarity of the air are intense. A correspondent writes: "The lungs seem unable to do their work. One gasps and pants after the slightest exertion as if about to suffocate. Whilst still this rarefied air can be tolerated, but under exertion air-hunger becomes distressing. The transport animals feel it and the business of bringing them along is painful." The mission camped at Dantu opposite a frozen waterfall 200 feet high. As the march was above the wood line fuel was doled out very sparingly—in fact, only sufficient to cook the daily ration.

None could be spared to light fires for the sake of warmth. Further on Pharo plain an altitude of 14,000 feet was attained. During this part of the march it is stated that at every few yards men sat down, bent double, grasping their heads in their hands. Their faces were purple and working. Still further on came the Tung pass which is higher than Mont Blanc and the air-hunger became still more extreme. Many followers in advancing lay down and would have died from the cold but the column moved them on. Here was another camping ground but again without fuel and with 23° of frost. There are few who can realise the difficulties of this march—in many ways they are unparalleled.

There were 44,783 deaths from plague in India during the week ending April 30th, an increase of nearly 6000 on the preceding week. Of this total no less than 33,953 occurred in the Punjab, an increase of over 9000. Kashmir is the only other place which shows an increase, the deaths having risen from 578 to 627. Improved returns are published from the Bombay districts with 3027 deaths, as against 3723; from the United Provinces with 2965 deaths, as against 4279; from Bengal with 1062 deaths, as against 1439; from Rajputana with 865 deaths, as against 1072; from Central India with 512 deaths, as against 732; from the Central Provinces with 214 deaths, as against 498; from Bombay city with 520 deaths, as against 563; from Calcutta with 270 deaths, as against 440; and from Karachi with 219 deaths, as against 249. Later returns from Bombay city and from Calcutta show still further declines; the outbreaks in the two cities are rapidly subsiding.

A recent report shows a most successful working of the Matunga sewage farm (septic tank system) near Bombay city. There is here a leper asylum and the septic tank installation deals with the sewage. The whole of the effluent is used on a farm of about five and a half acres and the produce from the farm has amounted to 36 tons per acre. Plantains, guinea grass, lucerne grass, and vegetables are grown but the chief out-turn is of karbi and jowar. The fodder crops are sold to the health department for the feeding of bullocks. The profits of the farm wholly maintain the 50 lepers located therein. The gas given off from the septic tanks works an engine which actuates a small centrifugal pump and daily lifts as much of the fluid to the filters as is required. When the effluent, as in this case, is chiefly applied to the land one purification only of the sewage appears necessary, and nearly the whole of the effluent used on the farm comes directly from the septic tank. Otherwise the filter beds are used and they continue to give the same satisfactory results as in 1902.

Caste prejudices in India operate seriously at times against sanitary improvements. Here is an example. The town of Trevandrum wants an improved supply of water and there is a proposal to dam the river 12 miles away and to introduce the pipe system, but caste prejudices oppose a scheme for bringing drinking water along by means of a pipe, as it is said that water touched by a low-caste Hindu would not even be accepted by one of high caste and that the wells (situated in every house compound) would be preferred. To pander with this prejudice it is now advocated to combine irrigation with the supply of drinking water and to have open channels, and the excuse is given that a large area of land might be made productive and that if necessary pipes could subsequently be connected. The danger to the purity of the water by conveyance in open channels, not to mention the additional breeding grounds for mosquitoes, seems to be forgotten.

May 12th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Lying-in Charity.

THE annual meeting of the friends and supporters of this charity has recently taken place and from the sixty-first report then read I learn that 914 cases were attended during the year 1903 and the percentage in which medical officers were called in was 5 2. One mother had died and there had been eight deaths of children in the first ten days and one death between ten and 30 days. As representing the only maternity charity in the Midlands the committee had considered it its duty to undertake the training of midwives in accordance with the Midwives Act of 1902. The scheme was now in working order and the charity was prepared to take pupils.

Training of the Feeble-minded.

The Midland Counties Asylum at Knowle is an institution for the care and training of the feeble minded and its thirty-seventh annual meeting has recently been held at the council house, Birmingham, under the presidency of the Lord Mayor. The report then read stated that considerable progress had been made with the work of the institution during the year. The number of admissions was greater than in any previous year and coupled with the increasing number of applicants for treatment was a striking testimony to the favourable estimation of the work and the urgent necessity for its further extension. The scholastic training of the patients received primary consideration and many of the inmates had made considerable progress. The industrial training in carpentry, shoemaking, tailoring, &c., had also received due attention and many of the boys were now rendering useful assistance in those branches of industry; several of the inmates had become excellent wool rug makers. There was a deficit on the year's working of £368 5*s*. 10*d*., which was due chiefly to the appointment of industrial trainers in tailoring, shoemaking, and carpentry, and additional nurses and attendants rendered necessary by the classification of the inmates. Those were entirely new items of expenditure and it was only too apparent that if the work of the charity was to be carried out on up-to-date lines the income must be considerably augmented. The Lord Mayor, in moving the adoption of the report, said there were few questions of greater national importance at the present time than the subject of the treatment and future of the feeble-minded. The question had been allowed to drift for a number of years with the result that their numbers had been largely increased and many of them were to be found in workhouses and prisons. Being crippled in mind they could not withstand the numerous temptations which beset them and therefore they became a moral danger to the State. He was glad to know that the matter was occupying the public mind more and more and it was time the nation became alive to the present condition of many ot its members. The Poor-law guardians and education committee, thanks principally to Mrs Hume Pinsent and her fellow-workers, were taking steps to make better provision for the training and care of the feeble-minded in Birmingham and he hoped that homes would be established all over the kingdom where they could be isolated and properly cared for. For 36 years there had been such a home at Knowle where the feeble-minded children of the Midland counties had been educated, cared for, and trained. He knew the claims on the citizens of Birmingham were numerous, but because the asylum was not within the city was no reason why it should not be included in the local list for support. He trusted the citizens, therefore, would show their appreciation of the work which had been carried on in a very practical manner. The number of Birmingham patients admitted last year was 28, or about one-third of the total number of admissions, and the subscriptions from the city amounted to only £97. Seeing that the average cost of each patient was £35 Birmingham's contribution should have been £970 and consequently it seemed that subscribers outside Birmingham had been helping to keep the Birmingham patients in the institution. Archdeacon Diggle, in proposing a motion sympathising with the objects of the asylum, said that in removing one of the feeble-minded children into the asylum it was not simply that the child itself was benefited but that the family to which the child belonged was released from a very great incubus. He was convinced that if more people would visit the asylum and similar institutions they would not have to complain of the lack of financial support. He was dead against too much State interference but he thought the local education authority in Birmingham was not doing anything more than its duty when it undertook the training of crippled and feebled-minded children. He wished they could do without State help or subsidy but he would rather have that assistance than that the work should not be done at all. Dr. Thomas Savage, in seconding the motion, remarked that it was estimated that one in every 400 of the population was feeble-minded. Those people could not go into lunatic asylums because they were not lunatics and they could not always go into the workhouses. Therefore, such an institution as the one at Knowle was doing an incalculable amount of good on behalf of the community. Mrs. Hume Pinsent, chairman of the

Local Feeble-Minded School Committee, in supporting the motion, said it would be hard to over-value the good done for the mentally defective in the past by the devoted pioneer work of the Knowle and kindred institutions. She appreciated to the fullest extent all that had been done but thought the time had come when such charitable institutions should look to the State for further aid. The way to help the mentally defective had been pointed out by private charity but she was afraid the work was too vast for private charity to cope with successfully. For instance, there were 106 cases under treatment at Knowle last year but in Birmingham they knew of 100 feeble-minded adults and it was estimated that there were 245 feeble-minded children and at least 50 idiots and imbeciles. Thus in Birmingham alone there were 395 individuals needing permanent asylum accommodation. Private charity could not face such a vast number as that. She wished the Knowle authorities could see their way to relieve the Birmingham committee of some of the 50 idiots and if they could not they might join the Birmingham committee in an earnest endeavour to obtain public funds for the provision of some of them other than was supplied by the Poor-law.

X-ray Treatment at the Skin Hospital.

At the twenty-third annual meeting of the friends and supporters of the Skin Hospital recently held the medical report read by Mr. E. Gilbert Smith stated that in the out-patient department the average daily attendance had been 123, as against 115 in the previous year. 150 in-patients passed through the wards and many of the cases were of a severe type, demanding assiduous attention on the part of the nursing staff. Only four deaths occurred and of these two were due to convulsions in children. 82 operations had been performed, all of which resulted in cure or material benefit to the patient. The committee was about to commence treatment by the means of radium. Since the installation of the x ray and electric light apparatus in 1901 230 cases of lupus, cancer, and other chronic diseases of the skin had received treatment in the electrical department. An average number of 24 cases had attended daily from June, 1901, to January, 1904. The sanguine hopes that were expressed when that treatment was first applied for lupus, &c., had not been entirely realised, but results had been obtained which constituted a great advance in the treatment of certain diseases of the skin. The great majority of the cases had shown decided improvement and that had encouraged the patients to continue the treatment. A considerable number had not continued treatment for a long enough period for the rays to have any effect and of those who had been benefited by the treatment a large number had been very irregular in their attendance. The disease had disappeared in ten cases of lupus and in seven of rodent cancer. 20 cases were almost cured and 46 were very much improved. A few patients over 70 years of age and one of 83 had been completely cured of rodent cancer.

May 31st.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Royal Infirmary Site.

A SPECIAL subcommittee of
met on May 19th to take
view of deciding how best to
area left within the infirmary railings now these have been set back for the widening of the surrounding streets, including, of course, the space that will be cleared when the present infirmary buildings are removed. This subcommittee was a very large one and on the motion of the Lord Mayor it was resolved to form a smaller one to consult with the art gallery committee and the free libraries committee in order to prepare if possible a scheme for the building of a free reference library and an art gallery on the site.

The Manchester and Salford Ambulance System

A discussion is going on in Manchester on the subject of the ambulance system both here and in Salford, with the view of its improvement. A short time since (March 23rd) a letter appeared in the local papers from Mr. W. Thorburn, dealing with the question as it would be affected by the removal of the Royal Infirmary from the centre to a suburb, and now a letter, dated May 19th, signed by the chairman and honorary secretaries of the Medical Guild, has been published in which the matter is considered in its wider aspects as affecting both Manchester and Salford generally. Accidents and sudden illness, as it says, may happen to all without distinction of class, and while many of the cases would be most suitably treated at a hospital some would prefer treatment at their own homes. For all these classes the guild considers that a "municipal ambulance and first-aid system" ought to be available. Both Mr. Thorburn and the guild say that the first-aid rendered before removal should be "far more efficient than at present" and that "the somewhat hysterical haste in transit so common nowadays often does more harm than good." The first aid should be as efficient as possible before removal and the guild agrees with the idea that it should be carried out by a properly qualified medical man, also that it would not be necessary or advisable to appoint special emergency medical officers or to equip dressing stations in various districts as lending to delay and expense. The proposition is that the police be "empowered and directed" to summon the nearest medical practitioner who already has a surgery fitted up for dealing with emergencies. In theory the police have now this power "but in practice are exceedingly chary of summoning medical aid lest they should be accused of incurring expense without reason." If this system were carried out the patient would often be properly attended to before the arrival of the ambulance conveyance. The guild suggests the formation of a central board "consisting of representatives of the corporations of Manchester and Salford and of the various hospitals and other public bodies concerned with the coöperation of the medical practitioners of the various districts to concert a thorough scheme of first-aid and ambulance removal in medical and surgical emergencies." Any such scheme would have to be well thought out, but it would tend to the saving of life and to the relief of suffering if the present well-meant but often irregular and happy-go-lucky methods were better organised.

Salford Royal Hospital.

At the last monthly meeting of the board of management of the Salford Royal Hospital a letter was read from the distributers of the Booth Charities stating that they had decided to make a grant of £1000 a year to the hospital. A hearty vote of thanks was accorded to the distributers for their very welcome announcement. These charities come down from the seventeenth century. Humphrey Booth the elder founded a charity in 1630 for "the succour or relief of such poor, aged, needy, or impotent people as for the time being should inhabit or dwell within the town of Salford." The income is derived from land in Manchester and from Government stock and exceeds £16,000 per annum. It is disposed of to about 1050 recipients in sums of 5*s.* or 10*s.* weekly. In 1695 another Humphrey Booth, the grandson of the former one, devised certain premises the income from which was to be employed in the repairs of Sacred Trinity Chapel in Salford and any overplus was to be distributed among the poor of Salford at Christmas, as the money left by his grandfather was. The yearly income is about £1170 and is devoted to repairing Trinity Church and to the relief of the poor. These charities are administered by trustees and the distributers are the Mayor of Salford, the Alderman of Crescent Ward, and the churchwarden of Salford.

Lancashire and Yorkshire Railway Ambulance Work

A gathering of the Lancashire and Yorkshire Railway Company's officials and employés was held at the company's offices on May 18th, when certificates and awards for proficiency in ambulance work were presented by the general manager, Mr. Aspinall, to those who had qualified. The occasion was rendered all the more interesting by the presentation to Mr. F. H. Westmacott who has instructed the ambulance classes, of an electric lamp as a token of appreciation of the work he had done in
kindly feelings towards him on
Mr. Aspinall stated that now 160
96 vouchers, and 46 had gained
G. H. Darwin, who has for many
years identified himself with the ambulance movement, was

Woodhead by June 27th. It is proposed to establish new demonstratorships in surgery and in experimental psychology.—Professor C. S. Sherrington of the University of Liverpool has been approved for the D.Sc. degree.—At the Congregation on May 26th the following degrees were conferred:—

Bachelor of Medicine.—F. D. Nicholson, King's; H. S. D. Browne, Trinity; W. E. Hume, Pembroke; E. Higson, Magdalene; and W. B. Crowfoot and H. J. Shone, Emmanuel.

Bachelor of Surgery.—H. Falk, King's; R. G. Elwell, Trinity; E. Ward, Clare; W. E. Hume, Pembroke; and K. H. A. Kellie, Gonville and Caius.

The Grace for the establishment of a Board of Anthropological Studies was carried at the same Congregation by 102 to 8.—At the Special Congregation for conferring honorary degrees held at Cambridge on May 28th, two of the six honorary degrees in Science were conferred on two distinguished anatomists, Emeritus Professor Retzius of Stockholm and Professor Waldeyer of Berlin. The Public Orator, Dr. J. E. Sandys, in presenting them for the degrees, delivered two speeches distinguished by the happy turns of speech and elegant Latinity so characteristic of him.

CONJOINT EXAMINATIONS IN IRELAND BY THE ROYAL COLLEGE OF PHYSICIANS AND THE ROYAL COLLEGE OF SURGEONS.—At a special examination for the diploma in Public Health held in February the following were successful:—

M. A. Curry, L.R.C.P. & S.Irel., and Edward Carnell, L.R.C.P. Irel.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Georg Levinsohn and Dr. Joh. Herzog have been recognised as *privat-docenten* of Ophthalmology and Dr. Adolf Bickel as *privat docent* of Pathology.—*Breslau:* Dr. H. Reichenbach of Göttingen has been recognised as *privat-docent* of Hygiene.—*Copenhagen:* Professor Hirschsprung is resigning his post as lecturer on Children's Diseases.—*Freiburg:* Dr. Hegar, the well known gynæcologist, is about to retire from his professorship and has been appointed Privy Councillor with the title "Excellenz."—*Gratz:* Dr. Paul Mathes has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Marburg:* Dr. W. Krauss has been recognised as *privat-docent* of Ophthalmology.—*Naples:* Dr. C. Cafiero has been recognised as *privat-docent* of Internal Pathology, Dr. Gaetano Finizio as *privat-docent* of Children's Diseases, and Dr. Vito Capriati as *privat docent* of Electro-therapeutics.—*Strasburg:* Dr. Leopold Rosenthalen, First Assistant in the Pharmaceutical Institute, has been recognised as *privat-docent*.—*Vienna:* Dr. Leopold Freund, Dr. Robert Kienbock, and Dr. Guido Holzknacht have been recognised as *privat docenten* in the use of the Roentgen Rays. Dr. Paul Moser has been recognised as *privat-docent* of Children's Diseases.

CENTRAL MIDWIVES BOARD.—At a meeting of this Board, held at the Board Room, Suffolk-street, S.W., on May 26th, the following business amongst other was transacted. The further consideration was resumed of letters from the Royal Academy of Medicine in Ireland, the Rotunda Hospital, Dublin, the Coombe Hospital, Dublin, and the Belfast Maternity Hospital asking for a modification of the rules of the Board so as to facilitate the admission of Irish trained pupil midwives to the examinations of the Board. After discussion it was resolved that the Privy Council should be asked to sanction the appending of the following note to Rule C.I. (2):

> *Note.*—A certificate to the effect that the candidate has nursed twenty lying-in women during the *eight* days following labour will be accepted in place of the above in cases (1) where the course of special training in a hospital has extended over a period of six months, or (2) where a course of three months' special training in a hospital has been preceded by a full course of training in general nursing.

It was also resolved that the Privy Council should be asked to sanction an alternative form of certificate under Form IV. in the Schedule, to meet the modification contemplated by the above note. It was further resolved that reporters of the recognised medical and nursing journals heaould be invited to attend the meetings of the Board. May`. following figures show the separate numbers of the Compas qualifications at present appearing on the roll: ground-. College of Physicians of Ireland, 1; Obstetrical to a railw of London, 1434; Rotunda Hospital, 64; Coombe so that th 28; Queen Charlotte's Hospital, 99; Liverpool as they will Hospital, 57; British Lying-in Hospital, 4; aternity Hospital, 49; St. Mary's Hospital, Manchester, 85; Manchester Maternity Hospital, 1; City of London Lying-in Hospital, 10; Royal Maternity Hospital, Edinburgh, 11; Salvation Army Maternity Hospital, 5; National Maternity Hospital, Dublin, 2; and Women in *bonâ fide* practice July, 1901, 3480. Total enrolled, 5330.

THE NOTIFICATION OF MEASLES.—The Wigan sanitary committee has adopted for a further period of three years the following recommendation of the medical officer of health as to the voluntary notification of first cases of measles in a household: "Notification of the first case of measles occurring in any house shall be made to the sanitary authority on the same terms as compulsory notification of other infectious diseases."

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—The following have been elected office-bearers of this society for the session 1904–05: Honorary President, Dr. C. J. Cullingworth, London; President, Dr. J. K. Kelly; Vice Presidents, Dr. A. Richmond and Dr. John Lindsay; treasurer, Dr. G. N. Turner; secretary, Dr. G. Balfour Marshall; editor of Transactions, Dr. A. N. McLellan; reporting secretary, Dr. A. Louise McIlroy; pathologist, Dr. John H. Teacher; members of council, Dr. J. Nigel Stark (past president), Dr. Samuel Alexander, Dr. D. Watson, Dr. R. C. Adamson, Mr. Campbell Syme, Dr. W. L. Reid, and Dr. W. Ritchie.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Ludwig Wilhelm Liersch of Kottbus, author of "The Last Illness and Death of Frederick the Great," "The Left Hand," and various ophthalmological papers. He studied medicine in the early "fifties" in Paris, London, and Edinburgh, after having qualified in Germany.—Dr. E. Demange, professor of forensic medicine in Nancy.—Dr. Gilles de la Tourette, *agrégé* of the Paris Medical Faculty.—Dr. Carlo De Vincentiis, professor of ophthalmology in the University of Naples.—Dr. Georg Karamitsas, professor of medicine in the University of Athens. He was born in 1834 in the island of Lesbos and studied at Athens and afterwards at Würzburg, where he took his degree. He then returned to Athens and taught pathological anatomy in the university, subsequently becoming professor of medicine. He founded the medical journal *Asklepios* and edited the Greek edition of Niemeyer's "Special Pathology and Therapeutics" and several other translated works.

UNIVERSITY OF ABERDEEN.—A meeting of the University of Aberdeen Anatomical and Anthropological Society was held on May 28th at Marischal College, Professor R. W. Reid being in the chair. Dr. G. Stoddart read a paper entitled "Statistics obtained from Observations of the Eyes of 400 Students." The observations had been made in the anthropometrical laboratory at Marischal College for the most part by Dr. C. H. Usher, and with his assistance Dr. Stoddart had compiled the statistical results, a compilation which is unique in the history of British university anthropometry. Dr. Stoddart reviewed the subject under several heads. As regards acuteness of vision the statistics obtained compared favourably with those obtained by other observers. The proportion of Aberdeen students with short sight was shown to be much smaller than that found by similar observations in German and American universities—namely, 18·7 per cent., as compared with 28 per cent. in some American universities and 59 per cent. at the University of Breslau. Another interesting point brought out by the observations was that short sight was much more frequently found in students coming from towns than in those from country districts. The prevalent idea that in short-sighted eyes the pupil was usually larger than in eyes with normal vision was contradicted by these observations which showed a larger average pupil in long sight than in short sight. With regard to the colour of the eye, it was shown that dark eyes predominated in persons having dark hair and skin. In the group of those with red hair a larger proportion of the eyes were of a grey colour than in the other groups. Acuteness of vision was found to depend little, if at all, on the size of the pupil or the colour of the eye. Light-coloured eyes were found to have a slightly larger pupil than dark or grey-coloured eyes. 3 per cent. of the students were found to be colour-blind. After a short discussion on the above subject a paper was read by

Mr. M'Kerrow on the Inhabitants of Uganda, illustrated by ten skulls of Wa Soga people presented to the anatomical museum by Dr. Ian Rose, late medical officer, Uganda Railway.

CENTENARIANS.—Two centenarians in North Wiltshire have just been celebrating their birthdays. Mrs. E. Winter of Cricklade has attained her 104th anniversary and Mrs. M. Vines of Bradenstoke has attained her 102nd.

REMUNERATION FOR EXTRA WORK.—At the meeting of the Bristol board of guardians held on May 20th a gratuity of £10 was awarded to Dr. C. Morley Phillips, medical officer of the tenth district of the Bristol union, for extra services rendered by him in connexion with the outbreak of diphtheria at the Grove Home for Girls, Brislington.

A UNIVERSITY FOR THE DON PROVINCES.—A movement to found a university in Novotcherkask, says the *Pharmaceutical Gazette*, to meet the educational wants of South-East Russia and the Caucasus, is warmly supported by the local authorities and the first day's subscriptions towards the realisation of the project reached the sum of 30 000 roubles (£3000).

GUY'S HOSPITAL LADIES' ASSOCIATION.—The ninth annual general meeting of this association was held at the hospital on May 28th. The President of the Association, Princess Christian, was present at the meeting and was received by Mrs. Benyon and Mrs. Cosmo Bonsor. Before the meeting several ladies, as secretaries of local branches, were presented to Her Royal Highness. The minutes of the last general meeting having been read and signed by Her Royal Highness as correct, Mrs. Pye-Smith, the honorary treasurer, presented the accounts which were approved of. The annual report, which was read by Mrs. May H. Shaw, the honorary secretary, contained a recommendation from the committee that £150 should be voted from the funds to support three beds in the maternity ward. It was announced that two new branches had been instituted during the year. The reports of the 14 local branches were read and proved that all were in a highly satisfactory state. A vote of thanks to Her Royal Highness for presiding was moved by Mrs. Benyon, seconded by the Countess of Bective, and carried with acclamation, after which Her Royal Highness inspected the needlework contributed during the year and was entertained at tea.

CRYSTAL PALACE JUBILEE.—Great preparations are being made for the forthcoming celebration of the Crystal Palace jubilee. On June 10th, 1854, the Crystal Palace after being transferred from Hyde Park was opened in state by Her Majesty Queen Victoria, accompanied by the Prince Consort and His Majesty King Edward VII. (then Prince of Wales) and it has been decided to celebrate the jubilee of this event by a grand concert on Saturday, June 11th next. The undertaking has been honoured by the patronage of their Majesties the King and Queen and it is intended that the festival shall be in keeping with those many gigantic musical functions associated with the name of the Crystal Palace. Sir August Manns on the forthcoming occasion will occupy his old position as director of the choir and orchestra, which will number over 3000 performers, and the artistes will be Madame Albani, Miss Agnes Nicholls, Miss Muriel Foster, Mr. Ben Davies, and Mr. Santley. Mr. Walter W. Hedgcock will be the organist. Messrs. C. T. Brock will give a great display of fireworks.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—The annual general meeting of this society was held on May 18th at 11, Chandos-street, W., Mr. Christopher Heath, the President, being in the chair. From the report read by the secretary it appeared that 12 new members had been elected in 1903, four had died, and three resigned, leaving 297 members at the end of the year. Two widows were elected and three had died; 53 were in receipt of grants on Dec. 31st, 1903. Six orphans had been granted assistance and one had become ineligible, leaving 15 receiving grants. A sum of £3308 10*s.* had been distributed during 1903. The expenses of the year had been £244 19*s.* 9*d.* The receipts available for payments had been £3302 1*s.* 10*d.*, a deficit of £251 17*s.* 11*d.* on receipts and payments owing to change of investments and half a year's interest only paid on the new stock. A small legacy of £25 had been received. A vote of thanks to the editors of the medical journals was passed unanimously. The following gentlemen were elected to fill the vacancies in the court of directors: Mr. A. W. Green, Mr. E. G. C. Snell, Mr. E. H. May, Dr. C. Godson, Mr. W. J. N. Bell, Dr. W. C. James, and Dr. Samuel West. A vote of thanks to the chairman closed the proceedings.

TORBAY HOSPITAL.—The sum of £1215 has been already received by the committee of the Torbay Hospital towards the £2000 required for the proposed children's ward in that institution, and an anonymous donor has promised £100 provided that the whole amount is forthcoming by the end of June.

DONATIONS AND BEQUESTS.—Mrs. Isabella Burn-Blyth, of Woolhampton, Berks, by her will bequeathed £100 to the Bishop of Mauritius for the benefit of the Medical Mission at Mauritius, £100 to the Reading Hospital, £50 to the Newbury Dispensary, and a like sum to the Medical Mission at Woolhampton.—Under the will of Miss Susan Sympson, of Minster-yard, Lincoln, subject to some specific bequests, £100 have been bequeathed to the Lincoln County Hospital, £100 to the Lincoln General Dispensary, £100 to Epsom College, £100 to the Midland Institution for the Blind, £100 to the Mablethorpe Convalescent Home, and £100 to the Alexandra Hospital at Woodhall Spa.—The Drapers' Company has voted a grant of £500 towards the reconstruction of the isolation accommodation and the erection of special wards for whooping-cough patients now in progress at the East London Hospital for Children, Shadwell, E., conditionally that the total amount required—namely, £10,000—is subscribed within a reasonable time.—The Coal and Corn and Finance Committee has resolved to recommend the Court of Common Council of the City of London to contribute the sum of £2000 as a donation towards the fund for the rebuilding of St. Bartholomew's Hospital.—The Great Western Railway Company has sent a donation of £250 towards the same object.

ASYLUM WORKERS' ASSOCIATION.—The annual report for 1903 shows that since the previous report appeared there has been a diminution in the number of ordinary members but an increase in subscriptions. Fluctuations of this sort must be expected to occur in such an association until better enticements are offered to induce permanence of service by asylum staffs. Provisions for securing adequate pensions are much desired and the matter will be urged by the association upon Parliamentary candidates. To encourage long and meritorious nursing service in asylums two gold and two silver medals annually are awarded by the association. The subject of the proposed State registration of nurses has been consided by the executive committee and the claims of both male and female mental nurses to consideration have been successfully urged upon the promoters of each of the Bills now before the House of Commons. The financial statement for 1903 showed that the total receipts with last year's balance amounted to £472 10*s.* 7*d.* and that the payments amounted to £385 15*s.* 4*d.* 21 nurses and attendants received grants from the "Homes of Rest" Fund and benefited by the rest and change of environment so secured. By this fund members are enabled to stay at health resorts in any part of the kingdom. The Reading Union promotes the study of standard light literature amongst asylum workers. Mr. Rider Haggard has given a special prize in this connexion. The eminent services during seven years of the retiring President, Sir James Crichton-Browne, are gratefully referred to and Sir John Batty Tuke has been nominated as his successor.

Parliamentary Intelligence.

HOUSE OF COMMONS.

TUESDAY, MAY 31ST.

The Manufacture of Serum.

[illegible]

this statement he would [illegible]

prohibit the manufacture of serum in laboratories licensed under the Vivisection Acts.—Mr. Akers-Douglas said: The manufacture of serum is a procedure outside the scope of the Cruelty to Animals Act, and I am not prepared to act on the suggestion of the hon. Member. As regards the first part of the question, I presume the hon. Member refers to the pamphlet which the Lister Institute has thought it right to issue by way of a warning (in order to prevent unnecessary alarm) and in which it is stated that in some cases certain results such as rashes and joint pains may follow the therapeutic use of sera. These results, it is stated, are of a temporary nature and cause no bad after-effects. The words of the pamphlet with reference to diphtheritic paralysis do not convey to my mind the meaning attributed to them by the hon. Member.

BOOKS, ETC., RECEIVED.

Allen, George, Ruskin House, 156, Charing Cross-road, W.C.

The Double Garden. By Maurice Maeterlinck. Translated by Alexander Teixeira de Mattos. Price 5s. net.

Baillière, Tindall, and Cox, 8, Henrietta-street, Covent-garden, W.C.

On the Diminishing Birth-rate. Presidential Address delivered before the British Gynæcological Society, Feb. 11th, 1904. By John W. Taylor, M Sc., F.R.C.S. Eng., Professor of Gynæcology, Birmingham University. Price 1s.

Guide to the Analysis of Potable Spirits. By S. Archibald Vasey, F.I.C., F.C.S., Member of the Society of Public Analysts. Price 3s. 6*d*. net.

Churchill, J. and A., 7, Great Marlborough-street, W.

A Manual of Surgical Diagnosis. By James Berry, B.S., F.R.C.S., Surgeon to, and Lecturer on Surgery at, the Royal Free Hospital. Price 6*s*. net.

Uric Acid: An Epitome of the Subject. By Alexander Haig, M.A., M.D. Oxon., F.R.C.P., Physician to the Metropolitan Hospital and the Royal Hospital for Children and Women. Price 2*s*. 6*d*. net.

Fischer, Gustav, Jena.

Die physikalische Therapie im Lichte der Naturwissenschaft. Von Dr. Willy Mueller, Besitzer und Leiter der physikalisch-diatetischen Heilanstalt Dorotheenbad-Gotha. Price M.2.40.

Griffin, Charles, and Company, Limited, Exeter-street, Strand, W.C.

A Manual of Ambulance. By J. Scott Riddell, C.M., M.B., M.A., Senior Surgeon and Lecturer on Clinical Surgery, Aberdeen Royal Infirmary. Fifth edition, thoroughly revised and enlarged. Price 4*s*.

Hirschwald, August, Unter den Linden, 68, Berlin, N.W.

Lehrbuch der Speciellen Chirurgie. Fur Aerzte und Studirende. Von Dr. Franz Koenig, Ord. Professor der Chirurgie, Geh. Med.-Rath Director der Chirurgischen Universitats-Klinik und Poliklinik der Kgl. Charité in Berlin. Achte Auflage. Band I., preis M.15. Band II., preis M.17.

Hodder and Stoughton, 27, Paternoster-row, E.C.

The Pathology of the Eye. By J. Herbert Parsons, B.S., D.Sc. Lond., F.R.C.S. Eng., Assistant Ophthalmic Surgeon, University College Hospital. Vol. I., Histology. Part I. Price £2 net to subscribers. Separate volumes 15*s*. net.

J. B. Lippincott Company, 5, Henrietta-street, Covent-garden, W.C.

International Clinics. Edited by A. O. J. Kelly, A.M., M.D., Philadelphia, U.S.A., with Collaboration. Volume I. Fourteenth Series, 1904. Price not stated.

Maloine, A., 25–27, Rue de l'Ecole-de-Médecine, Paris.

Manuel d'Orthopédie Vertebrale. Par le Dr. A. Chipault, de Paris. Price not stated.

Masson et Cie, 120, Boulevard Saint-Germain, Paris.

Technique du Traitement de la Coxalgie. Par le Dr. Calcot, Chirurgien en chef de l'hôpital Rothschild, de l'hôpital Cazin-Perrochaud, de l'hôpital de l'Oise et des Départments. Price Fr. 7.

Murray, John, Albemarle-street, W.

Physical Deterioration, its Causes and the Cure. By A. Watt Smyth. Price 6*s*. net.

Office of the Superintendent of Government Printing, Calcutta.

Census of India, 1901. Vol. I., Ethnographic Appendices, being the Data upon which the Caste Chapter of the Report is based. By H. H. Risley, I.C.S., C.I.E., Officer of the French Academy, Corresponding Member of Berlin Anthropological Society. Price Rs.3, or 4*s*. 6*d*.

Pentland, Young J., Edinburgh and London.

Manual of Surgery. By Alexis Thomson, M.D., F.R.C.S. Edin., Assistant Surgeon, Edinburgh Royal Infirmary; Surgeon to the Deaconess Hospital, Edinburgh; and Alexander Miles, M.D., F.R.C.S. Edin., Assistant Surgeon, Edinburgh Royal Infirmary; Surgeon to Leith Hospital. Vol. II., Regional Surgery. Price not stated.

Rebman, Limited, 129, Shaftesbury-avenue, W.C.

Elements of General Radio-therapy for Practitioners. By Dr. Leopold Freund, Vienna. Translated by G. H. Lancashire, M.D. Brux., M.R.C.S. Eng., L.R.C.P. Lond., Assistant Physician to the Manchester and Salford Hospital for Skin Diseases. Price £1 1*s*. net.

Royal Mail Steam Packet Company, 18, Moorgate-street, E.C.

Guide for the South American Route. For the Information of Tourists and Passengers. Price not stated.

Sherratt and Hughes, 65, Long Acre, W.C., and 27, St. Ann street, Manchester.

Practical Prescribing and Dispensing. For Medical Students. By William Kirkby, Sometime Lecturer in Pharmacognosy in the Owens College, Manchester. Price 4*s*. 6*d*. net.

Smith, Elder, and Co., 15, Waterloo-place, S.W.

Aspects of Social Evolution First Series. Temperaments. By J. Lionel Taylor, M.R.C.S. Price 7*s*. 6*d*.

Stuber, A. (C. Kabitzsch), Würzburg.

Beiträge zur Klinik der Tuberkulose. Herausgegeben von Dr. Ludolph Brauer, a.o Professor an der Universität Heidelberg. Bd. II., Heft 4. Einzelpreis, Mk. 4.50.

Verhandlungen des Vereins Suddeutscher Laryngologen, 1894–1903. Herausgegeben im Auftrage des Vereins vom Schriftführer, Dr. med. Georg Avellis, Frankfurt a.M. Price M.15.

Thacker, W., and Co., 2, Creed-lane, E.C.

Medical Jurisprudence for India, with Illustrative Cases. By I. B. Lyon, C.I.E., F.C.S., F.I.C., Brigade Surgeon, I.M.S, retired. Revised and brought up to date by L. A. Waddell, M B, C.I.E., LL.D., F.L.S., Lieutenant-Colonel, Indian Medical Service. Third edition. Price Rs. 18.

Wiley, John, and Sons, New York. Chapman and Hall, Limited, London.

A Compendium of Chemistry, including General, Inorganic, and Organic Chemistry. By Dr. Carl Arnold, Professor of Chemistry in the Royal Veterinary School of Hanover. Authorised translation from the eleventh enlarged and revised German edition, by John A. Mandel, Sc.D., Professor of Chemistry, Physics, and Physiological Chemistry in the University and Bellevue Hospital Medical College. Price 15*s*. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Burke, P. H., has been appointed Certifying Surgeon under the Factory Act for the Newbirmingham District of the county of Tipperary.

Carson, Herbert W., F.R.C.S. Eng., has been appointed Surgeon to the Tottenham Hospital.

Cusack, R., has been appointed Certifying Surgeon under the Factory Act for the Cashel District of the county of Tipperary.

Ellis, L. Erasmus, M.D. Brux., M.R.C.S., L.R.C.P. Lond., L S.A., has been appointed Clinical Assistant to the National Hospital for Diseases of the Heart, Soho square, London, W.

Green, T. A., M.D., C.M. Edin., has been appointed Surgeon to the Out-patients at the Bristol Royal Hospital for Sick Children and Women.

Gregg, James, M.B., Ch.B. and B.A.O. Dub., has been appointed Port Health Officer at Stanley, Tasmania.

Hutton, John Robert, M.B., M.S. Edin., has been appointed Medical Officer at Dalby and Visiting Medical Officer of the Jubilee Sanatorium for Consumptives, Dalby, Queensland, *pro tem*.

Keogh, S., has been appointed Certifying Surgeon under the Factory Act for the Dundrum District of the county of Tipperary.

McDonald, James Edward Fancourt, M B., B.S. Melb., has been appointed Acting Assistant Health Officer for the Port of Brisbane, Queensland, *pro tem*.

Mitchell, G., has been appointed Certifying Surgeon under the Factory Act for the Templemore District of the county of Tipperary.

Mitchell, M., has been appointed Certifying Surgeon under the Factory Act for the Tullaroan District of the county of Kilkenny.

Muir, James Millar Mackay, M.B., M.S. Glasg., has been appointed Port Health Officer for Wynyard and Table Cape, Tasmania.

Roberts, Edward J., M.B. and B.S. Univ. N.Z., has been appointed Senior House Surgeon to the Hobart General Hospital, Tasmania.

Rooke, Charles, M.R.C.S. Eng., has been appointed Port Health Officer at Burnie, Tasmania.

Sprott, Gregory, M.D. Glasg., D.P.H., has been appointed a Member of the Metropolitan Drainage Board, Tasmania.

Stuart, George Gordon, L.R.C.P., L.R.C.S., L.F.P.S. Edin., has been appointed Port Health Officer at Ulverstone, Tasmania.

Wade, Charles, L.R.C.P. Lond., M.R.C.S., has been appointed Surgeon to the Boscastle (Cornwall) Friendly Society.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Birmingham City Asylum.—Junior Assistant Resident Medical Officer. Salary £150 a year, with board, lodging, and washing.

Birmingham, Parish of, Workhouse Infirmary.—Assistant Resident Medical Officer. Salary £104 per annum, with apartments, rations, &c.

BIRMINGHAM, UNIVERSITY OF.—Second Demonstratorship in Anatomy. Stipend £150 per annum.

BRIGHTON, HOVE, AND PRESTON DISPENSARY.—House Surgeon. Salary £160, with rooms, coals, gas, and attendance.

CANCER HOSPITAL, Fulham road, S.W.—Assistant Anæsthetist. Honorarium 25 guineas per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon. Salary at rate of £50 per annum, with board and residence.

CITY OF LONDON HOSPITAL
Park, E —Pathologist.

DUMFRIES AND GALLOWA
Salary £50 per annum,

GARLANDS, CARLISLE. CU
Junior Assistant Medic

Sussex Hospital, Hastings.—

Infirmary.— House Surgeon,
, with rooms, board, attendance,
and washing

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months. Honorarium of £25.

HOSPITAL FOR SICK CHILDREN, Great Ormond street, London, W.C.—Ophthalmic Surgeon.

HULL ROYAL INFIRMARY.—Fourth House Surgeon. Salary £50, with board and apartments.

KENT AND CANTERBURY HOSPITAL.—House Physician, unmarried. Salary £90 a year, with board and lodging.

LEICESTER INFIRMARY.—Assistant House Surgeon. Salary £80 per annum, with board, apartments, and washing.

LIVERPOOL DISPENSARIES.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

LIVERPOOL INFIRMARY FOR CHILDREN.—House Surgeon. Salary £100

£150.
thology and

. Salary £120

Surgeon. Salary £50, with board and residence.

SEAMEN'S HOSPITAL SOCIETY BRANCH HOSPITAL, Royal Victoria and Albert Docks, E.—House Surgeon. Salary £50 per annum, with board, residence, and washing.

STAMFORD, RUTLAND, AND GENERAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

SWANSEA GENERAL AND EYE HOSPITAL.—Resident Medical Officer

Births, Marriages, and Deaths.

BIRTHS.

ELKINS.—On May 30th, at Leavesden, Herts, the wife of Frank Ashby Elkins, M D , of a son.

MORRIS —On May 29th, at Hope-street, Cape Town, South Africa, the wife of Dr. F M. Morris, of a daughter. (By cable.)

WAKLEY —On Friday, May 27th, 1904, at 16, Hyde Park gate, S W., the wife of Thomas Wakley, jun , L R C P. Lond , of a son.

WILLIAMS —On May 26th, at Holyrood House, Beckenham, Kent, the wife of J. Lawson Williams, M D., of a son

MARRIAGE.

at Holy Trinity, Upper Tooting,
C.M. Aberd. and L S A. Lond., to
the late John Edwards and Mrs
as road, Upper Tooting.

DEATH.

IVES.—On May 31st, at Belmont road, Portswood, Southampton, Robert Ives, M R C S., L.R.C.P., L M , second son of the late Dr. Charles James Ives, and grandson of Dr. Thomas Ives, both of Chertsey, Surrey.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

COMPENSATION FOR INJURIES AND INSURANCE.

To the Editors of THE LANCET.

SIRS,—I have received letters from two medical men asking to be allowed to be present, on behalf of an insurance company, at an operation upon a hospital patient of mine for a condition following an injury. I shall be glad if you will express an opinion as to the desirability or otherwise of permitting this practice.

I am, Sirs, yours faithfully,
May 28th, 1904. W.

*** There is much to be said on both sides. On behalf of the medical men representing the insurance company it may be urged that they may, by being present at the operation, have an opportunity of estimating more exactly the actual injury done and the chance of a perfect recovery. On the other hand, it can hardly be necessary for these medical men to be present, for the surgeon under whose care the patient is is certainly in the best position for expressing an opinion as to the condition of the patient The main difficulty arises from the fact that these two medical men represent the insurance company and thus they are liable to take an *ex parte* view of the injury and perhaps even of the operation and of the mode in which it is performed. On the whole, we feel that it is hardly possible to refuse permission to be present to qualified medical men, but we think that they should be very careful not to let their zeal for the interests of the insurance company with which they are connected over ride their judgment and so permit them to criticise the treatment adopted by the surgeon in charge of the case —ED. L.

MADAME MAGDALEINE.

ON the evening of May 29th Madame Magdaleine, of whose performance in Paris our Paris correspondent gave our readers an account in THE LANCET of May 14th, made her *début* in London under the auspices of the Sunday Concert Society at the Grafton Galleries. Madame Magdaleine, who is a very pretty and graceful woman of an obviously Slav type, is claimed to give her "musical interpretations" while in a state of hypnosis. She appeared on the platform accompanied by M. Magnin, professor at the Paris School of Magnetism. He held her hands and also made the usual hypnotic passes, upon which she apparently fell into a hypnotic state. Music was then played when Madame Magdaleine illustrated the various moods reflected in the music by appropriate poses and dances. The musical instruments were a violin, a piano, a Mustel organ, and, if our ears did not deceive us, a celesta. To the peculiar quality of this last Madame Magdaleine seemed specially sensitive. We must confess to being very doubtful about the reality of the apparent hypnosis whatever may have been the case at the Paris *séance*, but be this as it may, Madame Magdaleine is a thorough artist and her performance was well worth seeing.

A WEEK'S SUICIDES IN MANCHESTER

SIX suicides were recorded in Manchester last week. So far as was ascertained two were from ill health, one was attributed to "mental depression," and in the other three the victims had been out of work for some time. Two of the men drowned themselves, a woman in ill health hanged herself; a commercial traveller cut his throat with a razor; one man, out of work, took carbolic acid, and the sixth, also out of work, drank oxalic acid. No mention is made of "drink" having anything to do with the ill health, the mental depression, or the being out of work, but it is not improbable that it was an important factor in most of the cases.

ENTERPRISE.

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1892. F.R C S. (E), 1901. *1897 to 1899.*—Assistant and house surgeon, Golden square Throat Hospital, a period of 18 months—six months assistant, 12 months house surgeon, clinical assistant to the hospital previously. House surgeon, Central London Eye Hospital, July–Nov., Gray's Inn road—four months. *1899 (Nov) to 1901 (April).*—House surgeon to the Royal Westminster Ophthalmic Hospital in King William street, Strand, W. *Dec., 1901*—Commenced practice West Hartlepool as oculist and aurist. Appointed ophthalmic surgeon to the town hospital here last year.'

STRIKING A PATIENT IN A LUNATIC ASYLUM.

AT the South-Western police-court recently a female attendant at the Middlesex County Asylum was summoned for striking a female patient. The evidence showed that the defendant was annoyed by the patient catching hold of her and in a moment of irritation slapped her in the face. Dr. L. W. Rolleston, one of the medical officers of the asylum, gave evidence that the blow was a severe one and that the patient was in indifferent health besides suffering from melancholia. In the circumstances the fine of 40s. imposed, together with the dismissal of the attendant from her post, will serve to remind those in a like position that the regulations framed for their guidance can be stringently enforced when the occasion requires it. The three hundred and twenty-second section of the Lunacy Act, 1890, enables serious cases of ill-treatment of patients to be punished upon conviction under an indictment by imprisonment or by fine. Upon summary conviction under the same section a fine not exceeding £20 or less than £2 may be imposed.

A QUESTION OF TREATMENT.

To the Editors of THE LANCET.

SIRS,—May I ask your opinion or of any of your readers on the following case. The patient, a man, fell at dusk one evening while walking over rocky ground. To break his fall he put his right hand forward which saved him, but on getting up found he could not move his wrist. On examination it was found that the lower end of the ulna was projecting backwards. No fracture could be found and there was no pain except on the anterior and posterior end of the ulna. It was replaced but slipped back, more especially on supinating the forearm. A temporary splint with a pad over the ulna was put on and when the swelling had disappeared the hand was put up in plaster-of-Paris in the semi-pronated position. After three weeks it was taken down but was practically the same. It is now nine months since the accident and the lower end of the ulna is still very moveable and is only kept in position with a strap. I recently saw a similar case in a young soldier who had been treated six months before for a Colles's fracture. I need hardly say there was no fracture but the condition I have above described. This condition was diagnosed as a dislocation of the lower end of the ulna backwards, the force having torn the ligaments, particularly the broad attachment of the triangular ligament. I would like to know of any others who have seen this accident and their ideas on the subject. What is the best treatment? I know of no description of this accident and have not seen one before. I am, Sirs, yours faithfully,

June 1st, 1904. PROMITTE VIRES.

*** It is somewhat difficult to express a decided opinion on the facts submitted to us, but we should be inclined to think that the lower end of the ulna had been dislocated backwards, the internal lateral ligament of the wrist-joint and possibly the triangular ligament also having given way. After so long a period as nine months it will be very difficult to induce the head of the ulna to retain its right position. The best treatment will be to apply such a splint as will hold the lower end of the ulna in position without interfering with the use of the hand. A leather splint would be best; it would probably need to be worn for some months.—ED. L.

99 PER CENT. ADULTERATION.

THE name of Patrick Lynch, grocer, of Burnley, should surely be recorded, as the owner of the name has attained about the greatest possible height of fraud in the adulteration of butter. On May 18th he was fined the maximum penalty—£50 and costs, or three months' imprisonment—for selling as butter a mixture of 1 per cent. butter and 99 per cent. foreign fat and for selling margarine unlabelled. There were previous convictions against him. The roguery might perhaps be equalled but scarcely the impudence.

NORWEGIAN SANATORIUMS.

To the Editors of THE LANCET.

SIRS,—I shall feel obliged if any of your readers can give me any information about Gansdal, Norway, from a medical point of view. I believe there is a sanatorium or hotel there which is about 3000 feet above sea level. Is the food good and suitable for people of weak digestion and is the climate much the same as the health resorts in Switzerland at the same altitude? Are the sanitary arrangements good?

If you can give me any information concerning the place in your next issue I shall be grateful. I am, Sirs, yours faithfully,

May 30th, 1904. PHYSICIAN.

PATENT ABSORBER BRIAR.

WE have received from Messrs. Charles Crop and Sons of Brooksby Works, Brooksby-walk, Homerton, London, E., a patent pipe which they have recently designed in a way calculated to minimise the deposition of tar oils or moisture in the stem. The bowl consists of two sections: in the larger one the tobacco is burnt and in the smaller section is a porous "magnesia carbon" plug or absorber. The smoke takes a downward direction from the bowl proper and then ascends through the absorber, finally emerging at the top through the stem. From one or two trials it appears that the object is gained, for the stem keeps dry and free from oily matters while the smoke is cool and "sweet." The design is not artistic and the appearance is clumsy. The absorber may be renewed and replaced from time to time as it gets foul.

WANTED—A HOME.

To the Editors of THE LANCET.

SIRS,—Can any of your readers inform me of a home which would receive a cottage woman, 72 years of age, bedridden, as a result of rheumatoid arthritis? The maximum sum she can pay is 10s. weekly.

I am, Sirs, yours faithfully,

May 30th, 1904. INQUIRER.

THE SUPPLY OF ICE FOR DOMESTIC USE.

MESSRS. Lehmann and Co., Limited, of Hannam's Ice Works, Gravesend, writing with reference to our remarks upon the above subject in an annotation in THE LANCET of May 28th, p. 1521, state that they supply ice in small quantities made from distilled water and for domestic use and that during the summer they have two vans out every day covering their district. They also offer ice safes for hire at very low rates. We wish this scheme success and should like to see it extended to all parts of the country.

◆

M.Sc., Liverpool.—The subject about which our correspondent inquires is dealt with in treatises of medicine, but the fullest special account which we know of is an article by Dr. Boy-Teissier in vol. vii. of the "Twentieth Century Practice of Medicine." The late Professor George Balfour's book on the "Senile Heart" may also assist our correspondent.

E. P.—We cannot undertake to answer our correspondent's question on the knowledge at our command. The amount of the fee charged must depend upon the financial status of the patient. When the fee charged for an ordinary visit is, say, 7*s.* 6*d.*, one guinea would be a fair fee for the operation named.

Inquirer.—(1) P. Chalmers Mitchell's "Outlines of Biology" (Messrs. Methuen, Essex-street, Strand, London, W.C., 6*s.*), and some of Professor Huxley's treatises. (2) Applications should be made to the secretaries of the examining bodies in question.

Diver's Palsy.—*We agree with our correspondent but do not think that* any good purpose would be served by reopening the question in our columns.

Wealdstone.—We do not think that the name of the practitioner should appear on the handbills in question.

G. W. (*Birmingham*).—The action of the druggist was questionable.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M., St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.).

WEDNESDAY (8th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9 30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (9th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (11th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY (8th).—*DERMATOLOGICAL SOCIETY OF LONDON* (11, Chandos-street, Cavendish-square, W.).—5.15 P.M. *Demonstration* of Cases of Interest.

LTY (Muni-
—8.45 P.M.
f the Colon.

One in each
. S. Mayou.

W.).—8 P.M.
. S. Bishop:

LECTURES, ADDRESSES DEMONSTRATIONS, &c

D POLYCLINIC
tle: Clinique
t of Malignant

Hammersmith

en).—3.30 P.M.

TUESDAY (7th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON (Pall
ease and its

enies street,
) 5 15 P.M.

mmersmith-

TIC (Queen-
Some Forms
of Paralysis in Children.

Brain—Lecture VI.: Basal Ganglia. Thalamus and Corpus Striatum.

romp-
High

Hos
ctions
of the Scalp.

HYSICIANS OF LONDON
d: Bright's Disease and

INIC (22, Chenies street,
. (Surgical) 5.15 P.M.

).—4 P.M. Dr. R. H.

nstration

S OF THE
Nervous

W.C).—

ent Garden)—3 30 P.M
e Urethra and Bladder

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—3 P.M. Dr. Lockyer: Pelvic Hæmatocele and Hæmatoma.

FRIDAY (10th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. StClair Thomson: Clinique (Throat.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.)—5 P.M. Dr. R. J. Reece: Typhus Fever.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C).—3 30 P.M. Dr. J. Taylor. Sclerotic Diseases of Spinal Cord.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

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Will Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them! Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

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SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 2nd, 1904.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo	Maximum Temp Shade.	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M
May 27	29 81	N.E.	...	109	69	62	63	66	Overcast
" 28	30·03	S.W.	0 19	77	64	56	56	57	Overcast
" 29	30 11	W.	...	114	71	57	57	61	Fine
" 30	30 05	S E.	0 01	109	69	55	55	56	Raining
" 31	29 88	S W.	0 07	67	62	56	61	62	Raining
June 1	29 83	S	0 48	107	65	53	54	55	Raining
" 2	30 04	N.W.	0 25	87	58	52	57	58	Cloudy

During the week marked copies of the following newspapers have been received:—*Edinburgh Evening News, Hull Daily News, Birmingham Daily Mail, Belfast News, Dublin Independent, Blackburn Telegraph, Pall Mall Gazette, Cork Constitution, Cork Herald, Bristol Mercury, Westminster Gazette, Hereford Times, Sanitary Record, Army and Navy Gazette, Gloucestershire Chronicle, Western Mail (Cardiff), South Wales Daily News, Cardiff Express, Standard,* &c.

Communications, Letters, &c., have been received from—

A.—Dr. R. Allan-Bennett, Saltburn; Ambidextral Culture Society, Lond., Secretary of; Dr. S. W. Abbott.

B.—Sir W. Broadbent, Lond.; Dr. W. Langdon Brown, Lond.; T. B. Browne, Ltd., Lond.; Mr. J. F. E. Bridger, Lond.; Birmingham City Asylum, Medical Superintendent of; Messrs. J. N. Bishop and Sons, Lond.; Messrs. Barclay, Perkins, and Co., Lond.; Dr. D. Bower, Bedford; British Druggists,, Ltd., Lond.; Mr. C. H. Berry, Crediton; Mr. Thomas Barrasford, Lond.; British Fire Prevention Committee, Lond., Assistant Secretary of; Mr. C. L. Bedford, Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; Birmingham University, Secretary of; Messrs. C. Barclay and Son, Lond.

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F.—Messrs. Ferris and Co., Bristol; "Failed M.B."

G.—Mr. J. W. Geary Grant, Llanwrtyd Wells; Miss Griffith, Ealing; Gloucestershire, County Medical Officer of Health of, Stroud; Messrs. Greenlees Bros., Lond.; Gardner-Barada Chemical Co., Chicago; Garlands Asylum, Carlisle, Clerk of; General Life Assurance Co., Lond.

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M.—Mr. S. P. Merlin, Lond.; Maternity Charity and District Nurses' Home, Plaistow; Dr. George Mackern, Buenos Aires; Mrs. Elphinstone Maitland, Lond.; Manchester Medical Agency, Secretary of; Major T. McCulloch, R.A.M.C., Lond.; Messrs. T. M. Mackenzie and Co., Lond.; Mildmay Nursing Institution, Lond., Secretary of; Maltico Food Co., Portsmouth; Mr. F. Middleton, Acton; Dr. J. A. MacDougall, Cannes; Messrs. Macminn, Richardson, and Co., Lond.; Miss F. McNeill, Torridon.

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Letters, each with enclosure, are also acknowledged from—

A.—Messrs. Allen and Hanburys, Lond.; Apollinaris Co., Lond.; A. H.; A. E. L.; A. A. B.; Ancoats Hospital, Manchester, Secretary of; A. W.

B.—Mr. J. A. Bossi, Leysin; Messrs. Baird Bros., Glasgow; Mr. C. J. Bond, Leicester; Dr. E. P. Baumann, Lond.; His Excellency the Brazilian Minister, Rome; Dr. G. M. Brunton, Acock's Green.

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Y.—Dr. J. V. Young, Beyrout.

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THE LANCET

SPECIAL SUPPLEMENT

IN SUPPORT OF THE

METROPOLITAN HOSPITAL SUNDAY FUND

Published in aid of the Appeal to be made on Sunday, June 12th, 1904.

> "Our part is to choose out the most deserving objects and the most likely to answer the ends of our charity; and when this is done all is done that lies in our power. The rest must be left to Providence."
>
> BISHOP ATTERBURY.

ONCE more the time has come round for us to make our Annual Appeal on behalf of the Metropolitan Hospital Sunday Fund, and as usual we address a wider public than that by which the pages of THE LANCET are usually read.

The suffering poor of London, and those who with difficulty carry on the hospitals of London in order to afford them relief in time of injury or disease, owe a heavy debt of gratitude to the congregations attending the various places of worship in the metropolitan district on Hospital Sunday, and to all other contributors who have made the Fund what it is. Since 1873 their gift has amounted to something over a million and a quarter sterling; an average has been established during the past few years of which those who inaugurated the Fund and those who now organise it have every reason to be proud, and in each of the last two years all previous records have been exceeded. But if the amounts raised in recent years have been satisfactory, and have on two other occasions doubled some of the modest totals which were attained soon after the inauguration of the Fund in the "seventies," the effort required in order to keep them at this high level, and, if possible, to maintain the same rate of progress, is greater, and the anxiety lest there should be a falling off presses heavily not only upon those who collect and distribute the amount obtained but upon the hospitals who receive it. It is in no spirit of selfish eagerness to acquire credit that those who organise the Fund desire that its annual total should be no lower than on previous occasions; it is because they know that every sovereign that can be obtained is needed, and that any falling off, whether small or great, must be *felt in direct loss of efficiency by the hospitals.*

We urge no new reason each year for giving: we claim no originality for our reiterated Appeal. It is the old story of the poverty of the poor, and of the suffering of the sick and injured in a huge city where poverty and suffering ever dwell side by side with wealth and luxury. In the great army of our workers there must always be some ready to fall by the way, who, when their physical health fails, can never hope to regain their place in the ranks until health is restored to them. It is on behalf of these that we urge our Appeal for the hospitals. We urge it upon all because poverty and sickness know *no distinction* of creed and fall alike upon the worthy and upon the undeserving, and we ask it of rich and poor because all can help according to their power, and because in a population of something like five millions the small gifts of the less wealthy will amount to a goodly sum if all can be stimulated to contribute. In 1904 we urge the necessity of a special effort because there appears to us to be a danger lest without it there may be some diminution owing to special circumstances to which we will refer. We urge it not because we can promise to those who give any direct manifestation of gratitude on the part of those who receive, but because they will have as their reward the consciousness of a good act performed, and of the exercise of that kindness which

> "like light speaks in the air it gilds."

We have on previous occasions called attention to the necessity that those who annually contribute to the Fund at the places of worship which they attend should not only give themselves, but should do their best that others may not forget, and we venture to reiterate this reminder. Our Appeal is not only to the generosity of the wealthy: it is for the universal contribution of all classes.

The Class succoured by Hospitals.

The institutions for the assistance of which the Metropolitan Hospital Sunday Fund is collected, and to which it is distributed after careful inquiry into the work done by them, open their doors to those only who would otherwise find medical and surgical aid beyond their reach. The great London hospitals recognise neither creed nor character as qualifications for admission to their wards. They do not exclude the vagrant or the otherwise undesirable and undeserving, nor are "previous convictions" entered in the history of their cases. Those, however, who are principally benefited by them are the working poor, suffering temporary incapacity through illness or accidental injury, and it is on their miserable behalf that we most earnestly plead. Those who visit our hospitals and inquire into the life stories of their inmates find the tramp and the loafer there, no doubt, but such as these generally have resort to the workhouse before they have reached a stage at which medical aid has become a necessity for them; the union infirmary meets their requirements, and it is there that they find their needs attended to. A large proportion of the causes which fill the wards of our hospitals do not affect them. The accidents which crush and maim, and many other matters which require skilled treatment in suitable surroundings, are the direct or indirect result of toil in factory and workshop, in the dockyard, upon the scaffolding, and in the busy turmoil of our crowded streets. Drink and other reasons which to some extent may seem avoidable are no doubt responsible for many cases which receive hospital treatment, but the bulk remain of the indicated character, and all are treated with the same care and kindness. The worker who may be able to keep his family together, with, at any rate, a roof over their heads, and a certain amount of food for their sustenance, can provide no home where they can be treated or nursed when health has failed or an accident has occurred, and to such as these there would be no alternative but death were the hospital not there to receive them. The hospitals are for the poor, without distinction, but it is by the worker in distress and by his helpless wife and children that their aid is most highly prized. The hospital comes to their aid, representing charity of the finest character in its most prepossessing form. It is the charity of those in better circumstances to their poorer brethren, but it is a free gift which is accepted in the day of necessity, without the feeling of any shame or slur attaching to it.

To whom the Appeal is directed.

The Appeal on behalf of the hospitals of London is made to all without distinction of rank or of religion, and without question as to whether the giver be wealthy or not. If he will give according to his power, if only he will not forget to contribute freely as his means may allow, the hospitals will accept his gift with gratitude. The table published herewith, which records the progress of the Metropolitan Hospital Sunday Fund, contains a special list in which are mentioned, under the heading of "Donations," many noble offerings. Contributions of £1,000 are frequent among these; a donation and a legacy of £5,000 each are to be found among them. In 1895 the late Mr. Barney Barnato and his friends raised and gave between them £10,000; in 1901 Sir F. Cook gave £4,000, and for the last five years record is made of the princely generosity of Mr. George Herring, which in 1904 is to be renewed. These are instances taken from a long list of much-appreciated gifts, and those who compare the special donations with the total of the Fund for each year will see how important a proportion they form of the whole. We would invite the wealthy to consider whether such gifts as they may contemplate devoting to charitable purposes during the coming season could be more worthily bestowed than upon the Metropolitan Hospital Sunday Fund. Could they give to any object having greater needs to meet? Could they give in any direction with greater certainty that their gift would be wisely and economically administered, and that its object would be secured by business-like methods and the exercise of scrupulous care?

We would, however, invite those who are not blessed with great worldly affluence also to contemplate and to consider the special donations, and we would point out to them that the gifts of Mr. George Herring for the past three years have amounted to one-quarter of the whole amount contributed by others to the Fund. It may be added that Mr. Herring has been and is willing to increase his gift in the same proportion so as to raise the total to £100,000, should the contributions of others amount to three-quarters of that sum. At present no near approach has been made to the fulfilment of this condition, but even though it may be at present beyond what we can reasonably contemplate, it may still be suggested that the general giver might endeavour to increase his offering, and, above all, to see that the Fund is not forgotten by his friends. The anonymous gifts of the congregations attained a record figure last year; let us hope that this year that record will be exceeded.

The Hospital Sunday Fund does not catch the eye of the passer-by through the agency of collectors at street corners; indeed, the majority of its contributors only have an opportunity to give should they attend some place of religious worship. Hence those who do not attend public worship in London may forget the Fund, and those who do may come provided, with no more than the donation which they devote to the ordinary weekly collection. We would ask those who do not have the opportunity to contribute in person nevertheless not to forget the Fund, and we would press those to whom the collection bag or plate is handed to make Hospital Sunday a special occasion.

We have referred above to public worship in London as if collections for the Metropolitan Hospital Sunday Fund were made in the metropolis only. This is not, strictly speaking, the case; but it is a matter of regret that outside the metropolitan and suburban district a small number only of places of worship hold collections for the hospitals of London, although patients are received in the wards from all parts of the country, and although such a collection affords the only opportunity of contributing which the class immediately benefited is likely to have.

STATISTICS OF HOSPITAL WORK IN LONDON DURING THE YEAR 1903.

TABLE I.—GENERAL HOSPITALS.*

N.B.—The figures referring to out-patients in these Tables represent the number of VISITS *paid by out-patients*—NOT *the* NUMBER *of out-patients.*

Name of hospital.	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
	£								
Charing-cross	1,083	1,666	870	671	199	133	121	35,923	6,047
French	347	844	78	657	118	58	61	12,923	1,278
German	618	1,883	536	1,048	432	110	131	66,096	2,767
Great Northern Central	1,121	2,081	1,725		146	144	212	70,358	6,407
Guy's	2,275	8,191	6,632		571	511	681	258,054	75,800
Hampstead General	223	387	47	283	22	20	28	7,316	501
Italian	101	669	65	525	60	25	29	40,032	—
King's College	1,568	2,650	879	1,181	201	184	212	50,003	7,734
London	5,647	12,469	10,868		1,750	673	1,279	493,346	21,879
	689	1,145	340	665	92	81	59	43,259	1,171
	30	136	24	109	3	6	3	2,664	—
	888	1,376	305	882	30	—	96	24,993	14,524
	953	1,270	364	656	166	92	158	107,633	8,178
Mildmay	314	642	151	386	116	43	37	33,831	6,978
Miller Hospital and Royal Kent Dispensary	325	268	45	130	—	19	15	79,182	7,619
North West London	477	615	143	444	17	43	29	44,465	6,456
Poplar	618	1,838	—	—	47	77	93	25,909	1,062
Queen's Jubilee	152	293	59	225	—	12	9	23,556	1,033
Royal Free	1,800	2,640	2,305		220	149	186	46,609	24,470
St. George's	1,137	4,198	3,650		1,197	296	349	92,916	20,817
SS. John and Elizabeth	276	220	90	84	20	76	30	—	—
St. Mary's	2,600	4,218	1,413	2,017	301	198	363	115,962	19,092
St. Thomas's	292	6,774	5,726		778	435	613	69,111	43,173
Seamen's Hospital Society	1,692	2,601	768	1,507	50	233	165	87,872	—
The Middlesex Hosp. and Convalesc't Home	2,416	4,918	2,906		979	261	289	114,959	—
Tottenham	300	953	548	200	—	74	131	60,634	10,234
University College	1,708	2,553	606	1,377	333	155	245	45,745	34,145
Walthamstow, &c.	92	656	19	493	—	27	34	5,000	200
West Ham	563	1,036	629	292	8	47	68	58,468	9,142
West London	1,170	2,217	1,073		—	77	167	101,033	8,477
Westminster	1,452	2,681	1,867		398	159	257	61,000	11,350
	£32,341	73,280	7,979	13,578	8,554	4,440	6,119	2,310,235	352,533
Estimated to supply omissions	—	—	15,488	23,309	—	—	—	—	15,016
Total	£32,341	73,280	23,467	36,887	8,554	4,440	6,119	2,310,235	367,549

* We reproduce the term "General Hospitals" as employed by the Council of the Metropolitan Hospital Sunday Fund.

Why a Special Effort is necessary.

There is a necessity for special exertion on behalf of the metropolitan hospitals to which we would direct attention in the present year. This arises from no exceptional feature in the health of the public likely to exhibit itself during 1904-05. It is due rather to causes which are likely to act prejudicially to the Metropolitan Hospital Sunday Fund and to the individual institutions which depend largely upon the generosity of the public for their annual incomes. The effect of the late war is being felt in high taxation, and in the East a war in which this country is happily not involved casts a shadow over the whole of the civilised world. Trade is admittedly not at its best, and many are feeling the effect of reduced incomes from invested capital and of the lessened capital value of securities. In these circumstances it is almost inevitable that charities should suffer to some extent, and it is for this reason that we would urge upon all the necessity for exertion in order that our noblest institutions may not have their efficiency curtailed. With increasing population, with bad times, and with greater need among the working-classes, the demand upon their resources will be greater, not less, than in more prosperous years. Moreover, there is no need to disguise the fact that the hospitals have enemies, although they have many friends. The "anti-vivisectionist" of all the army of "anti" faddists is, no doubt, one of the most amiable and well-meaning persons in private life. We have no desire to upbraid him unduly, or to hold him up to ridicule, even though his methods of controversy do not commend themselves to us by scrupulous fairness or by a temperate and candid acknowledgment of facts. He is, however, entitled to hold his opinions as long as they do not prejudicially affect his helpless neighbours. If on the ground that experiments u[illegible]n animals are made in the laboratories and [illegible] schools of our hospitals he prefers not to [illegible] to the Metropolitan Hospital Sund[illegible]ld scarcely even urge him to alter views which possibly afford him satisfaction; we do, however, protest against his endeavouring to persuade other persons not to give. Moreover, we do not conceal from ourselves the fact that "the anti-vivisectionist," in spite of the general good sense of the English nation, has some effect upon the subscription lists of our hospitals. Every sovereign diverted by such an agency is reason for extra exertion on the part of others in order that the

TABLE II.—SPECIAL HOSPITALS.

Name of hospital.	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
	£								
City of London for Diseases of Chest	1,105	1,259	1,176		—	120	83	63,079	—
Hospital for Consumption	1,733	1,721	1,264		—	316	141	63,508	—
Mount Vernon "	780	560			—	115	12	28,500	—
Royal Hospital for Diseases of Chest	488	788	656		45	70	62	27,313	—
Royal National Hosp. for Consumption	379	795	678	—	—	154	39	—	—
Alexandra Hospital for Hip Disease	303	169	—	61	7	95	2	2,150	—
Banstead Surgical Home	27	151	48	62	—	21	—	—	—
Barnet Home Hospital	49	44	26	—	—	12	—	—	—
Belgrave Hospital for Children	114	—	—	—	—	—	—	—	—
Cheyne for Incurable "	119	77	4	10	9	50	9	—	—
East Lond. Hosp. for "	932	1,723	546	865	375	99	322	84,228	4,074
Evelina Hosp. for Sick "	217	683	459		38	55	125	24,757	10,602
Home for Incurable "	81	35	—	—	—	25	4	—	—
Home for Sick "	141	245	—	—	111	48	7	4,475	75
Hospital for Sick "	975	2,403	824	1,055	303	159	334	117,263	—
North-East. Hosp. for "	390	989	185	590	75	110	90	61,383	5,356
Paddington-green for "	298	654	539		159	41	74	50,655	1,079
St. Mary's for "	284	588	80	410	20	26	56	59,043	12,614
St. Monica's for "	87	96	—	—	—	23	4	—	—
Victoria Hospital for "	477	593	463		180	38	50	61,298	500
Victoria Home, Margate	49	76	36	40	—	36	3	—	—
Hospital for Hip Disease	49	—	—	—	—	—	—	—	—
British Lying-in Hospital	16	435	435	—	5	23	—	5,860	—
City of London Lying-in	100	608	—	606	7	20	2	17,205	—
Clapham Maternity	22	443	—	—	—	—	—	8,300	—
East-end Mothers' Home	76	344	343		—	31	1	4,910	—
General Lying-in	32	556	—	—	28	—	3	14,527	—
Queen Charlotte's Lying-in	477	1,444	—	—	118	—	7	14,193	—
Chelsea Hospital for Women	379	774	616		180	32	13	10,607	—
Hospital for Women	130	850	238	560	88	54	17	17,103	—
Grosvenor Hosp. for Women and Children	162	232	77	146	—	18	7	15,948	—
New Hospital for Women	326	612	—	—	—	46	26	35,122	—
Royal Hosp. for Children and Women	217	193	44	127	—	12	21	46,800	—
Samaritan Free	439	528	100	357	30	39	14	18,690	—
Cancer	325	711	621		41	70	108	17,242	—
Middlesex (Cancer Wing)	325	156	—	—	—	46	85	674	—
London Fever	758	439	—	400	—	32	7	—	—
Gordon for Fistula	22	305	16	272	—	11	3	4,760	—
St. Mark's "	130	464	75	349	—	24	2	6,343	—
National for Diseases of Heart, &c.	87	183	142	6	—	24	14	17,036	—
Female Lock	227	341	—	—	2	95	1	—	—
Hospital for Epilepsy, &c.	32	11	—	—	—	11	—	11,711	—
National for the Paralysed, &c.	1,148	1,023	454	211	154	192	41	39,757	—
West-End for Nervous System	217	290	235	54	—	44	1	51,279	—
Central London Ophthalmic	184	365	357		7	12	1	30,923	250
Royal Eye	314	677	649	646	—	28	2	73,741	2,113
Royal London Ophthalmic	943	2,122	—	—	11	83	8	121,638	1,765
Royal Westminster "	184	743	720		—	18	—	35,211	—
Western "	54	269	129	118	—	7	—	31,173	—
City Orthopædic	233	—	—	—	—	—	—	—	—
National "	179	246	—	—	—	60	—	4,349	—
Royal "	81	271	160	57	18	42	—	4,549	—
Royal Sea Bathing Hospital	325	658	378	77	—	128	11	—	—
St. John's Hospital for Diseases of Skin	54	288	—	—	—	29	—	35,911	—
St. Peter's for Stone	92	550	503		—	25	28	46,061	—
Central London Throat and Ear	54	407	120	271	4	10	2	49,166	—
Hospital for Diseases of Throat	108	791	176	578	11	22	4	46,115	7
London Throat	32	732	732		—	2	2	16,419	—
Metropolitan Ear and Nose	—	287	—	—	—	—	1	7,289	—
Royal Ear	11	269	269		—	—	—	7,269	—
Dental	195	—	—	—	—	—	—	68,423	—
National Dental	43	—	—	—	—	—	—	28,579	—
	£17,807	33,581	5,915	7,928	2,026	2,901	1,849	1,612,434	38,435
Estimated to supply omissions	—	609	6,694	9,298	202	157	32	18,848	151
Total	£17,807	34,190	12,609	17,226	2,228	3,058	1,881	1,631,282	38,586

poor may not suffer in proportion to the loss inflicted.

One class of attack the givers to the Metropolitan Hospital Sunday Fund can at all events feel that they are directly helping to repel. Every now and then prominence is given in the newspapers to the fact that a case, the serious nature of which was not recognised, was refused admission to a hospital because all the available beds were full. It is possible that this may be made public in the course of an inquest at which the hospital is not represented. A coroner's jury, ignorant of the true state of the case, is allowed to make observations with reference to the management of the hospital, and possibly damages it in the eyes of the public. That in any hospital no bed is available upon a given occasion is due to the fact that the hospital has already opened its doors as wide as its straitened means will permit. Enlarge those means, increase the number of its beds, and, although it is unlikely that the supply will meet the demand, at any rate the powers of the institution for dealing with unforeseen emergency will be increased correspondingly.

TABLE III.—COTTAGE HOSPITALS AND CONVALESCENT HOMES.

Name of hospital.	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
	£								
Metropolitan Convalescent (Walton)	704	4,490	1,462	2,848	—	115	4	—	—
" (Bexhill)	379	2,461	795	1,627	—	41	1	—	—
All Saints "	433	3,446	1,243	2,043	—	103	5	—	—
Ascot Priory "	70	257	80	165	—	4	1	—	—
Barnet, Ossulston "	40	168	—	—	—	—	—	—	—
Brentwood "	13	92	—	—	—	—	—	—	—
	100	390	390		—	18	—	—	—
cent	43	277	277		—	16	—	—	—
	32	—	—	—	—	—	—	—	—
	65	504	—	—	—	—	2	—	—
	76	—	—	—	—	—	—	—	—
"	49	171	125	8	—	23	1	4,593	—
Hanwell "	22	508	—	—	—	15	—	—	—
	22	490	250	170	—	50	—	—	—
	32	365	—	—	—	—	—	—	—
	22	175	—	—	—	—	—	—	—
	70	325	100	209	—	9	—	—	—
Mrs. Kitto's Convalescent	65	345	—	—	—	—	—	—	—
Mary Wardell "	97	158	—	—	—	13	—	—	—
Morley House "	190	1,102	—	—	—	65	4	—	—
Police Seaside Home	60	636	623		—	8	—	—	—
St. Andrew's (Clewer) Convalescent	130	520	—	—	—	64	2	—	—
Do. (Folkestone) "	195	2,125	—	—	—	71	—	—	—
St. John's Home for Convalescent Children.	38	395	—	—	—	—	—	—	—
St. Joseph's Convalescent	70	633	461	142	—	57	5	—	—
St. Leonards-on-Sea "	87	810	—	—	—	—	1	—	—
St. Mary's "	22	104	—	—	—	7	1	—	—
St. Michael's "	38	269	261	—	—	—	—	—	—
[illegible]	108	—	—	—	—	—	—	—	—
	27	147	—	—	—	—	3	—	—
	76	911	14	870	—	6	12	—	779
	87	293	18	202	—	10	9	275	26
ge Hospital	87	182	38	111	7	14	8	3,236	3
"	130	399	27	206	13	15	21	—	118
"	49	116	18	74	—	7	7	162	—
"	54	133	41	73	40	8	7	14,257	338
"	57	—	—	—	—	—	—	—	—
Coldash "	19	72	25	21	—	20	—	—	—
Eltham "	65	174	12	140	2	7	9	—	7
Enfield "	76	169	20	140	—	12	7	—	21
Epsom and Ewell "	70	108	14	59	17	9	2	—	7
Hounslow "	49	—	—	—	—	—	—	—	—
Livingstone "	97	154	16	110	—	11	8	—	46
Mildmay "	33	140	13	104	4	19	5	—	—
Reigate and Redhill "	125	401	36	326	—	18	13	—	45
Sidcup "	32	144	20	102	5	7	10	211	64
Tilbury (Passmore Edwards) "	32	—	—	—	—	—	—	—	—
Willesden "	141	243	29	177	8	18	19	—	81
Wimbledon "	65	159	37	111	—	6	4	—	—
Woolwich and Plumstead "	60	81	25	30	10	10	6	—	16
Bolingbroke Hospital	249	529	8	439	—	22	43	28,553	453
Hospital for Invalid Gentlewomen	119	164	16	181	—	10	4	—	—
St. Saviour's Hospital and Nursing Home	130	138	50	78	—	15	6	—	—
National Sanatorium for Consumption	97	225	—	—	—	72	2	—	—
Invalid Asylum	49	190	62	110	10	16	2	—	—
Firs Home	22	—	—	—	—	—	—	—	—
St. Catherine's Home	27	51	27	—	—	10	5	—	—
Friedenheim Hospital for the Dying	325	150	16	—	—	33	98	—	—
Oxygen Home	38	—	—	—	—	—	—	—	—
Santa Claus Home	60	57	34	—	—	20	—	—	—
St. John's Hospital	102	258	35	152	50	36	21	—	16
Home for Consumptive Females	—	—	—	—	—	—	—	—	—
	£6,020	27,317	5,423	11,005	146	1,120	358	51,287	2,080
Estimated to supply omissions	—	2,429	4,200	7,169	—	263	35	3,270	261
Total	£6,020	29,740	9,623	18,174	146	1,383	393	54,557	2,341

The Gain to the Giver.

Let no one who gives to the hospitals, or who ponders whether he shall do so or not, think for a moment that the poor are not grateful for the aid afforded, or that the help is not real. Two years ago, in our Supplement, we recorded the words of patients spoken in the wards to our Special Commissioner. The patients were invited to mention the circumstances in which they lived and the cause of their presence in the institution. Prominent among the cases noted were those of strangulated hernia: a condition which, as all know, may occur, without any accident in the ordinary sense taking place, to any working man or woman, and which must end fatally if the operation necessary to reduce it be not performed at once. Three or four were cases of cancer, two were of ruptured spleen, another patient, a child, had been operated on for an appendicitic abscess. What chance of life would these have had had the hospital

Table IV.—Dispensaries.

Name of dispensary.	Hospital Sunday Fund award.	Out-patients' visits.
Battersea Provident	£92	154,000
Billingsgate Medical Mission	22	9,943
Blackfriars Provident	22	6,028
Bloomsbury ,,	14	5,727
Brixton, &c.	56	26,708
Brompton Provident	17	4,949
Camberwell ,,	65	96,318
Camden Town ,,	14	8,224
Chelsea, Brompton, and Belgrave	58	15,090
Chelsea Provident	13	3,041
Child's Hill Provident	13	5,347
City	54	21,986
City of London and East London	16	95,116
Clapham General and Provident	24	14,215
Deptford Medical Mission	24	3,022
Eastern	33	21,482
East Dulwich Provident	38	21,588
Farringdon General	43	12,986
Finsbury	49	30,069
Forest Hill	43	5,223
Greenwich Provident	27	14,250
Hackney ,,	13	9,950
Hampstead ,,	43	—
Holloway and North Islington	54	20,452
Islington	60	55,269
Kensal-town Provident	11	5,457
Kensington	81	18,889
Kilburn, Maida-vale, and St. John's-wood	43	—
Kilburn Provident Medical Institution	28	—
London	17	—
London Medical Mission	108	39,154
Metropolitan	56	30,807
Notting-hill Provident	14	4,111
Paddington ,,	33	7,449
Portland-town	22	3,188
Public	43	10,441
Queen Adelaide's	29	17,193
Royal General	27	—
Royal Pimlico Provident	54	—
Royal South London	52	14,856
St. George's and St. James's	54	4,356
St. George's (Hanover-square) Provident	33	3,479
St. John's-wood Provident	46	27,185
St. Marylebone General	41	14,408
St. Pancras and Northern	35	—
South Lambeth, Stockwell, & North Brixton	43	11,814
Stamford-hill, Stoke Newington, &c.	65	41,237
Tower Hamlets	49	11,658
Walworth Provident	16	5,995
Wandsworth-common Provident	11	5,265
Westbourne Provident	16	6,965
Western	60	27,022
Western General	135	26,000
Westminster General	41	36,440
Whitechapel Provident	28	23,117
Woolwich ,,	20	10,000
	£2,218	1,068,065
Estimated to supply omissions	—	150,573
Total	£2,218	1,218,638

Progress of the Metropolitan Hospital Sunday Fund.

Year.	Totals.	Donations.	Year.	Totals.	Donations.
1873	£27,700	£1844	1889	£41,744	£3482
1874	29,936	1605	1890	42,814	3991[5]
1875	26,396	1424	1891	45,330	9019[6]
1876	27,042	1339	1892	41,512	4429[7]
1877	26,082	947	1893	39,290	3652[8]
1878	24,904	1199	1894	43,679	7717[9]
1879	26,501	1120	1895	60,361	21,990[10]
1880	30,423	1567	1896	46,035	3582[11]
1881	31,856	1638	1897	41,003	2361[12]
1882	34,146	2106	1898	40,397	2617[13]
1883	33,935	1980	1899	53,504	15,310[14]
1884	39,329	6410[1]	1900	51,993	14,657[15]
1885	34,320	2555[2]	1901	54,731	18,343[16]
1886	40,399	4817[3]	1902	62,669	16,307[17]
1887	40,607	4130[4]	1903	64,975	15,766[18]
1888	40,379	3080			

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[1] In 1884 £4500 was received from the managers of the International Health Exhibition.

[2] In 1885 a special donation of £1000 was received from Dr. James Wakley, Editor of The Lancet.

[3] In 1886 a further special donation of £1000 was received from Dr. James Wakley.

[4] In 1887 a legacy of £1000 was paid by the executors of the late Dr. James Wakley.

[5] Including legacy of £1003 14s. from the executors of the late Mr. Thomas Crouch.

[6] In 1891 donations of £5000 from the late Duke of Cleveland, &c., and £1000 from Sir Savile Crossley, Bart., were received.

[7] In 1892 Sir Savile Crossley gave a further £1000; and a legacy of £105 was paid by the executors of the late Dr. H. E. Price of Brighton.

[8] In 1893 Sir Savile Crossley gave a further donation of £1000.

[9] In 1894 a legacy of £5000 (less duty) was paid by the executors of the late Mr. W. J. Whitaker, and Sir Savile Crossley gave a further donation of £1000

[10] In 1895 Messrs. Barnato and Friends gave a donation of £10,000; £3400 was received from the Stock Exchange through Messrs. Pym, Vaughan, and Co., and Messrs. Burdett and Harris; Lord Iveagh gave a donation of £1000; Sir Savile Crossley gave a further donation of £1000; and Mr. J. B. Robinson gave £1000.

[11] In 1896 Sir Savile Crossley gave his sixth donation of £1000, and legacies were received from Mr. John Smith of £500 and Mrs. May Evans of £172 9s. 4d.

[12] In 1897 Sir Savile Crossley gave his seventh donation, amounting this year to £500.

[13] In 1898 Sir Savile Crossley gave his eighth donation, amounting this year to £500.

[14] In 1899 Mr. George Herring gave £10,000; Mr. J. Lane Densham gave £1050; and Sir Savile Crossley gave his ninth donation of £500.

[15] In 1900 Mr. George Herring gave a further donation of £10,000; and Sir Savile Crossley gave his tenth donation of £500. An anonymous donor, "F. H.," gave £1000; and £1090 were received from the estate of the late Thomas King.

[16] In 1901 Mr. George Herring gave a further donation of £10,000, and Sir F. Cook, Bart., M.P., gave a donation of £4000.

[17] In 1902 Mr. George Herring gave a further donation amounting to £11,575, and Mr. Charles Morrison gave a donation of £1000.

[18] In 1903 Mr. George Herring gave a further donation amounting to £12,302.

SUMMARY OF TABLES.

	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
General Hospitals	£32,341	73,280	23,467	36,887	8,554	4,440	6,119	2,310,235	367,549
Special Hospitals	17,807	34,190	12,609	17,226	2,228	3,058	1,881	1,631,282	38,586
Cottage Hospitals and Convalescent Homes	6,020	29,746	9,623	18,174	146	1,383	393	54,557	2,341
Dispensaries	2,218	—	—	—	—	—	—	1,218,638	—
Total	£58,386	137,216	45,699	72,287	10,928	8,881	8,393	5,214,712	408,476

not been there to receive them? What chance of successful operation or of nursing could they have had in the crowded and insanitary homes in which the congested conditions of life and labour in London compel the poor to live? As it was, they not only had their lives preserved and their health restored exactly as though they had boundless financial resources at their command, but in those cases where the nature of the injury demanded instant operation they gained by the fact that it was performed in the best possible surroundings without delay. One of those interviewed appraised the aid that he had received in rather quaint fashion to our Commissioner. He was an elderly Hebrew, who had been brought to the hospital very collapsed, suffering from a strangulated hernia, and after an operation which had lasted over an hour his life had been saved. Speaking of what had been done for him, he repeated earnestly several times, "I could not have had anything better, not for five pounds; no, not for five pounds, and it was all free." It would have surprised him had he been told the fees which would have adequately rewarded the surgical skill and nursing provided for him had he been in a position to afford payment, but five pounds was the figure selected by him as a sum of unimaginable magnitude in order to express his gratitude in appropriate terms. In the Supplement referred to were quoted the words of another patient who was being slowly nursed back to life and strength after the operation entailed by a fractured pelvis and a ruptured bladder; he said, "Not the King of the country could have had better care than I have had." If His Majesty the King met with the accident which this dock labourer met with, his chances of life would lie in the immediate as well as efficient aid which hospital practice alone would enable his surgeons to supply.

An Appeal to those who might forget.

There is an increasing prevalence of the custom of week-end parties in country houses and of week-end absence from London on the part of those who normally inhabit it. To this may be added the fact that many who work during the week seek recreation on Sunday and perhaps attend no place of worship at all. It is not the duty of THE LANCET to do more than record the facts, though their significance does not escape us. Upon all of these we would urge that they should not forget their poorer brethren. The health and strength which they spend in enjoyment, or seek in leisure, are to many working-men absolutely necessary if life is to be lived at all. It is by their earnings from work, for which health and physical strength are essential, that they support themselves and their families.

Many patients in our hospitals are children, but it is not merely for the sake of the enjoyment of childhood's games that they seek restoration to health. It is because they will have to face early the stern necessities of life in spheres of labour in which bodily soundness is of primary importance. The able-bodied worker, of whatever degree, should feel a bond of sympathy between himself and his fellow-worker laid by in the hospital, and should not be niggardly in his gift. Many, no doubt, now fail to contribute, not because they are not generous, but because the matter is not brought to their minds. They should not be allowed to forget.

These pages will be in the hands of many readers on the Sunday before the day upon which the Fund is actually collected, and they are urged in the interval to levy alms from all those who will not be present to give in person, and to bring them to the place of worship which they themselves attend.

An Appeal to the Young.

We have spoken of the vast population of London, of the importance that all should give, however small their offering, and of the part which those may play who remind others of the needs of the Fund. None can play the part of collectors better than can children, and none should bear greater goodwill towards the hospitals than the young. Most children know something of sickness and of pain. Their knowledge may be limited to the endurance of the ordinary ailments of childhood made as light for them as the loving care of parents in luxurious homes can make the necessary discomfort and confinement. On the other hand, they may in similar circumstances have borne real suffering. In any case they will be able to realise to some extent—for children have imaginations as well as their elders—what pain and suffering might be in "homes" where there is nothing that is worthy of the name, where there is no one to tend the sick with kindness, and where, in the crowded garret, there is neither food nor bed that can be faced without loathing and disgust. They will be able to realise to some

been there to see, w

injured children, when they are told that small boys and girls who have come in to be made well see themselves growing better with sorrow, knowing that to do so brings them nearer to the day when they must return "home."

The young can understand as well as their elders that to maintain the children's wards in our hospitals money is needed. They need not fear to contribute what may seem insignificant donations. If they give what they can, even though it causes them a little trouble and a little self-denial to do so, they can be sure that their help will be welcomed by those who most truly require it.

Conclusion.

In concluding our Appeal on behalf of the Metropolitan Hospital Sunday Fund for 1904 we would urge its claims upon all classes of givers for the same reasons upon which we have based our Appeal in the past; but we would lay stress upon the additional need for their generosity which is to be found each year in the ever-growing population of London, and in the increasing claims upon the hospitals from all parts of the United Kingdom.

The benevolent of all classes, of all religious creeds, and of all degrees of wealth, should give readily and generously to a Fund which is for the benefit of their poor and suffering brethren. These are relieved without regard to class or creed, solely on the ground that they are poor and suffering, and it is the universal duty to assist them.

The benevolent of all degrees of wealth, moreover, should remember that it is the skill and knowledge acquired and fostered in hospitals which come to their aid in time of need, and that the hospitals do not close their doors to them, whatever their wealth, when the street accident or other pressing cause requires that they should be tended without delay. The class which is succoured by the hospitals also should not forget them; very few, or comparatively few, are so poor that some pence cannot be spared in the course of the year as easily for a gift to the hospitals as for a pint of beer or an ounce of tobacco.

A special effort is being made in 1904 in order that the record of 1903 may be surpassed, and that the steady progress of the Fund may be maintained. None must be allowed to forget it who does not happen to attend public worship on that day when the collection is made. It is levied in many suburban churches and chapels, and in some districts more remote from London, but its extension to congregations who have not hitherto contributed is much needed. We showed in our Supplement last year that the London hospitals afford treatment to country patients to an extent varying from 7 to 30 per cent. of their total accommodation. This should afford a powerful argument to be used in many country pulpits.

To all we appeal for that exercise of self-denial which makes the gift a blessing to the giver. We appeal in the name of those who will never meet their benefactors to thank them face to face, but whose gratitude will be none the less real towards unknown friends who have helped them in their need.

THE METROPOLITAN HOSPITAL SUNDAY FUND.

Amounts received and disbursed in the year 1903.

Dr.

RECEIPTS *for the year ending 31st October, 1903.*

1903.	£	s.	d.	£	s.	d.
To Balance at Bank of England, 1st Nov., 1902	1,910	6	10			
,, Balance in hands of Secretary	23	16	11			
				1,934	3	9
,, Collections made at Sundry Places of Worship	49,209	2	11			
,, Collections at Schools	22	10	4			
,, Donations	14,175	2	8			
,, Donations for Surgical Appliances	8	8	0			
,, Dividend on £224 15s. 2d. Consols	5	11	6			
,, Interest on Deposit...	82	14	9			
,, One year's interest on Legacy of £10,000 from the late Herbert Lloyd	281	16	7			
,, Dividend on £45,346 1s. 3*d*. 2¾ Consols, per Executors to the Will of W. A. Guesdon, deceased	1,190	6	8			
				64,975	13	5
				£66,909	17	2

Cr.

PAYMENTS *for the year ending 31st October, 1903.*

1903.	£	s.	d.	£	s.	d.
By Awards to 142 Hospitals	54,779	6	9			
,, Awards to 11 Institutions	1,233	2	0			
,, Awards to 56 Dispensaries	2,218	13	4			
,, Surgical Appliances	3,281	1	10			
				61,512	3	11
,, Rent	183	0	0			
,, Furniture and Repairs	5	16	0			
,, Fuel, Lighting, and Office Cleaning ...	27	12	2			
,, Printing and Stationery	197	15	8			
,, Stamps and Postages	122	17	10			
,, Advertisements	298	10	10			
,, Salaries and Gratuities	911	13	10			
,, Pension to late Secretary	250	0	0			
,, Special Appeal	705	16	6			
,, Sundries	3	18	3			
				2,707	1	1
,, Balance at Bank of England, 31st Oct., 1903	2,678	3	1			
,, Balance in hands of Secretary	12	9	1			
				2,690	12	2
				£66,909	17	2

Audited and found correct, this 23rd day of November, 1903.

(Signed) W. H. PANNELL & Co., *Chartered Accountants*, 13, Basinghall-street, E.C.

*** In the preparation of the voluminous statistics of hospital work which have been here digested and exhibited in collected form (and which have been specially supplied to us in response to our applications, and are quite independent of any returns made to the Metropolitan Hospital Sunday Fund Committee), we have been greatly indebted to a large number of secretaries and other officers of the various medical charities of the metropolis. To them we desire, as on many previous occasions, to tender our sincere thanks.—ED. L.

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A Clinical Lecture

ON

THE EARLY DIAGNOSIS OF TUMOURS OF THE BLADDER.

Delivered at St. Bartholomew's Hospital on March 16th, 1904,

BY C. B. LOCKWOOD, F.R.C.S. ENG.,
SURGEON TO THE HOSPITAL.

GENTLEMEN,—I propose to speak to you to-day about the early diagnosis of tumours of the bladder and then if I have time I will proceed to their treatment. I have chosen this subject owing to the fact that tumours of the bladder are usually overlooked until they have got beyond the stage at which they are capable of being cured by surgery. This is very sad, because these tumours of the bladder, or the majority of them, when diagnosed early and accurately, are well fitted for surgical treatment. Tumours of the bladder, for our purpose, consist, first of all, of malignant tumours, of which this is one before you, and of innocent tumours, of which this is one. The malignant tumours of the bladder are comparable to the epitheliomata of the tongue which we discussed last week. You will remember the course which epithelioma pursued; first of all a growth, next degeneration and ulceration of that growth, and next bleeding, and next sepsis, and next infection of the neighbouring lymphatic glands, and ultimately of other organs of the body. In the bladder all these occur and with differences. For instance, there is a growth a little different from epitheliomatous growth of the tongue, because it projects so much more into the bladder. And as I suppose the person does not eat with his bladder, or talk with his bladder, or use false teeth in it so the growth has a better chance. Next, besides projecting more into the bladder and besides having a pedicle, as many of them have—and I shall have something to say about the stalk presently—these tumours are contained in a peculiar organ. First of all they are inside the bladder. I think you can make this generalisation about growths inside a muscular organ like the bladder and it is that they do not easily get out. For instance, epithelioma of the bladder is a very long time in making its way outside the bladder. Malignant growth of the gall-bladder is a long time getting out; malignant growth of the pylorus or of the stomach will go on for a long time. Malignant growths in the rectum and in the intestine usually are very long in duration; they go on much longer than you would expect, much longer than similar growths on the surface of the body, and that is because it is difficult to get through the muscular wall. There is perhaps another reason why growths inside the bladder do not easily get out of the bladder. Has the bladder got any lymphatics? I wonder what the answer to that question is. Sappey is very firm that the inside of the bladder has got no lymphatics. It must have very few if any at all. I believe the truth to be that the mucous membrane of the bladder either possesses no lymphatics at all or very few, that the muscular wall of the bladder possesses lymphatics, not in abundance, and that the peritoneal wall of the bladder possesses the usual quantity. The organ at the base of the bladder—the prostate—is well supplied with arteries, veins, and lymphatics, so that cancer of the prostate is a serious disease—a dreadful and rather rapid disease, I believe. Now, if I make this quite clear to you I would put to you another point, which is of very great importance with regard to these growths inside the bladder. You must all believe—you cannot help believing—that if a tumour has a pedicle that therefore it is innocent. Think of an ordinary polypus of the nose, of a pedunculated fibroid of the uterus; think of an ordinary fibroma of the skin and of other pedunculated growths. Innocency is a characteristic of pedunculated growths, but it is one which in the case of the bladder you cannot rely upon. A little piece of this growth has been removed, [illegible] put down in the museum [illegible] cent growth. I have had a [illegible] who said how beautifully [illegible] And I said to him that they had never had a section through the part which grew from the bladder. Without that the diagnosis is quite fallacious. The pedicle of bladder growths is a great trap: it leads you to think that malignant growths are innocent. You see it is such a nice shape, so easy to get hold of and to tie bits of elastic round, and to tie string round and to put clamps upon, and in the end the polypus has come away and the piece in the wall of the bladder has gone on growing. You have only taken away the piece which was sticking out and you have done it at great risk to the patient and have caused very much hæmorrhage and without the slightest benefit.

I would draw your attention to another thing and it is a principle in the surgery of malignant tumours—always avoid cutting the tumour; keep far away from its limits. You will all of you at some time or another attempt to remove tumours and growths. I will put on the board a diagram of a tumour of the wall of the bladder. I have made it have a sort of pedicle. Here is a vessel coming along the wall of the bladder to supply it. This vessel has thick walls. When it gets into the tumour its walls become thinner and thinner, until there is hardly a single layer of endothelium, having no muscular coat, no fibrous coat, but an endothelial lining. You can understand why, when the surgeon proceeds to tie things round that pedicle, when he proceeds to put elastic ligatures round it, or put clamps on it, he is dealing with a tissue which is rotten. There are vessels which cannot contract and which cannot retract and they pour out blood wholesale. No wonder the operation finishes with clamps on and yards of gauze in the bladder. The thinness of the blood-vessels explains a clinical characteristic which it is very important to understand. The bleeding generally takes place at the end of micturition. The reason for that is obvious enough. There is a very soft growth full of thin-walled blood-vessels. As the bladder contracts it squeezes the growth and squeezes some blood out of it. So micturition begins with clear urine but ends up with a spurt of bright blood. If the blood clots a little clot may be passed. This bleeding is not accompanied by pain in most cases. It is called spontaneous hæmorrhage into the bladder. What a beautiful word "spontaneous" is—how soothing! In the museum catalogue it says that this tumour was attended with no symptoms of importance except hæmaturia. Good gracious! If anything were more important to a human being and anything more terrifying to him it would be the occurrence of a little spontaneous hæmaturia at the end of the act of micturition. There is no pain. What I shall point out to you is that in any case of this sort steps ought to be taken to ascertain where that bleeding came from. In the early stages of the disease the steps can be taken without danger and they may end, as they are beginning to do now, in the cure of the patient.

I would now refer to the next event which happens after hæmorrhage: that ultimately the bladder and the tumour become septic. I do not know anything more serious than sepsis of the genito-urinary tract. The anterior part of the urethra, in front of the compressor urethræ, contains bacteria without doubt. But beyond the urethra and the bladder ought to be sterile and I suppose they are sterile in healthy people. These tumours usually become septic by the passage of instruments because the instrument is not passed with proper precautions. When a man takes a catheter in his hand to pass it upon another human being he ought to consider that he is performing an operation which is about equivalent in danger to amputation of the leg. The septic material put in may not make its presence apparent at first but once placed in the bladder and in the urethra it sets up a long train of dreadful events and the sepsis affects other regions of the body. I will tell you a story which may impress that upon your minds. A man had upon his body a series of abscesses in his cellular tissue. The abscesses were supposed to be tuberculous and they were opened and treated. Some of them healed but usually a little sinus was left. On his cheek he had another swelling which happened to be a dermoid cyst and was mistaken for one of these abscesses. After a year or 18 months' treatment for tubercle—he was supposed to have his lungs affected with tubercle also—his case was investigated. It was obvious that he had some form of chronic pyæmia and that he must have some source of infection in order to get the continuous formation of abscesses over a period of 18 months or two years. It was most difficult to find the source of infection but at last he was requested to pass his urine into a glass—not into one of those mediæval pewter dishes such as are used at our hospital. The urine should always be passed into a proper clean glass beaker. It was then found that the urine was full of shreds of lymph. Inquiry showed that he had a stricture and that he had a septic genito-urinary tract. It was necessary to disinfect the bladder and urethra and to do that it was essential that the stricture should be operated upon; that was done and afterwards the bladder was washed out with nitrate of silver and the source of infection cut off. After that he never formed another abscess but became well. Sometimes the source of infection is exceedingly difficult to trace. I remember seeing a woman with arthritis and on inquiry it was found that she had septic endometritis and when that was cured she had no more attacks of arthritis. So when you see a person with so-called subacute rheumatism of the knee hunt about and you will find an infection in some part of the body. This sepsis started in the bladder may after a while—it takes months or years—pass up the ureters and infect the hilum of the kidney, and afterwards it affects the kidney itself and then you get a form of septic nephritis started. It is painful to think that it starts the sort of nephritis which is called surgical kidney in the older books. I suppose that is because it was thought that no surgeon could ever look at a patient without giving him sepsis of the genito urinary tract and septic kidney. Here is one of the kidneys put for you to see. I will tell you something else about the sepsis in these cases which has a most dreadful effect upon the mortality from operations. Operation, when it is performed even under unfavourable conditions but on patients whose urine is acid, is attended with a small relative mortality. For instance, at this hospital—the statistics are improving—16 patients had a single tumour of the bladder removed. The condition of the urine was known in 14. It was slightly septic in two and acid in 12. You must not assume that I think that because the urine is acid therefore it does not contain any form of infection. You are aware that acid urine very often contains the colon bacillus, but not a very virulent form of sepsis, one which does not affect the mortality in a high degree. Of the 12 with acid urine three died—that is to say, a quarter of them. The two with slightly septic urine recovered. Of those who died with acid urine one died from hæmorrhage, another from shock, and another from pyæmia. So the probabilities are that only one of the people with acid urine died from a septic disease. If we take the people who were operated upon and had septic urine there were ten operated upon and five died, one of them from septic peritonitis, one from septic cystitis, and another from cellulitis due to extravasation of septic urine; two were not examined after death. Thus the mortality had risen to 50 per cent. That is a very dreadful proportion. There is another reason why you should not delay in these cases. If you delay the case is sure to become septic and the mortality is, owing to that fact, sure to be enormously increased. There is another reason why you should not delay. It is that after a while the tumour grows to such an extent that at last it becomes an inoperable case. Here is a tumour of the bladder which may or may not have been operable, but I doubt if it could have been removed without some part of the ureters and perhaps going beyond the wall of the bladder. But on looking at it closer I see that it has already got outside the wall of the bladder, which makes it inoperable.

I have spoken so far about malignant tumours of the bladder. There is another class of tumour of the bladder which you may see here, in which the whole bladder becomes full of shaggy growth It occurs in younger people than those who have malignant disease—that is to say in men and women below middle age These patients suffer very little pain, they have constant hæmorrhages, they do not suffer at first very much in general health, and the disease *goes on for* a very long time. That is a horrid disease I have seen a man operated upon for that disease for the ninth time. I cannot imagine what will cure that particular kind of disease. The only operation which I should imagine would cure it would be to remove the whole mucous membrane of the bladder, which is not a particularly feasible form of operation, and it probably has not been done in this country. The whole bladder has been removed both in this country and abroad at various times. I think that there is some application which might be made to those tumours. I have reason to know something about one of these cases which was treated with a strong solution of perchloride of iron and which had a very long interval of repose, the bleeding ceasing for some years. I have told you about the diagnosis resting on first the pain and then the spontaneous quiet hæmorrhage at the end of micturition, and I shall now tell you something else about the hæmorrhage. It is a thing which may mislead you very much unless it is perfectly clear in your minds—and it is that the hæmorrhage is most irregular. A person will bleed and then have a latent period of perhaps a year or 18 months and then bleed again and then have another interval. But the intervals become shorter and shorter until at last the patient bleeds with every act of micturition. And by that time the case is probably hopeless. In truth, these tumours of the bladder behave in a most extraordinary manner. I remember once looking into a bladder with the endoscope and seeing a flat epithelioma of about the size of a florin near the neck of the bladder. For some reason the man was not operated upon, but he was afterwards explored by Mr. H. T. Butlin, who saw the growth with the naked eye and felt its hard base—and epitheliomata have a hard base. Nothing could be done; it could not be removed because it was beyond removal at that stage, and he went home. I remember seeing his medical attendant who was a patient of mine. He said, "You made a nice mistake about that tumour of the bladder." I said, "Why do you say that?" He answered, "Because the man is perfectly well; he is walking about and has returned to his duties as a police constable. You are all wrong about it. Besides, when I wrote and told Mr. Butlin he said he had made a mistake." Probably Mr. Butlin did not recall all the circumstances. I said, "I cannot tell you what other people may think, but that man has got epithelioma of the bladder, and in a little while the man will have a horrible hæmorrhage and die from it." He went on with his duty for two or three months, apparently perfectly well, thinking he was cured. Then he had a violent hæmorrhage and died. So you must have clearly in your mind that the cessation of hæmorrhage in a case of tumour of the bladder means precious little.

Another thing which may be talked of as a matter of diagnosis is the passage of pieces of growth. They are very fallacious. I have seen a bladder opened twice to find a growth which did not exist, although those pieces of tumour had been seen by skilled pathologists under the microscope. The bladder was opened by two different surgeons. One surgeon opened it, having seen the villous growths, and another was so sure there were villous growths and that the other surgeon had overlooked them that he opened the bladder again but could find none. Of course the bits may have passed down the ureter from the hilum or the kidney. So I attach importance to seeing villous growths but not much. Remember, it does not tell very much about the actual character of the growth; the stalk and not the villi determine that. I remarked last time that epitheliomata of the tongue were exceedingly painful. That does not by any means apply to the bladder. It is true that an analysis of the clinical notes of this hospital show that pain is present in three-fourths of the cases in some part of the body; the remaining fourth seem to be free from pain. So it is not a diagnostic sign which will afford you very much assistance.

I shall now come to another point which may assist you. It must be clear to your minds that, given a tumour of the bladder, its clinical characters of necessity are doubtful. The greater includes the less if you assume that all tumours of the bladder are malignant. The statistics of this hospital show that the proportion of malignant to innocent tumours is 4 to 1. Albarran, who microscoped, I think, 84 tumours of the bladder and did them very thoroughly, made out a proportion of five malignant to one innocent, so that the proportion is exceedingly high It is far safer to assume that a given tumour of the bladder is or will become malignant than to assume that it is innocent. Supposing we make up our minds that a person has a tumour of the bladder, there are certain things which will lead you to suppose that it is not operable. I need hardly now go over them all because they pertain to malignant disease in any part of the body. But one thing which makes you very chary of performing the operation is the presence of sepsis, because you make a determined effort before, at, and after the operation to disinfect the bladder. But another thing which would lead you to suppose that a case was inoperable would be that you could feel the growth I believe that is a very significant sign. If, for instance, a patient is known to have tumour of the bladder and you can feel it above the pubes or per rectum or per vaginam I think it is an inoperable case. I might operate on such a case if I were pressed but I think it is better not to operate upon those cases. I shall come directly to the question of diagnosis of these cases, but there is another thing which surely renders the case inoperable, and that is if you cannot by means of the endoscope see the whole extent of the growth. If by means of that instrument you cannot accurately discover its limits the probabilities are that it is not a case to which you can do any good by operation. Of course, if you felt the growth outside the bladder and that it was fixed obviously nothing could be done.

Now, as regards the actual diagnosis of these cases the diagnosis of a tumour of the bladder in its early stages is one of the simplest and easiest feats in surgery. You may have seen the endoscope frequently used and therefore I need not dwell long upon it. But there are one or two things which should make you careful as to what you promise a person from an endoscopic examination. I think an anæsthetic is necessary. I am aware that surgeons use the endoscope without an anæsthetic but for a variety of reasons I think it is far better to give the patient an anæsthetic; the parts are quiet and you can conduct the observation in a leisurely and thorough manner. Supposing you have a patient anæsthetised the next matter is the extreme importance of not introducing sepsis at the time of examination. We are in the habit now of preparing the field of operation exactly as we should for any other operation on the genito-urinary tract; the pubes is shaved, washing is done, and all the organs of generation are thoroughly disinfected, and the surgeon's hands also. One endeavours, as far as possible, to do an aseptic operation. I think I have made it clear to you how extremely important asepsis is in these cases. Having got the field of operation clear and an endoscope ready you have to prepare the bladder for its introduction, and that is a most troublesome proceeding. One of the great enemies is the presence of blood or pus. Pus you can wash out but blood is more difficult because it re-forms quickly. We have tried all sorts of things. One of the great ways to prevent hæmorrhage is to keep the patient quiet before the examination, to take care that there is no rough handling or shaking about at the time of examination, and, in the next place, to pass all your instruments with infinite gentleness and care. But supposing the bleeding continued, we have sometimes found that we could stop it and get the bladder sufficiently clear of blood for a time by injecting a 1 per cent. solution of hamamelis. It is necessary to get the clear solution. The other day we managed to see into a very difficult bladder indeed by putting into it some solution of adrenalin. That had a very marked effect upon the hæmorrhage and for a time we clearly saw a villous tumour of the bladder, but we never saw its extent. I thought it fair and right to give the man the chance of operation. I thought I should not infect him or make him very much worse and so his bladder was operated upon; but I could not undertake to relieve him altogether and to remove all his papilloma and he is in Kenton Ward now with, it is to be feared, a considerable quantity of papilloma still in his bladder. I am cudgelling my brains for some way of improving that man and getting rid of his papilloma, whether by perchloride of iron or by the cautery or by amputation I do not yet know. I have made up my mind to try again.[1]

Supposing a papilloma has been correctly seen and its position ascertained I think you should proceed forthwith to perform the operation. The operation ought to have this essential feature: you should see what you are doing. You may think that that is a very small point, but if you look into the literature of this you will find people have often performed this operation and not seen what they were doing. One surgeon performed it through the perineal route. Not only was his mortality high but the tumours went on growing just the same as before. At this hospital a number of times a tumour has been removed through the female urethra. A nice little papilloma with a beautiful stalk is seen in the bladder and then something is poked up the urethra and it is pulled off. Of course, this leaves its growing base. So you can understand that removal of these pieces through the female urethra has not done the patients very much good. I am speaking from memory but I think five out of six were known to have returned. So the matter of seeing what one is doing is a very important one in this respect and it is not a matter which only affects epithelioma of the bladder; it is a principle in surgery that you should see what you are doing and there are very few cases in which that does not hold good. Sometimes in the abdomen when there is a moveable organ like the vermiform appendix the surgeon feels the appendix and withdraws it through the wound and it is removed. That part is seen but the other parts are not. But the moment any question arises the wound should be enlarged and the rest of the operation carried out guided by the most clear vision. There is another point about the removal of these tumours of the bladder. Of course, if you see what you are doing you must do the operation above the pubes. Another point which is important about them is, I do not think you will succeed unless you use an electrical head lamp. This requires a little practice for its use, but I think it is absolutely essential for the purpose of these operations. When the bladder is freely opened it is useful to see what sort of tumour you have got by putting in a speculum. It is a convenient thing to put in. The bladder is dried with sponges and you then see the limits of the growth. One of the difficulties about operating on the bladder is the retraction of the edges of the wound, which is the next step after removal of the speculum. I think proper retraction is best done with silk through the whole of the bladder and abdominal wall. An assistant uses the silk as a retractor and it also prevents the operator pushing the bladder back into the pelvis and opening up the cellular tissue more than is needful. Supposing you have made up your mind you will remove the tumour, you may have already guessed that I have a strong impression as to the manner in which it should be removed. It should be removed like any other malignant tumour, say such as one of the mammary gland, with a wide margin of sound healthy tissue round it. Fortunately, this is not difficult in the case of the bladder, because when you come to think about the bladder you will remember that except at the trigone the mucous membrane of it is exceedingly loose. Again, let me remind you that the mucous lining of all the distensible organs is very loose, such as the stomach, the gall-bladder, and the intestines, and so it is not difficult to take hold of that mucous membrane and draw out a piece of it towards the wound. You know how these tumours bleed and I think they do so because the surgeon meddles with the malignant growth. If he will be very careful he will find that he can get on with his operation and have very little bleeding. A piece of catgut is threaded through the wall of the bladder at some distance—say, three-quarters of an inch—above the papilloma. That serves to pull the mucous membrane of the bladder and the papilloma towards the wound. Next, a cut is made through the healthy mucous membrane along each side of the stalk. It is best to keep suturing this cut as it is made and to keep the ends of the sutures to hold on by and steady the bladder with. Last year a very fat old man was in Pitcairn Ward. I should think he had about three inches of fat upon his abdomen. An enormous incision had to be made to get into his bladder. When the bladder was exposed and the peritoneum and fat pulled up, by enlarging the incision one could get at the papilloma, which was not very far from the base of his bladder. I looked into his bladder and I saw what I had been looking for—a vessel to feed the tumour. Catgut was put under that and the blood-supply cut off from the tumour, and everyone was surprised to see a big papilloma removed with certainly no hæmorrhage of any consequence. If you have failed to tie your vessel you will meet with vessels in the incision, but if you are far enough from the tumour you will meet with the vessels where they have got proper walls so that you can take hold of them and tie them. As your incision proceeds you can close it with catgut as you go along. Make half-an-inch incision and close it with catgut suture then make another half-inch incision and close that. Finally, you have got the pedicle of the tumour out surrounded by healthy mucous membrane.

Next with regard to what you shall do with the bladder itself. I allow the decision on that question at the end of the operation to turn upon two conditions. One is, Is there any oozing of blood proceeding; and the other is, Is there any sepsis? I should put the sepsis first in importance. If the bladder is septic you had better proceed on the ordinary rule of surgery which is that septic cavities should be drained. It is a safe rule, I think. So you close the wound in the bladder and in the abdominal wall with fishing-gut or silk sutures and you will drain it. And I would draw your attention to what, as far as I know, is the best drainage-tube to use. This is a Guyon's drainage-tube and it is very nicely made with a proper curve to go into the wound and into the bladder. It has a rounded eye and a notch at the base so that the urine cannot be easily stopped. It is a double tube and you can wash through from one into the other. In addition, you can always get it to syphon out. It ought to syphon out anything which is contained in the bladder. You put the short stem into the bladder and the long stem over the side of the bed into some vessel and have it syphon into carbolic lotion. This particular drainage-tube has deprived the operation of very many of its terrors. Altogether it is a device of very great service.

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[1] Since explored. The papilloma was small and easily removed. The man seems quite well.

Now let us take the other case in which you close the bladder. If you have removed the small papilloma and the wound in the bladder wall has been closed, and supposing that the bladder interior is not septic, it is safe to close the bladder forthwith. And the way one does that is as follows. A fishing-gut suture is passed through the skin, through the abdominal muscles, through the muscular layer of the bladder wall, and up through the opposite side and tied, and that brings the bladder and mucosa close together. In the absence of sepsis this succeeds exceedingly well. We have had three cases in which it has been safe to close the bladder wound immediately in that manner, and I believe I am correct in saying that each of the three patients was walking about the ward at the end of three weeks. And that is of great advantage, because if a drainage-tube is put in it will be from six weeks to two months before the patient will be able to get about properly. With regard to the subsequent history of these cases of bladder growth, when done in this particular way I believe the outlook is favourable, but as yet not many have been done freely and thoroughly. When done in the ancient way of tying bits of string or rubber round the pedicle or by clamps put round the pedicle the operation is futile, and if I had the misfortune to have an epitheliomatous tumour of the bladder I would decline to have such a proceeding performed upon me.

In conclusion, I will say this to you: everybody here ought to practise using endoscopes and all the other scopes. If a man can use the ophthalmoscope properly he will soon be able to use the endoscope and otoscope, and these instruments have been enormously improved of late. This endoscope which I show you has got a lamp which does not produce heat, it keeps quite cool, it has got an apparatus for catheterisation of the ureter, and also an arrangement for putting some additional fluid into the bladder. It is also useful if you want to distend the bladder a little more or to withdraw some of the fluid or if you want to see how much blood there is, and in fact it is a highly convenient instrument, and it is also better arranged than the ordinary run for disinfection. There is no gentleman here who could not if he chose to practise with it soon become expert in its use.

The Lumleian Lectures

ON

SOME DISORDERS OF THE SPLEEN.

Delivered before the Royal College of Physicians of London on March 17th, 22nd, and 24th,

By FREDERICK TAYLOR, M.D.,
F.R.C.P. LOND.,
SENIOR PHYSICIAN TO, AND LECTURER ON MEDICINE AT, GUY'S HOSPITAL.

LECTURE III.[1]

Delivered on March 24th.

ANÆMIA PSEUDO-LEUKÆMICA INFANTUM.

MR. PRESIDENT AND GENTLEMEN,—By the above cumbersome and almost meaningless name von Jaksch described in 1890 cases of enlarged spleen in infants in which he recognised that with a certain amount of leucocytosis there was an absence of the complete picture of leukæmia or leucocythæmia. He said that there were oligocythæmia, oligochromæmia, persistent leucocytosis, enlargement of the spleen, slight swelling of the liver, and sometimes swelling of the glands. He noted the following points of difference between leukæmia and anæmia pseudo-leukæmica infantum—namely, in the former the presence of eosinophiles which were commonly absent from the blood of his infantile complaint; in the former the loss of corpuscles and of hæmoglobin was never so great as in the latter; in the former, leukæmia, the liver was much larger relatively than ever it was in the latter. In the latter (his splenic anæmia) the prognosis was much better. The following points he mentioned as distinguishing rickety enlargement of the spleen from an anæmia splenica pseudo-leukæmica—namely, in the former a lower grade of leucocytosis, a slower progress of the changes, and other conditions typical of rickets.

Some reference may be made to more recent work bearing upon this subject. Dr. Samuel West at the meeting of British Medical Association in 1900 read before the section of Diseases of Children a paper on Enlargement of the Spleen in Children and he there paid particular attention to the splenic anæmia of the infant. This subject was treated without any specific reference to von Jaksch's pseudoleukæmic form, and he stated that the blood showed no changes but those of simple anæmia. At the same time he was expressly not referring to cases of splenic anæmia which could be classed with those of the adult—such cases he stated were extremely rare in children. He was obviously describing the cases with which we are all so familiar and have so long associated with rickets, of moderate but sometimes great enlargement of the spleen with anæmia in young infants. He pointed to the waxy ivory-like colour of the skin with a tinge of olive-green, to the large spleen, to the digestive disturbances, the appetite capricious or bad, or, on the other hand, excessive, to the occasional hæmorrhages, the enlargement of the liver in about half the cases, and the occasional occurrence of pyrexia. He noted the frequency of rickets and syphilis as accompanying or causative conditions and agreed with some other writers as to the generally favourable prognosis. His account of the blood is to the effect that the erythrocytes are reduced it may be to 40 per cent., that the hæmoglobin is reduced in the same proportion (or according to some authors in greater proportion), that nucleated red cells and myelocytes are present, that the only leucocytosis is one affecting the lymphocytes, and that this is in direct relation to pyrexia. Histologically the spleen is in a condition of hyperplasia, with slight fibrosis. Though recognising the frequent antecedence of syphilis and still more of rickets in these cases of anæmia he doubts if they are the sole cause, and they may be causative only by means of the ill-health which each produces. The relation of the spleen to the anæmia has to be determined. He thinks that the different histology of the spleen in adult and in infantile splenic anæmia shows that the spleen cannot equally cause the anæmia in both. He inclines to the view that there is a common cause for the splenomegaly and the anæmia, which he allowed might be a chemical toxin from the intestine. Dr. A. M. Gossage in the discussion mentioned a case in which there was leucocytosis to the extent of 30,000 per cubic millimetre, with increase of eosinophiles as well as lymphocytes, and the presence of a few myelocytes. It will be seen that this case at least accords with other observations on the condition of the blood.

Two years later, again at a meeting of the British Medical Association, the subject was discussed by Dr. J. S. Fowler of Edinburgh. He expressed the view that splenic pseudoleukæmic anæmia was a special form of disease distinguished by its blood characters. There are red blood corpuscles numbering from 1,500,000 to 3,000,000 per cubic millimetre, a low colour index, the presence of normoblasts and especially megaloblasts in considerable numbers, a moderate leucocytosis of from 10,000 to 30,000 per cubic millimetre in which the lymphocytes rather than the polymorphonuclears were increased, and of the lymphocytes large hyaline and transitional forms rather than the small lymphocytes, and the presence of a small number (from 0·2 to 6 per cent.) of myelocytes. He gathers little from the histology of the spleen or liver in three fatal cases: one spleen was congested with distinct Malpighian corpuscles, another was anæmic with indistinct Malpighian corpuscles. But he says the spleen may be of very great size is always an essential factor, and commonly the anæmia is severe in proportion to the size of the spleen. He would discriminate between this and the rare case of a *spleno-medullary leukæmia occurring* in an infant (myelæmia). As to causation, this remains obscure, but he thinks *that* rickets although common is not essential and that the enlargement of the spleen probably always precedes the anæmia and is in some way responsible for it. He admits, of course, differences in degrees of severity or intensity of the various symptoms, but thinks that they are all one and the same disease and, as stated in the early part of his communication, that all these cases of simple enlargement of the spleen in young infants arising independently of any necessary antecedent disease, unless it be rickets, belong to one clinical group. On the same occasion Dr. C. H. Melland of Manchester recorded eight cases of splenic anæmia of infants. The blood counts of these cases agreed very closely with those of Dr. Fowler and the cases in general seemed to be identical in all their characteristics. Dr. Melland called attention to some differences between the blood of infants and adults and showed that some of the characteristics in these cases had a less serious significance than they would have in adults. He contended that the cases formed a definite group of splenic anæmia and that they were not merely the extreme forms of the secondary anæmia of rickets and malnutrition, as urged by Wentworth in the *Boston Medical and Surgical Journal* for October, 1901.

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[1] Lectures I and II. were published in THE LANCET of May 28th (p. 1477) and June 4th, 1904 (p. 1554), respectively.

Some quite recent work on this subject may be within your recollection. I refer to two papers which have been read before the Royal Medical and Chirurgical Society, one in November last by Dr. Clive Riviere, and the other only last month by Dr. J. H. Drysdale and Dr. J. H. Thursfield. Dr. Riviere's account of the disease based on 13 cases differs in no material point from that which has already been noted —the large spleen, the association with rickets and syphilis, the oligocythæmia, the low colour index, the presence of normoblasts and megaloblasts, the moderate leucocytosis with prevalence of lymphocytes, and the occurrence of a small percentage of myelocytes. But his contention as to the nature of the disease is not that it is a peculiar form of anæmia in the infant but practically the only one. He says: "Is there any other form of marked anæmia recognisable in infancy? The answer I should make to that is, No, I have never seen it, have never found a description of such, and see no reason at present to believe in its existence." In his opinion cases of anæmia, spontaneously occurring, which do not present all the typical features described, are cases in an early stage of development; when they become severe they are typical. The prime factor is gastro-enteric catarrh and this is invariably due to bad feeding. In association with the gastro-enteric catarrh poisons are absorbed from the intestine, such poisons being either (1) the result of organisms, as e g., the organism of summer diarrhœa; or (2) the by-products of disordered digestion. These poisons will wash into the blood lymphocytes from the irritated lymph glands; the poisons will reach and stimulate the bone marrow; leucocytosis takes place for a time with increase of polymorphonuclears and eosinophiles, but the leucocytosis failing, the demand can only be partially kept up by particularly formed granular cells, myelocytes, which now appear in the blood. Again, failing leucocytosis, the destruction of the red cells takes place and the characteristic oligocythæmia occurs. By a reference to von Jaksch's originally published cases and the few cases recorded as leukæmia splenica in infants he tries to show that there is no important difference between them and the cases he has investigated. I think the latter half of his task is more difficult than the former but I am not at present here concerned to consider whether or how often a true splenic or spleno medullary leukæmia occurs in infants—obviously rarely—and Dr. Riviere thinks that even the condition of histology of the spleen may only be an extreme development of infantile splenic anæmia and that cases will be found bridging the gap, presumably both in respect of the extent of the myelæmic leucocytosis and in the histology of the spleen. His speculations on the nature of the poison, his belief that it is not one specific toxin but may be one of many, and his suggestion of a resemblance to the bacteriological conditions of pneumonia and broncho-pneumonia are extremely interesting and suggestive. Dr. Drysdale and Dr. Thursfield come to a different conclusion. They record 23 cases, of which the general conditions and the state of the blood were identical with those given by other authorities, so that there can be no doubt they are dealing with the same complaint. Their contention, however, is that it is a disease *sui generis* that is not due to rickets or to syphilis, that the differences between it and leukæmia proper are very considerable and presumably too great to be bridged over. They allude to the fact that some authors regard any other anæmia occurring in infancy as a possible early stage of this disease, and return answer that none of the ordinary causes of infantile anæmia were noted in the history of the majority of their cases. In support of their views they also give blood-counts from cases of rickets, infantile scurvy, and syphilis, which show marked differences in the various points with regard to which infantile splenic anæmia is supposed to be peculiar.

Comparing the views of these six authors we see that the main difference of opinion is as to whether von Jaksch's infantile splenic anæmia is a separate entity or not. Dr. Fowler, Dr. Melland, and Dr. Drysdale and Dr. Thursfield think it is, Dr. Riviere thinks it certainly is not, and Dr. West has at least not specified its separate existence. It is expressly or tacitly observed that the histology of the spleen affords no help on this point, though it is of importance as distinguishing the infantile form from adult splenic anæmia and from the leukæmic spleen. So far as the latter is concerned Dr. Riviere is prepared to see that distinction abolished. In regard to the former, some points in the history of a case mentioned at my last lecture are of interest. It is the boy who suffered simultaneously with his sister from splenic anæmia. The first record of his illness is when he was four years old, but it is stated that he had always been sickly and did not walk till 18 months old. From his birth he was subject every two or three months to severe attacks of diarrhœa, often with slime. Now it is conceivable that this boy was as an infant the subject of splenic anæmia of von Jaksch's type. On two or three occasions when older a leucocytosis is recorded; and most interesting of all, in 1900, two years before his death, his blood contained a small number of myelocytes, as did that of his sister about the same time.

The fact that rickets, syphilis, and an unknown factor produce forms of anæmia with splenomegaly which are so closely alike (and according to one author are identical), the fact that an adult splenic anæmia can be produced by syphilis as shown by Dr. S. Coupland's well-known case, the improvement brought about by mercurial treatment in infantile syphilis and splenomegaly as stated by Dr. A. E. Russell, the recovery of a certain proportion of the cases (whether von Jaksch's cases or not) on what may be called rational lines of treatment, suggests a resemblance between syphilis and rickets and the unknown factor as causes—in other words, supports the view that a toxin of some sort is the cause.

The pathology of rickets must be admitted to be sufficiently obscure and in the rickety cases it would still remain open to question whether the toxin producing the anæmia and splenomegaly is still the cause of the rickets or whether the defective formation of bone is a mere matter of chemical metabolism, and the toxins are independently produced and independently operating. That the early symptoms of rickets include a general constitutional disturbance, with general tenderness and sweating at night and sensation of heat or oppression, is as readily explained by the existence of a toxin as by anything we know of the relation between fat and proteid starvation on the one hand and defective bone-formation on the other.

I do not wish by these observations to let it be understood that I am accepting without reserve the identity of the infantile anæmias, as Dr. Riviere would have it. I only suggest that there may be identity in procedure—namely, by means of toxins—even though there is difference in detail, that is, in the nature of the toxin. That if, as is surmised, an intestinal toxin is the cause of von Jaksch's variety, and if the syphilitic toxin can cause anæmia of its own, still more, if it can do it by raising an intestinal toxin, then the other cases of splenomegaly and anæmia, whether rachitic or of other source, are most likely due to a similar agent. Granting that they are all anæmic, that all have enlarged spleens, that they are all in infants, on what does the distinction depend? A certain number of the rather severer cases have some differences in their blood composition, which consists of a pronounced oligocythæmia (a mere matter of degree), a variable leucocytosis—never very great, an excess of lymphocytes, and a few myelocytes. In the face of the fact that both these last conditions are common to infants—a fact made much of by Dr. Riviere but at least allowed by Dr. Melland—it seems a rather unsafe criterion upon which to found a separation. Moreover, this distinctive lymphomyelæmic condition is, as far as I can see, not associated constantly with any other difference and therefore it cannot be regarded so far as specific. It may be only a matter of severity or duration or degree.

Dr. Gemma[2] records two cases of infantile splenic anæmia presenting the familiar characteristics both as to the blood and to the spleen. In one of these cases he isolated the bacterium coli commune from the splenic blood obtained during life. He admits, however, that if it is an infective disease more than one organism might produce it and discusses its relation to rickets, which he regards as probably infective, to intestinal toxins, and to syphilis.

HODGKIN'S DISEASE.

The spleen in Hodgkin's disease takes a subordinate position; it is so obviously not the starting point of the disease. It is rarely of very great size and the deposits of lymphoid tissue which form one of its characteristics are not universally present. I have brief notes of 21 cases which have occurred in the period of ten years formerly specified. I am afraid there is not much that can be gathered from this set of cases which adds anything to our knowledge. They are cases mostly of several months' duration, with rather a striking predominance of males over females—namely, 19 males to two females. The period of youth is also more productive of the disease than that of middle life or old age. Of the 19 in which the age is given seven were under 20 years of age, four were under 25 years, and only five were over 40 years of age, and the average age of the 19 cases is 30 years. The weights of the spleen of the cases examined post mortem were respectively three, five, seven, 13, 16, 22, 29, 30, and 65 ounces. Of others of which no post-mortem examination was obtained there were four in which the spleen appeared to be normal, two in which it was palpable, three others respectively two inches below the costal margin, three inches below, and reaching the umbilicus, while in one case the spleen probably reached a very large size. I say probably because the splenic nature of the abdominal tumour in this case was questioned by more than one of my colleagues and no opportunity of determining the truth by post-mortem inspection occurred. But for the belief that the patient suffered from Hodgkin's disease I think there are strong grounds. After a blow on the neck some of the left cervical glands increased in size and persisted. After 12 months they were excised and at this time there was no evidence of an enlarged spleen or of any abdominal tumour. Five months later there was a large mass in the abdomen, occupying the left side, reaching down below the umbilicus and crossing the middle line.

This persisted for eight months under occasional observation. The patient had moderate oligocythæmia, no leucocytosis, but remittent pyrexia of the kind which has been seen in connexion with Hodgkin's disease. She died outside the hospital a year later than the last observation.

There are two questions with regard to lymphadenoma or Hodgkin's disease to which these cases may help in supplying the answer. One is its relation to tubercle and the other its relation to lymphatic leucocythæmia. I do not think the existence of the latter relation is generally allowed at the present time. The fact of leukæmia is regarded as shutting off a certain class of cases, and the very fact that lymphadenoma or Hodgkin's disease is called by German pathologists pseudo-leukæmia represents the conviction that the two conditions—Hodgkin's disease and lymphatic leukæmia—are different diseases. The independence of the two complaints is supported by these cases, for of the 14 in which the leucocytal condition is specified either there was no leucocytosis (five cases), or it was exceedingly slight, not more than 12 000 (four cases). or if it was sometimes noted as 30,000, 40,000, or 50,000 the polymorphonuclear leucocytes were greatly in excess of the uninuclear, and hence neither of the forms of lymphatic or splenic leukæmia was assumed. But a case, which I shall say more of later, was regarded as Hodgkin's disease on the strength of a blood count showing 6250 leucocytes, yet quickly developed lymphæmia. Dr. Wende[3] publishes a case bearing on this; lymphomatous growths appeared in the skin and the glands were enlarged, five months later the leucocyte count was normal, three months after that lymphæmia intervened, and three weeks later death occurred. This he regarded as a conversion of Hodgkin's disease into leukæmia.

The other question is of more recent origin. The clinical difficulty of distinguishing the glandular hyperplasia of lymphadenoma from that of tubercle must be admitted; the occasional occurrence of caseation of some of the glands and the coexistence even of miliary tuberculosis must also be admitted; but the view that the hyperplasia of the glands and spleen in Hodgkin's disease (apart from the familiar appearance of grey tubercle or caseation) and the peculiar growth of lymphoid nodules in the solid organs are the results of infection with the tubercle bacillus appears to assign entirely new powers to that organism. Out of the 12 cases which (with some reserve as to two cases which may have been sarcoma or lymphosarcoma) may be regarded as lymphadenomata in only two was there any appearance of tubercle. In one there were minute caseating points in some cervical glands and early caseation in some of the lymphoid tumours of the spleen. In the other two mesenteric glands out of many showed a caseating tuberculous deposit.

LEUCOCYTHÆMIA.

It is perhaps about leucocythæmia or leukæmia that more interest has been shown than in almost any disease of the spleen, doubtless because it was the first in modern times in which it appeared clear that the spleen was directly and primarily responsible for a serious and fatal disease. For though the ancients regarded the spleen as capable of causing palpitation either by enlargement pressing upon the heart or by the passage of melancholic vapours from it to the heart, and though Aretæus thought that jaundice might result from disease of the spleen (and, indeed, other organs) as well as of the liver—the jaundice then being of mixed black and green colour because it was the function of the spleen to cleanse the black blood—in more modern times the diseases of the spleen were more obviously secondary either to heart disease and cirrhosis or to the infection of malaria and some other febrile complaints. Time does not allow me to go into the history of the first discovery of leucocythæmia, almost simultaneously as it was by Professor Hughes Bennett of Edinburgh and by Professor Virchow in Germany; but there has been a considerable advance in our knowledge since that time, very largely in consequence of the deeper acquaintance with the histology and pathology of the blood, which has been possible with increased powers of the microscope and improved methods of colour-staining.

To even a greater extent than in splenic anæmia and anæmia infantum is the condition of the spleen associated with that of the blood, and the division is now universally recognised into a lymphatic leukæmia or lymphæmia and a spleno-medullary leukæmia or myelæmia. In the former the leucocytal increase is characterised by the extraordinary predominance of lymphocytes, which may be 90 to 95 per cent. of the whole number of leucocytes; in the latter the polymorphonuclear leucocytes and the form of cell known as myelocytes correspond to between 80 and 90 per cent. of the whole, themselves in about equal proportions. The spleen is, as a rule, enlarged in both of these forms, but the amount of enlargement is strikingly different. In the spleno-medullary form, as is well known, the spleen reaches often a greater size than it does in any other disease, whereas in lymphæmia or lymphatic leukæmia the organ is relatively but little involved or undergoes only a slight enlargement. I find in the records of Guy's Hospital over the period already specified (Post-mortem Examinations 1892–1901, Clinical Reports 1897–1901) 29 cases which have been regarded as possibly cases of the kind. Of these, 16 are unequivocally spleno-medullary leukæmia, four are cases of lymphæmia, one appears to be a mixed form, and eight are doubtful. Of these, one was probably splenic anæmia, another pernicious anæmia, two others were extensively tuberculous, though in one of these the spleen weighed 49 ounces. In the last four cases the history and details of the blood examination are insufficient and one of these patients was alive five years later. Time, again, does not allow nor would it serve, I think, much useful purpose to give details or even brief notes of all these. In respect of the cases of spleno-medullary leukæmia there is little in them that differs from what has been long known with regard to this form of disease. In the later cases the diagnosis has always been confirmed by the blood counts showing the presence of myelocytes in the usual proportions.

The striking feature of this form of disease is the great size of the spleen. I have arranged here on the screen the diagrammatic representations of the spleens (and livers) in the 16 cases of the spleno-medullary form, and the weights in ounces in those cases of which a post-mortem examination was made are given. These ten spleens vary in weight between 48 ounces and 128 ounces (from 3 pounds to 8 pounds) with an average of 91 ounces. The actual weights are in ounces: 128, 128, 112, 110, 104, 84, 77, 61, 57, and 48.

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[2] La Clinica Medica Italiana, 1901, p. 212.

[3] American Journal of the Medical Sciences, December, 1901.

Another remarkable fact which must have some connexion with the pathogeny of the disease is that the disease is so rarely seen in its early stages; the spleen is rarely seen to grow to the great size it attains, but already when the disease is discovered the spleen is of great size, or the illness is revealed only because the spleen is painful or causes dragging pain in the side and not because of any general malaise or anæmia. If, as seems less likely and is indeed now generally discredited, the splenic changes are the cause of the disorder, then a long time passes before the disturbance of its functions is felt in the body generally. If, as is now widely believed, the spleen is only secondarily enlarged and the disorder is in the blood formation in the bone marrow, then even the body is remarkably tolerant of such a profound alteration in the circulating blood. On this view the excess of leucocytes and the occurrence of myelocytes are due to abnormal formation in the bone marrow, and the spleen is regarded as being simply distended and enlarged in consequence of the accumulation of these white cells in the pulp of the organ. Such fibrosis as may be present can easily be explained as the results of chronic irritation in the course of this procedure. But this view is not universally held. The spleen is still held by some to be a hæmatopoietic as well as a hæmolytic organ and the various phenomena of the development and diseases of the blood are explained by M. Marcel Labbé[4] by the assumption that all the hæmatopoietic organs—the spleen, glands, liver, and bone marrow—contain in early life both lymphoid tissue and myeloid tissue; that in adult life the bone marrow contains only myeloid tissue with remains of lymphoid tissue and that the glands and spleen have then chiefly lymphoid tissue with remains of myeloid tissue. Under conditions of disease the remains or potential tissues in each organ may develop or become actual. Thus the myeloid tissue of the spleen may develop so as to suppress or supplant the lymphoid elements and the lymphoid elements in the bone marrow may grow so as to suppress or supplant the myeloid tissue.

Turning now to the cases of lymphæmia, which are apparently less common than those of myelæmia, it is clear that as a rule the spleen is of less size. Of six cases from the Guy's Hospital records in two the spleen weighed only 18½ ounces after death, in another the edge of the spleen appears to have been two inches above the umbilicus, in another it was just palpable, in another the spleen was never with certainty palpable, but in the last it was very large indeed, reaching from the sixth rib nearly to the iliac crest, with its anterior edge only one inch from the middle line. In a case which I communicated to the Clinical Society of London last year, although the leucocythæmia or lymphæmia was extreme, the spleen could only be felt just beneath the costal margin, descending nearly an inch below it on deep inspiration. In the cases of acute lymphæmia described by Dr. J. Rose Bradford and Dr. H. Batty Shaw[5] of five spleens four were seen post mortem and they were respectively normal, slightly enlarged, 20 ounces in weight in a youth aged 19 years, and four and a half ounces in weight in a boy aged seven years. In the fifth case the spleen was just felt beneath the costal margin.

It is within recent years that cases of lymphæmia have been more frequently recognised, now that blood counts, and especially differential blood counts, are more frequently made, and I think it can be shown that there is greater variety among cases of lymphæmia than among cases of myelæmia. If the formation of lymphocytes takes place in many organs, in more organs than are capable of giving rise to myelocytes, the variety is perhaps in part explained. I think the following propositions will be found to hold good of lymphæmia or lymphatic leukæmia.

1. That the spleen is as a rule much smaller than in myelæmia, indeed, reaches no great size, and may be smaller even than occurs in cirrhosis and other conditions already mentioned.

2. That the lymphatic glands may not be very large at first or even at a late stage of the illness. In the first of the two cases which I read before the Clinical Society of London, clinically it was observed that "there is no increase of the glands in the neck, axillæ, and groins; the largest in the groin measures six millimetres by four millimetres, and post mortem a considerably enlarged lymphatic gland was found beneath the right parotid; the cervical glands were slightly enlarged but no mention is made of any other lymphatic glands being enlarged." In the second case, with an extreme degree of lymphæmia, a gland of the size of a pea was felt in the right posterior triangle and in each groin one or two slightly smaller. In Dr. Bradford's cases the lymphatic enlargement was often very moderate and certainly not always in proportion to the lymphocytosis.

3 That many organs are infiltrated with lymphocytes. In a case to which I have referred this was true of the heart, liver, spleen, kidneys, suprarenals, pancreas, salivary glands, lacrymal gland, thymus, and lymphatic glands. In another case which I communicated to the Clinical Society of London I think there is no doubt that the mammæ were infiltrated as well as the parotids and other organs.

4 That the thymus is very often involved. In three of the cases above alluded to there was hyperplasia of this organ. In one of them in the position of the thymus was a hard fibrous mass, six by four by three centimetres, very dense and containing a cartilaginous nodule. In another case, that of a boy, aged ten years (the first of the two cases already referred to), there was extensive dulness over the upper end of the sternum and post mortem the thymus was found to weigh 586 grammes, or 21 ounces, and was larger than a normal kidney. It was pale yellow on section, presented a fatty semi-transparent appearance, and contained numerous small and irregularly distributed hæmorrhages. Under the microscope the organ showed large spaces packed with lymphocytes and surrounded by a fairly well-marked fibrous stroma. In the third case, that of a boy, aged 15 years, the thymus is returned as much enlarged, pale, and speckled with hæmorrhages. As the kidneys, liver, spleen, and glands were described as packed with lymphocytes, it is probable that the thymus was in the same condition.

5. The duration is probably much shorter. At any rate there are some very acute cases belonging to this form of the disease. In the cases of Dr. Bradford and Dr. Batty Shaw the duration never exceeded eight weeks. The case above referred to, in which the region of the thymus was occupied by a hard fibrous mass, lasted only a calendar month. It was the case of a youth, aged 16 years, who was admitted for progressive weakness; three weeks previously he had been giddy and weak, without pain or sickness. On admission he was pale with a slightly enlarged liver and a spleen down to the umbilicus. The red corpuscles were 1,600,000; the leucocytes were 160,000, with many lymphocytes, a few eosinophiles, and one or two myelocytes. There were recent hæmorrhages in both retinæ. The temperature varied from 102·5° to 104° and 105·4° F. He had bleeding from the gums and diarrhœa and he died a week after admission. Post mortem the cervical glands were enlarged, red, and soft; the right bronchial glands were very much enlarged. The mesenteric glands were large, red, and soft, and the glands in the portal fissure were large. There were numerous superficial hæmorrhages in the pericardium. The liver was tough, fibrous, cirrhotic-looking, weighing 53 ounces, and there was early ulcerative colitis of the whole large intestine. Though the clinical history was of only one calendar month's duration the post-mortem results suggest latent disease somewhat earlier. In another case, that with the large, pale, speckled thymus, the duration was only two months. A week before admission the patient had pain in the neck, the axilla, and the groins and next day bumps were seen. On admission the submaxillary, the submental, the cervical, the occipital, the axillary, the inguinal, and the epitrochlear glands were enlarged. The leucocytes numbered 12,500. A month later the spleen and liver were moderately enlarged. At this time the leucocytes had risen to 43,000 and 48,000, with 95 per cent. of lymphocytes and only 4·4 of polymorphonuclears. The tonsils, large at first, were getting much larger. Ten days after the last note the leucocytes were 116,000, then 126,000. The patient had hæmorrhage from the mouth which was believed to come from the tonsil and he died in two months from the first symptom. Post mortem the various lymphatic glands were enlarged, dead white in colour, with small hæmorrhages. There were petechiæ under the pleuræ and the pericardium. The liver weighed 103 ounces. The spleen was of a pale crushed-strawberry colour with several infarcts.

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[4] Le Sang, Paris, 1902.

[5] Transactions of the Royal Medical and Chirurgical Society, vol. lxxxi., 1893, p. 343.

The tonsils were much enlarged with extensive sloughing on the surface. In each of the two cases I showed at the Clinical Society of London the duration was three months.

6. In these cases of lymphatic leukæmia the leucocytosis even at the time of death may be relatively slight—that is, not above 50,000, and it may come on relatively slowly—that is, the lymph-glands may be found enlarged first without leucocytosis so that a condition of Hodgkin's disease is simulated, and no doubt it is just such cases as these last which explain the belief which has been held that the diseases are the same, or that leucocytosis is an accident in the course of Hodgkin's disease. In illustration of this relatively slight leucocytosis in some cases I may quote again one of the cases already alluded to in which, after two months' illness with much enlargement of the parotid glands and the internal organs, the leucocytes amounted only to 15,000, of which more than half were lymphocytes—i.e., 46·6 per cent. small and 9·3 large, while the polymorphonuclears took a second place with 42 per cent. 18 days later the leucocytes had risen only to 50,000, but the lymphocytes were now 94 per cent. small and 3 per cent. large, thus accounting for all but 3 per cent. of the total leucocytes. Another case was that of a man, aged 61 years, who observed a swelling in the neck about Christmas, 1902. A month later there were swellings in the axilla and groin and the abdomen became distended. He came under observation in October last; the glands in the neck, axillæ, and groins were enlarged, the liver was enlarged, and the spleen just palpable. The glands in the neck were of the size of beans and those in the axillæ and groins of the size of pigeons' eggs. The white corpuscles were 6250, but no differential count was made 17 days later the count was 91,800, with small lymphocytes 76 per cent., large lymphocytes 15 per cent., and polymorphonuclears 9 per cent. Eight leucocyte counts during the next seven weeks at about equal intervals gave figures varying from 66,000 to 111,000, but more often over 100,000 (average 97,000).

It is clear that lymphocythæmia, lymphæmia, or lymphatic leukæmia presents itself in at least three or four different forms which I have already illustrated directly or by reference. First, there are the cases called acute leukæmia, described by Fraenkel and by Dr. Bradford and Dr. Batty Shaw, in which sloughing of the gums or gingivitis is a prominent feature, in which the duration is a matter of six or eight weeks, and in which the large lymphocytes form the bulk of the leucocytes present. Secondly, there are other acute cases which may be fatal in as short a time as three months, possibly less or more, in which sloughing of the gums or gingivitis is not a feature and in which, at any rate, the lymphocyte increase may be due to the small lymphocytes. Whether these two groups are distinct or whether, as seems much more likely, they will be found to overlap or interdigitate, I am unable at present to say. In one of the cases above mentioned there was ulcerative colitis and in another sloughing of the tonsils, but no distinction was made between small or large lymphocytes in the blood counts. In neither of these two groups is an early or pronounced enlargement of accessible or even of deep-seated glands a necessary feature.

The third group may be represented by the case of the elderly man just given, in which the glandular enlargement is the prominent feature of the case and in which the duration is relatively long; for instance, this patient was alive in the thirteenth month of the complaint.

The following case seems to me to form a fourth category.

A woman, aged 29 years, was under the care of my colleague, Mr L. A. Dunn, for a swelling in the neck which was partly a growth of the thyroid body and partly a mass of enlarged cervical glands, attributed to decayed teeth. Mr. Dunn removed the thyroid growth but left the glands untouched. Nine months later she became faint in the street and was taken to the Westminster Hospital, where she says she was told that she had leukæmia. She was in ten days and then returned home; she was better for a time but again became ill, and about two months later came into Guy's Hospital under my care. She was anæmic; there were a few enlarged glands in the neck, the groins, and the axillæ, apparently from one-third of an inch to half an inch in diameter. The spleen reached to one inch from the middle line and the lower end nearly touched the iliac crest. The vertical extent was estimated at 11 inches. The liver reached five inches below the costal margin and below this was a solid lobulated mass reaching one inch lower than the umbilicus and four inches below the liver. This was thought to be either the kidney or a mass of large glands. Enlargement of the thymus was also suspected from impaired resonance over the upper sternum. The blood count was as follows: red corpuscles 900,000 and leucocytes 42,000, of which the greater number were small lymphocytes, but there were some eosinophiles and a few doubtful myelocytes. She died five days later. The cervical, bronchial, mediastinal, and mesenteric glands were enlarged. The thymus was enlarged, measuring ten by four and a half by six centimetres. The liver weighed 111 ounces and the spleen 91 ounces. This was of uniform dark maroon colour, with no pale areas, but three small triangular almost black infarcts. The kidneys were of great size, weighing together 37 ounces; they presented an extraordinary appearance of mottling with alternate patches, streaks, and blotches of maroon colour and pure white. Of the bone marrow I have no post-mortem record; but during life she appeared to be tender over the sternum and the bones of the arms, but she was perhaps too ill for these results to be quite trustworthy. In the unusual size of the spleen and the relatively long duration of the case, if the glandular enlargement of 11 months previously can be accepted as a commencement, we have a course somewhat different from that of the others. The relatively small degree of leucocytosis is also notable. It is to be regretted that a report of the histological examination is not forthcoming.

Mixed cases of leukæmia are believed to occur—that is, combined cases of spleno-medullary and lymphatic leukæmia. But they must be rare. As I have already shown, and as is well known, the spleen may be enlarged in association with lymphatic leukæmia and, as the last case shows, the spleen may be nearly as large (91 ounces) as the average (97 ounces) of spleen weights in 16 unselected spleno-medullary cases. But a mixed case should mean nowadays one of combined lymphæmia and myelæmia. There is only one case in these I have now brought before you which was regarded as a leukæmia splenica et lymphatica. But it is entirely inconclusive because the records of the blood examination are wanting and the coexistence of enlarged lymphatic glands with an enlarged spleen may occur in a pure lymphæmia.

It is, perhaps, going a long while back, but in 1873 I brought before the Pathological Society of London a case of leucocythæmia in which a huge spleen was associated with general enlargement of the glands, the growth of lymphoid deposits under the pleura, infiltration of various organs with leucocytes (including the testes), and a condition of blood in which small uninuclear leucocytes, as well as large multinuclear leucocytes, were certainly present; but what the staining methods of the present day would have revealed I am unable, of course, to say. I can, however, say this, that I have not again met with an exactly similar case, unless the last case of "splenomegalic lymphæmia" which I have just read is one. I must, of course, admit that my case of 30 years ago may have been a lymphæmia rather than a spleno-medullary or a mixed case. And certainly authors have for the most part accepted the view that lymphæmia and myelæmia are essentially different.

Were I discussing these diseases, these forms of leucocythæmia, for themselves alone, and not as I have said "some disorders of the spleen," I should have to offer my excuses as well as my regrets for the little information I have brought forward as to the condition of the bone marrow in these cases. I must be content with reminding you that the bone marrow has been found altered not only in spleno-medullary leukæmia but also in lymphatic leukæmia, and though they appear to be extremely rare cases of leukæmia without change in the glands or spleen are said to occur.

The feeling of the majority of observers is clearly that the spleen is in both forms secondarily affected, that it is stuffed with leucocytes unduly proliferated from the bone marrow in the one case and either from the lymph glands or conceivably from the bone marrow in the other.

SPLENOMEGALY WITH CHRONIC CYANOSIS AND POLYCYTHÆMIA

I may briefly call attention to another condition in which splenic enlargement takes place—namely, chronic cyanosis with polycythæmia; that is, increase in number of the red blood corpuscles. Dr. Parkes Weber read a case of the kind before the Clinical Society of London on March 18th. Dr. Saundby and Dr. J. W. Russell[6] published a case two years ago, Professor Osler published four new cases in August, 1903,[7] and other cases have been recorded in America and on the continent. In Dr. Russell's case the spleen weighed 48 ounces, in Dr. Weber's 23 ounces, but in two of Professor Osler's it was not demonstrably enlarged.

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[6] THE LANCET, Feb. 22nd, 1902, p. 515.

The nature of these cases is so far obscure. Dr. Weber found red transformation of the marrow of the left humerus, the left femur, and the left tibia. The marrow contained numerous nucleated cells representing myelocytes, eosinophile myelocytes, erythroblasts, and large endothelial cells and giant cells, and thus appeared to consist largely of tissue engaged in the formation of red blood corpuscles. And he regards the condition as a disease primarily of the bone marrow. But Dr. Russell had seen his patient with an enlarged spleen at least six years before the condition of cyanosis developed. In both these cases the spleen appeared to be only engorged and not to present any indication of being primarily diseased.

CHLOROMA.

I may still more briefly allude to a condition in which the spleen is involved—namely, that of chloroma. In this rare disease, in which lymphoid tumours of a green colour occur throughout the body, the blood presents the characteristics of a lymphocythæmia or lymphæmia and the spleen is enlarged by infiltration with lymphoid deposits or lymphocytes. The relation between chloroma and lymphatic leukæmia is believed to be very close but there remains no doubt a great deal of work to be done on both these conditions.

PRIMARY AND SECONDARY ANÆMIAS.

The attempt to distinguish between primary and secondary anæmias seems here to fail completely. The recognised primary anæmias are: (*a*) chlorosis and (*b*) pernicious anæmia. Among the secondary anæmias must be classed: (*a*) splenic anæmia, (*b*) infantile splenic anæmia (von Jaksch's), and (*c*) the anæmia of leukæmia. But after we have been searching into the pathology of these diseases, what essential difference do we see between these groups? In one of the primary anæmias, pernicious anæmia, a large number of facts have been collected which at least suggest, if they do no more, that some kind of toxic or infective process is at work which is not any obvious defect of food, or loss of blood, or continuous vital strain, or primary disease of any organ charged with blood formation; for although the spleen is sometimes enlarged it is not so constantly; it is often indistinguishable from that of health, and, moreover, the share of the spleen in the formation of the blood is at least doubtful. On the other hand, in splenic anæmia of adults the only explanation which at all satisfactorily introduces the spleen as a part of the causation regards the splenic lesion not as the primary condition but as an intermediate factor between absorption of toxins from the intestines and the morbid condition of the blood.

Secondly, in infantile splenic anæmia intestinal poisoning is again rather widely accepted as the essential cause and the splenic enlargement is looked upon as rather an accident than otherwise, so that in a great number of cases very little is said of the condition of the spleen beyond the fact that it presents an enlargement which is very different in different cases.

With regard to leukæmia the early impressions seem to have been twofold: one that the anæmia was due to the disease of the spleen or glands or marrow, whichever one or two or three were involved; the other that the extreme leucocytosis either necessitated a smaller number of red corpuscles as a matter of crowding out, or that the undue proportion of leucocytes represented an imperfect condition of the blood, of which the red corpuscles were the highest development. But with regard to the spleen it is almost certain that the primary lesion does not lie there, nor even in lymphatic leukæmia is it certain that the cause lies in the glands.

Thus we have reason to believe that we can see some cause in an anæmia regarded as primary and that in a form regarded as secondary the cause does not really lie in the organs originally thought to be primarily at fault. Indeed, primary is almost as unsatisfactory a group as idiopathic. It is only valid so long as our ignorance lasts or till fresh facts come before us to advance our knowledge. It is, indeed, no question of causeful or causeless cases; it is only the question of whether the essentials of the blood are diminished by destructive hæmolysis or by failure of production—i.e., anhæmogenesis or deficient hæmogenesis. Or, thirdly, whether the deficiency of essentials is only relative or due to an increased quantity of plasma.[8] Hæmorrhage is a coarse hæmolysis; pernicious anæmia is a hæmolysis in detail. Starvation is a coarse anhæmogenesis; various processes of disease are anhæmogenesis in detail. It is for us to find out what in each case are the causes of hæmolysis or anhæmogenesis. Of hæmolysis we have other examples in chlorate of potassium poisoning and in paroxysmal hæmoglobinuria. As a cause of the hæmolysis of pernicious anæmia we are led to look to some infective process, peculiar in this—that it alone, if it is a single toxin, should produce a hæmolysis while so many others do the reverse. Of anhæmogenesis or deficient hæmogenesis we have examples in nearly all the cases where anæmia follows upon prolonged infective disease. It may be very difficult to estimate the share which is to be attributed to actual deficiency in food supplied and that which other processes may have. But there are enough instances of anæmia occurring in cases when the food is not necessarily much diminished to make it probable that if the processes of splenic anæmia in children, splenic anæmia in adults, and chlorosis are due to some kind of unbottled poison inhibiting the process of blood formation, the same is taking place to account for the anæmia of syphilis, rheumatism, phthisis, empyema, prolonged sepsis from whatever cause, Bright's disease, and many other allied conditions.

CONCLUSION.

In looking back on these "disorders of the spleen," of which my review has been so fragmentary and imperfect, one is brought to the conclusion that the spleen is more sinned against than sinning; that it is rarely responsible for the lesions which it suffers or for the complaints with which it is associated; that in the various infective disorders, in splenic anæmia, and in infantile anæmia it is probably poisoned from without; that in the different forms of leukæmia it is overcharged with the excess of leucocytes; and that only in splenic anæmia as yet is the charge seriously made against it, that itself having been poisoned from the bowel it subsequently inhibits by fresh production of poisons the formation of the blood. It is in these diseases that good results have sometimes been obtained by splenectomy, though it must be admitted that death has sometimes taken place shortly after the operation. In the other cases the primary condition must be treated, and in so far as that can be controlled or will spontaneously recover the enlargement of the spleen may be expected to subside.

In spleno medullary leukæmia considerable reductions in size of the enlarged spleen have occurred under arsenic and sometimes under inhalations of oxygen, but a relapse appears in this disease to be almost inevitable. The spleen has also been extirpated for malarial enlargement, and it is recorded[9] that of six cases operated on four recovered.

I have, Mr. President and Gentlemen, to express to you my gratitude for your kind and considerate attention during these three lectures, which again I cannot help thinking will have fallen very far short of what you have a right to expect.

A CASE OF PERFORATED GASTRIC ULCER IN A BOY AGED 13 YEARS; DISEASED APPENDIX; OPERATION; RECOVERY.

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ON March 16th, 1904, the patient, a boy, aged 13 years, who had previously been perfectly well, complained of some stomach-ache during the afternoon when returning from school. In the evening this became worse and he asked to be allowed to go early to bed; his mother put a hot water bottle over his stomach which relieved him in a few minutes. He got up on the morning of March 17th much better and practically felt well except for a little abdominal pain when stooping; the exact position of the pain was not well defined. He, however, asked to be allowed not to go to school. In the morning he had some Eno's fruit salt and ate a very good dinner that day. About an hour after dinner he began to complain of severe abdominal pain and very soon became seriously ill. Dr. Wilbe was sent for and saw him between three and four o'clock in the afternoon and found him complaining of violent pain in the abdomen which he could not localise very precisely but he placed his hand towards the right side and about the umbilicus. He found him very collapsed, with a pulse of about 130, with marked rigidity of the abdomen and tenderness over the whole abdomen. The symptoms were especially marked towards the right side and upper part of the abdomen. There was no vomiting. The temperature was normal. Mr. Watson Cheyne saw the patient at 8.30 in the evening. At that time the boy looked extremely ill; there was no abdominal respiration; the alæ nasi were moving; there were marked rigidity of the whole abdomen and general tenderness but no abdominal distension. The pain and rigidity were not well localised but were on the whole most marked towards the upper part on the right side. The abdomen was tympanitic everywhere but there was no distinct obliteration of the liver dulness. There had been no vomiting. The temperature was normal. The conclusion come to was that there had been a perforation of some abdominal organ, and from the general history and symptoms pointing more towards the right side and the probability at that age that the trouble was of the form of a fulminating appendicitis an incision was in the first instance made over the seat of the appendix. On exposing the peritoneum it at once bulged out in the wound and on puncturing it gas whistled out. On enlarging the opening the small intestines were forced out, partly by the gas and partly as the result of the great rigidity of the abdominal walls, which had not become relaxed under the anæsthetic. Some thin whitish fluid also came out of the abdomen. For the most part the intestines were normal in appearance but on some of the coils of the small intestine, which came apparently from the left side of the abdomen, there were some flakes of lymph. The pelvis and lower part of the abdomen were well irrigated with salt solution till the fluid returned clear, and the intestines were then, gradually but with considerable difficulty, returned to the abdominal cavity. The cæcum and appendix were now pulled out. The appendix was long, thickened, a good deal reddened, and contained a large concretion; but there was no perforation of the appendix nor of the cæcum in the neighbourhood. The appendix was removed in the usual manner.

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[7] American Journal of the Medical Sciences

[8] Lorrain Smith. Transactions of the Pathological Society, 1900, p. 311.

[9] Scheube: Warm Countries (English translation), p. 169.

As it was evident that there must be some graver lesion than the condition of the appendix to account for the state of matters and as practically the whole of the small intestine had been seen, and as also there was no fæcal material present in the abdominal cavity, a second incision was now made over the stomach. At first nothing seemed to be amiss. The body of the stomach and the pyloric end seemed perfectly healthy; the region of the duodenum was examined; the stomach was turned over and the posterior surface palpated and still no perforation was found. On further examination of the anterior surface high up towards the cardiac end some turbid fluid and gas bubbled up. After wiping that away and directing a good light into the cavity high up under the diaphragm, a round perforation was found on the anterior surface of the stomach about an inch from the cardiac end which would have admitted a small slate pencil. From this perforation gastric juice and gas were escaping. There was no thickening around; it was a clean punched-out hole and all the structures in the neighbourhood seemed perfectly healthy. The edges of the ulcer were inverted with a row of catgut sutures and a second row was then put outside. The peritoneal cavity in the neighbourhood was thoroughly sponged out and the whole cavity again washed out with salt solution. A drainage tube was passed down towards the seat of the perforation, another towards the left loin, and another (from the lower wound) towards the pelvis. The rest of the wounds were stitched up. The boy stood the operation very well and his pulse after it was 120. On the night of March 18th the wounds were dressed. There had been very little discharge. The abdomen was very much distended. The pulse was 130 and the temperature was 99·2° F. There was a good deal of tenderness everywhere. No flatus had been passed. There was very little sickness. The boy had not slept and was somewhat excited. On the whole he looked rather better than he did on the previous day. He had been having rectal feeding with sips of water by the mouth. On the 19th the abdomen was still in much the same condition but the patient did not seem any worse than he was on the 18th. The pulse and temperature were the same. There was less tenderness at the lower part of the abdomen and there had been no vomiting. A little flatus had been passed but not enough to give him relief. Enemata had been given but without any result. At our visit in the evening we gave him an enema again and evacuated some fæces and flatus which relieved him very much. The drainage tubes were pulled out and the greater portion cut off, leaving only a small part projecting into the peritoneal cavity. There was very little discharge. On the 20th the patient was distinctly better. The abdomen was not so tense but still very much distended. He had passed a little flatus and slept a little during the night. The tubes were left out. There was very little discharge. He began to take small doses of salines and salol. On the 22nd the patient had a good action of the bowels in the afternoon and the abdomen was much less distended. He was very much better. On the 23rd feeding by the mouth was begun. From this date the boy went on uninterruptedly well. Solid food was allowed on April 1st. The wounds had completely healed on the 13th. The patient was allowed up for the first time on the 14th and went out in a bath chair. On the 25th the boy was in high spirits and had apparently perfectly recovered.

The interest of this case lies, in the first place, in the occurrence of a perforating gastric ulcer in a boy, aged 13 years. We can find no record of perforation of the stomach in a male at such an early age. In this case the ulcer was typically a peptic ulcer. Gastric ulcers have been found in younger children but apparently only of a tuberculous character. Thus Dr. G. F. Still[1] recorded five examples of tuberculous ulcers of the stomach in children, in three of which histological and bacteriological examination had been made with positive results. In all cases the ulcers were small. The first was a child, aged three and a half years, who was admitted with vomiting and ascites due to tuberculous peritonitis; the second was a child, aged ten months, suffering from cough and tuberculous meningitis, and, as shown after death, from generalised tuberculosis; the third was a case of tuberculous peritonitis; the fourth was a boy, aged nine years, who was also affected with tuberculous peritonitis; and the fifth was a child, aged two years, suffering from the same disease. The author had only found five cases out of 226 necropsies. There were no clinical symptoms associated with them. In one of the five cases perforation had occurred but extravasation had been prevented by adhesions. In the above case there was no sign whatever of tuberculosis either about the stomach or the abdomen generally nor was there any reason for suspecting it. As to the cause of the ulcer in this boy we cannot make any suggestion and there were no previous symptoms whatever leading to a suspicion that anything was wrong with the stomach.

The second point of interest is that, partly as the result of the symptoms pointing somewhat towards the appendix and partly on account of the great rarity of the actual condition, the appendix was in the first place cut down upon and a *diseased appendix* was found. The condition of the boy was so extremely bad that one was very much tempted to hope that that might be the cause of the whole trouble; but the presence of free gas in the abdomen made it absolutely certain that perforation of a hollow viscus other than the appendix must have taken place, and the absence of fæcal material in the abdominal cavity and the fact that practically the whole of the small intestines had passed under review when they were forced out of the wound led us to assume that this perforation must have taken place either in the stomach or duodenum.

The third point of interest is the situation of the ulcer. It was situated so high up and was so difficult of access that its presence was nearly overlooked. Before it was found the whole of the lower part of the stomach had been examined, the duodenum had been investigated, the stomach had been turned up and the posterior part searched, and had it not been that we were convinced that there must be a perforation, and that a further search was made towards the upper part of the stomach, the condition might have been overlooked.

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[1] Brit. Med. Jour., May 6th, 1899.

200 CASES OF ACUTE LOBAR PNEUMONIA.[1]

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THE following paper is based upon the observation of over 200 cases of acute lobar pneumonia. I have confined myself more particularly to a series of 150 cases upon which I made notes and kept a record of the treatment. These observations and notes were made in the years 1899 to 1901, while I was acting as assistant medical officer in Mill-road Infirmary, Liverpool, and I would like to avail myself of this opportunity to thank Dr. Nathan Raw for kindly allowing me to make use of this material.

There is no intention on my part of describing pneumonia as a clinical entity—this has been done frequently by those much more fitted for the task than I; nor do I propose to lay before you the result of any laboratory research into any special feature of the disease, but while in daily contact with this large number of cases certain points in the diagnosis, prognosis, and treatment impressed themselves upon my mind and I am here attempting to put these points before you in the hope that I may have the benefit of your much larger experience. Much of what follows is probably not new but is to my mind insufficiently emphasised in the literature; some is heterodox and to it I beg your attention and a sympathetic attitude, for it is with much diffidence that I am here to support what I know is unorthodox.

It is essential that we should from the first have a definite conception of the type of case which has been under observation. The following statistics will show us almost at a glance. In 150 cases there were 33 patients below 20 years of age, with a mortality of 9·1 per cent; 89 between 20 and 50 years of age, with a mortality of 41·5 per cent.; and 28 over and including 50 years of age, with a mortality of 75 per cent. The total mortality was 61, or a death rate of 40 5 per cent. 21 of these patients, or one-third of the fatal cases, were admitted moribund and died within 24 hours of admission. On eliminating these there are still remaining 129 cases with 40 deaths, or a mortality of 31 per cent.

Alcoholic excess is recognised as one of the most important of the etiological factors in pneumonia, and in this series it is much in evidence. In 65 of the 150 cases a history of alcoholic excess was obtained; in other words 43 3 per cent. [illegible] Of these [illegible] nt. among [illegible] of view we find that amongst the 61 fatal cases 37 were excessive drinkers, that is 60 per cent. of the total mortality. Everyone knows how difficult it is in many cases to obtain a history of alcoholic excess, therefore in all probability the proportion of alcoholics is still larger. These patients were paupers with their powers of resistance greatly lowered in many cases by alcohol, underfeeding, overwork, and exposure. Such was the material which I had the privilege of observing—the class of case which teaches most, for it requires every possible therapeutic aid. All will admit that many cases of pneumonia are such that the patients get well with almost any, or even perhaps in spite of, treatment; some, on the other hand, are doomed to death from the first, so malignant is their attack, and it is really only that small number of cases in which the question of the fate of the patient is in the balance which offers the greatest scope for treatment and where one feels that careful, accurate, and prompt measures turn the balance in the patient's favour.

Physical examination of the patient.—Everyone admits that the general clinical signs of pneumonia are of more importance in the diagnosis than mere local physical signs and it would be futile here to enumerate the typical symptoms and clinical signs of an acute case, but there are several points of practical value which I feel are worthy of mention. Admitting that we must from the first take every care to spare the heart, still there can be no doubt that a careful, thorough examination should be made not only at the first but also whenever there is the slightest fear or doubt as to the changes and processes taking place; more especially do I believe this to be necessary towards the end of the first week. In order to simplify this examination I am convinced of the value of a shirt open not only in the front of the neck but also down the whole length of the body. With a shirt of this kind the front of the chest, the abdomen, and the axillæ can be bared without moving the patient. There is too much hesitation in laying bare the chest, the axillæ, and the abdomen, at any rate in males. The fear of such patients "catching cold" is groundless and the great advantage of exposing the whole area to view at the same time is obvious. After a careful examination of the apices in front with the arms lying by the side, the patient should be asked to place both his hands well above his head; in this position both axillæ are easily examined and I am confident that there is no part of the chest which lends itself more readily to examination or which better repays careful attention. In the right axilla you have a portion of all three lobes and I have noticed the frequency with which any doubt in diagnosis is cleared up by careful auscultation and percussion of this part of the chest. If the pneumonia is basal in site the lesion almost always approaches the great fissure as it runs across the axilla and one can demonstrate the definite change of note on percussing from the middle or upper to the lower lobe. If the upper lobe be diseased it is easily examined from the axilla, extending as it does from the fourth rib up to the apex of the axilla and covered with a minimum thickness of chest wall, whilst if the examination be made from the front you have the pectoral muscles, and if from behind the scapular muscles, interfering with its examination. When the pneumonia happens to be central in position the physical signs usually show themselves first in the axilla and are late in appearing. This delay in the appearance of the physical signs of consolidation may, however, be a feature in a case quite apart from the existence of central pneumonia. If the toxæmia be very severe and the patient delirious, with bloodshot eyes, it is occasionally not at all easy to diagnose the condition from that of typhus fever and then any physical signs pointing to commencing consolidation are important. In several such cases I found that as the consolidation approached the surface in the axilla the first changes to be noticed were the appearance of a tympanitic quality about the percussion note and a diminution of the breath sounds, together with a prolongation of the expiratory murmur. This diminution of the breath sounds, one of the most important of the early signs of pneumonia, is probably due to an engorged condition of the lung interfering with the normal elasticity "and consequently much restricted respiratory expansion." This is noted by Lewis A. Conner and George E. Dodge[2] in a paper to which I will refer later. On examining the back when the pneumonia is affecting the lower lobe the physical signs are most often well marked about the seventh, eighth, and ninth spaces just within the angle of the scapula, and when examining with the patient on his side in the early stage of the disease before consolidation is well defined it is well to remember that the side which is uppermost nearly always yields to percussion a higher pitched note. This is probably due to the fact that when one percusses the upper side one is percussing on to the spinal column, whereas on percussing the under portion of the back the bed will tend to act as a resonator and so yield a fuller note. When in such a case there is any doubt as to the cause of the impairment of note one of two things must be done—either you get the patient to sit up and to lean forward, which is undoubtedly the best method so long as the patient is sthenic and vigorous, or you have the patient lying first on one side and then on the other, and in that way check your first impression. As medical tutor to the Royal Infirmary, Liverpool, I have pointed out this difficulty to the students for the last three years and was much interested to find it discussed in the *American Journal of the Medical Sciences* by Lewis A. Conner and George E. Dodge, apparently their communication being the first mention in the literature of this peculiarity. I had already written my paper when I read their article and am glad to support their statement.

In the examination of the heart I found it very useful after having carefully percussed out the deep cardiac dulness to mark it out with a piece of lunar caustic. This is done at the first examination; the marks persist and are of the greatest help in showing any alteration in the extent of the cardiac dulness due to the disease, whether the cardiac failure must be anticipated by cardiac stimulants, more especially in pneumonia by alcohol. I do not agree with this conclusion and hope to give you good reasons for my view. That these signs are the signs of cardiac failure is true, that a cardiac stimulant or tonic is required is evident, but to exhibit alcohol would, I believe, be unsound treatment. Alcohol has its place in the treatment of pneumonia both during the acute stage and convalescence, but I do not believe that its rôle is that of a cardiac stimulant, for as Sir Samuel Wilks says in speaking of it[5]: "It is difficult to know why such a remedy is called a stimulant. From the change of name to sedative I have got much practical good."

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[1] A paper read before the Liverpool Medical Institution on Nov. 19th, 1903.

[2] American Journal of the Medical Sciences, vol. cxxvi., p. 389.

You must all have noted the steady change of opinion in the profession as to the value of alcohol in pneumonia. At the present time nearly every writer warns his readers of the danger of overdosing patients with alcohol and the necessity of withholding it as long as possible. Out of many possible instances may I quote one. Burney Yeo,[6] says: "The routine administration of alcohol in pneumonia, especially in the early stages with the idea of preventing cardiac failure later is, we think, a serious error. Alcohol produces vasomotor paresis and causes dilatation of the vessels and *it must therefore aggravate or induce tendencies to vascular engorgement.*" (The italics are mine.) "It acts like a poison to many persons and causes considerable nervous and general depression after its first stimulating effect passes off; it increases the amount of toxic substances in the blood and the elimination of considerable quantities of alcohol must impose a severe strain on the already overtaxed organs of excretion." That, in the light of the views held by Todd and his followers, is indeed a great advance. Even in 1900 in this institution I heard a member state that he always put every "pneumonia" on six ounces of brandy in the 24 hours, together with ammonium carbonate and digitalis —routine treatment with a vengeance! There was a time when it was customary to bleed pneumonias and when this method of treatment was supported by all the acumen and experience of the lights of medicine. The public at that time held the same views and history records that a medical man was sued for damages on the ground that he had caused the death of his patient by neglecting to extract the customary ounces of blood. A different version of the same story occurred recently. This time an action for damages was taken out against a physician on the death of his patient because the patient had not received alcohol. The public used to swear by bleeding, now they swear by brandy. The profession have put venesection into a secondary position in the treatment of pneumonia and already they have begun to modify very considerably their views as to the value of alcohol.

The action of alcohol on the circulation is briefly as follows. Its primary action is on the mucous membrane of the mouth, œsophagus, and stomach, and in virtue of this action it undoubtedly acts reflexly as a cardiac stimulant. This stimulation is neither prolonged nor powerful. After its absorption alcohol exerts its specific action—dilating the peripheral blood-vessels and lowering the blood pressure, thus tending to empty the arteries and to fill the veins. On the heart itself, directly, alcohol seems to have no effect at all; in large doses it enfeebles it.[7] Such is the opinion of Professor C. S. Sherrington. Its action on the centres in the bulb is from the first depressant. As a food it need not be considered. It is not given as a food. The indications for its exhibition, according to those who advocate it, are those of cardiac failure and it is given to meet that failure. It is oxidised in the body and therefore does give rise to heat and energy but this is of secondary importance. It is undoubtedly given for its specific action on the circulation and nervous system. Bearing these facts in mind, in what way may alcohol be employed with advantage in pneumonia? The total action of alcohol on the heart being depressant it is futile to give it in cases of commencing cardiac failure with the idea that you are combating that failure by giving a specific cardiac stimulant. The peripheral vessels are, as a rule, sufficiently dilated in response to the pyrexia and there is no useful object to be gained by further dilating them with alcohol. During the initial rigor, when the peripheral vessels are all contracted and there is marked internal congestion, relief and comfort may be obtained by suitable doses of alcohol in the form of hot drinks; or again occasionally after the crisis during the period of convalescence small quantities of alcohol might be used with benefit to prevent contraction of the peripheral vessels and consequent strain on the enfeebled heart.

I think there is some ground for the belief that chronic alcoholics take their nourishment during the fever with more comfort and satisfaction if at the same time they receive a small quantity of spirits and water, though Sir William Broadbent says that "in no cases should they be given in the early stages even when the patient has habitually taken alcohol in excess and may be thought to have become dependent upon it; the safer plan is to withhold them until it is clear that they are necessary." I have seen persistent vomiting initiated by brandy on several occasions in those previously unaccustomed to spirits. The narcotic action of alcohol is occasionally of value in securing sleep and is best given either as recommended by Sir Douglas Powell combined with infusion or tincture of digitalis or in conjunction with a small quantity of morphine given hypodermically. These are the conditions in which, in my opinion, alcohol can be given with benefit. To exhibit it in the quantities so commonly ordered in serious cases is, as Burney Yeo wisely points out, to hasten that very condition of cardiac asthenia which it is our one aim to prevent.

We have not time to consider the toxic effects of alcohol on the protoplasm of the heart muscle accentuating the degenerative changes inaugurated by pyrexia and toxæmia; its action in binding the oxygen more firmly to the hæmoglobin, thus preventing the fullest supply of oxygen to the tissues; its action in shortening diastole or the resting period of the heart's muscle; or its action in interfering with the nutrition of the heart muscle by diminishing the flow of blood in the coronary arteries and the elimination of waste material, both of which take place mainly during diastole. All these factors, slight in themselves, tend to the production of cardiac failure. I quite realise that I shall be met with the query, "To what end are all these statements when we know what pneumonia is? We have seen patients live who but for alcohol would have died; we have given alcohol and watched its effects; we are convinced it is a cardiac stimulant." My answer to this is that these convictions are based upon statements and observations which have not been subjected to a sufficiently searching criticism. Tradition is largely responsible for these beliefs and arguments of the *post hoc propter hoc* type have perpetuated them.

At the present time there are two factors which act most powerfully in prolonging the life of the orthodox views as to the administration of alcohol. The first is that students are biased from the very beginning—very few have ever seen a severe pneumonia treated without alcohol and, in fact, I might say that the same holds good amongst qualified men, only a small percentage of whom have watched or treated cases of grave pneumonia in which alcohol was not administered. A student becomes qualified and enters on practice believing that he must administer alcohol under certain conditions. In the majority of instances not the shadow of a doubt ever crosses his mind as to its efficacy and the result is that if the patient lives after the exhibition of large doses of brandy he believes that the brandy was largely instrumental in the recovery, whilst if the patient dies he consoles himself with the thought that everything possible had been done to prevent the fatal issue. The second factor is possibly even more potent, though I hardly like to mention it. The general public believe in brandy. It is "the stimulant," and if a friend or relative is seriously ill they are never happy unless brandy or some other alcoholic drink is ordered. It takes a strong-minded medical man to withstand this, and although one may not care to admit it lay opinion in this matter cannot but have a far-reaching effect. Unless a man has very definite reasons for preferring to do without alcohol in the treatment of a case he will naturally yield to the openly expressed desires of the patient's friends and relatives. When anyone considers alcohol a necessity, exhibits it on the first appearance of an unfavourable sign, and consistently follows this line of treatment in blind faith, I hold that the value of his opinion must be much impaired, for his experience is hopelessly one-sided—he knows only one aspect of the question. One must admit, I think, that the above describes the majority of men practising at the present time. That the medical men take its value for granted and the general public demand its exhibition are, in my opinion, the two factors which are chiefly responsible for the persistent belief and faith in alcohol as a cardiac stimulant. I will admit that for two years after being qualified I could not conscientiously have treated a serious case of pneumonia without ordering alcohol. One of my teachers, a man for whose opinion I still have the very highest respect, taught me that the treatment of pneumonia was, in brief, "bed, poultice, and stimulants according to the pulse," and that treatment I followed.

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[5] The Practitioner, November, 1902.

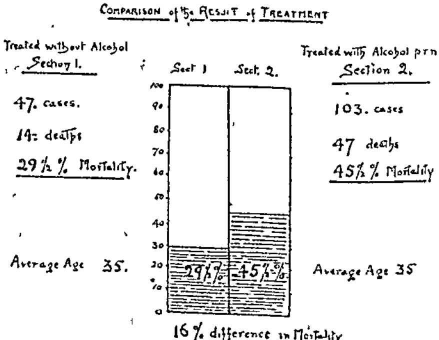
[6] I. Burney Yeo: Manual of Medical Treatment, vol., i. p. 581.

[7] John C. Hemmeter: Studies from the Biological Laboratory of Johns Hopkins University, 1889, vol. iv., No. 5.

In 1897, when house physician in the Royal Infirmary and later at Mill-road Infirmary, I carefully watched the effect of alcohol in pneumonia and my faith in its efficacy as a cardiac stimulant slowly began to be shaken. In fact, I began to wonder whether it was not even detrimental to the patients to receive alcohol in the orthodox quantities. While acting as assistant medical officer in the latter infirmary I had the opportunity of carrying out a line of treatment in which the patients did not receive any alcohol and I now lay before you the results.

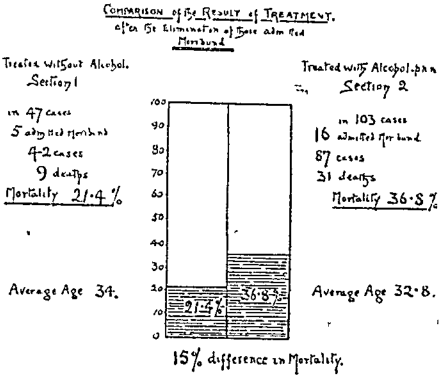
The 150 cases to which I have already referred and on which this paper is based are divided into two sections. The first is composed of 47 cases. These were not in any way selected. Every case that came in on certain days was included in this section and came more especially under my care. Throughout they received no alcohol. In the second section are included 103 patients who were admitted on the remaining days of the week and who were placed under the care of the other assistant medical officers. They received alcohol when the ordinarily accepted indications for its use arose. The patients in each section were of the same type, they were drawn from the same districts, and were attacked at the same seasons of the year. The nursing was much the same throughout the hospital and the food came from a common kitchen. Under such similar conditions if we find that any particular line of treatment gives exceptionally good results in a large series of cases one is justified, I think, in ascribing to it some proportion of the success. The result in these 150 cases was definitely, one might say startlingly, in favour of that treatment in which alcohol was not administered. It is a common saying that anything can be proved by means of statistics, but I am unable to see how the most ardent advocate of alcohol as a therapeutic agent can fail to be impressed by the result of withholding it in the above series of 47 cases. There is no desire on my part to juggle with figures. I have taken great care in drawing up these tables to eliminate every source of error and am content to allow the tables to speak for themselves. It has been put to me that possibly some of the patients in Section 1 might have been saved if only they had been given alcohol. That, of course, cannot be contradicted, and possibly if I were now to treat those cases there might be occasions on which I would exhibit alcohol following those indications for its use which I have laid down. As a matter of fact, however, practically all those conditions in which alcohol may be used can be efficiently met by other drugs. And for the purpose of comparing the results it was obviously wiser to eliminate alcohol entirely from the treatment.

TABLE I.



The tables have been drawn up to show at a glance the relative mortality in the two sections. Table I. shows a mortality of 29·5 per cent. occurring in those treated without alcohol as compared with 45·5 per cent. in Section 2, giving a difference in mortality of 16 per cent. This was such an astonishing difference that I thought it might possibly be due to a larger preponderance of patients admitted moribund into Section 2 than into Section 1. Table II. shows the result of eliminating from the statistics all those dying within 24 hours of admission. The mortality in Section 1 then becomes 21·4 per cent., and in Section 2 36·8 per cent.—a difference in mortality of 15 per cent. As the death-rate varies so much in the different age periods I have compared the two sections from this standpoint and find that before eliminating the moribund cases the average age in each section was 35 years, whilst after eliminating those dying within 24 hours of admission the average age in Section 1 was 34 years and that in Section 2 was 32·8 years. We note, therefore, a difference of 15 per cent. in the mortality remaining after the elimination of the moribund cases—the two sections having for all practical purposes the same average age. There may possibly be, and probably there are, several causes for this variation in death-rate. Chance itself may account for some of it, but the obvious and outstanding cause is the administration of alcohol in one section and its non-administration in the other, and I believe that it is this factor which is largely responsible for the difference in mortality.

TABLE II.



The drugs which we used in order to prevent or to counteract cardiac failure were practically four: strychnine, digitalis, caffeine, and ammonium carbonate. Strychnine and caffeine are recognised as good stimulating cardiac tonics. Digitalis is a more purely cardiac tonic. In the administration of strychnine one must be careful neither to begin too soon nor to give too large doses, for it must be remembered that there is only a certain definite reserve force in each heart that can be called upon. The main object must therefore be to spare the heart from every strain and only to use cardiac stimulants when absolutely necessary. Both strychnine and digitalis I preferred to administer hypodermically and when given in sufficient doses they will obtain from the heart a large proportion of its possible energy. In alcoholic cases more especially is it advisable to give digitalis hypodermically because, as O. T. Osborne[1] points out, digitalis is absorbed with great difficulty from the stomach in such patients. Digitalis slows the heart and simultaneously increases the force of its contraction, tending to raise the blood pressure by contracting the peripheral vessels.

As an example of the value of digitalis in contradistinction to alcohol in its action on the heart Sir Samuel Wilks relates a very suggestive case.[2] "A young lady, for many years the subject of mitral disease, had been for some time growing worse until at last she took to her bed" and he was asked to see her. "It was a matter of formality as she was thought to be dying. She was lying in bed gasping, with a fluttering heart and an almost imperceptible, irregular pulse, and semiconscious. She was being plied with brandy in order to keep her alive. The two medical men who were with her did not perceive that they were poisoning her but nevertheless assented to my strong wish to stop the spirit. This was done and 15 drops of tincture of digitalis were to be given every hour for a short time. After a few doses the frequency of the pulse was lessened. She breathed better and was more sensible. She then continued the remedy to a less amount. She rapidly improved."

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[1] O. T. Osborne: What ought we to expect from Cardiac Drugs in Heart Weakness? Medical News, 1903, vol. lxxxiii., p. 541.

[2] The Practitioner, November, 1902.

Strychnine stimulates the cardiac centre, cardiac ganglia and nerves, and also in a marked degree the respiratory centre. One-fiftieth of a grain was given every four hours if any signs of cardiac exhaustion were observed and, if necessary, this dose was increased to $\frac{1}{25}$th of a grain. Both camphor and musk, more especially the latter, must be looked upon as valuable cardiac stimulants, but the cost of musk is so great that it was impossible to make use of it. If given at all, I am told by those who have exhibited it, doses of from five to ten grains should be administered every few hours. Ammonium carbonate has been found chiefly of use in those cases associated with bronchitis. It should be administered in large doses—ten grains every four hours and occasional doses of 20 or 30 grains in addition. It rarely produces emesis and is usually followed by very free expectoration. I first became convinced of the value of these large doses as an expectorant and cardiac stimulant in the case of a woman suffering from marked emphysema and bronchitis. She was propped up in bed, breathing rapidly, tossing about, distressed, and very cyanosed. Her heart was dilated and her pulse was irregular. Her lungs were full of râles and rhonchi. For some days she had been taking an ordinary expectorant mixture with very little benefit. I ordered her a half-drachm dose of ammonium carbonate, to be repeated in an hour if it had not produced emesis. Following the second dose she began to expectorate large quantities of muco-pus and was greatly relieved. Since then I have frequently tried these large doses and generally found marked benefit follow their exhibition not only in cases of bronchitis and emphysema but also in pneumonia associated with bronchitis in which the expectoration tends to be profuse and of a bronchitic character. Caffeine can be administered either as strong coffee or as the citrate. It acts as a stimulant, cardiac tonic, as a nervine tonic and also as a cerebral stimulant. This latter property would make one hesitate to give it when the insomnia is troublesome. Its action on the kidneys may help to eliminate toxic matters.

There is one form of treatment to which I would like to refer in conclusion—namely, the application of icebags to the abdomen so strongly recommended by Dr. Barr.[10] These were applied in some 20 cases and with benefit. The cold applied to the abdomen steadies the temperature and by acting on the splanchnic area improves the tension and volume of the pulse. It increases the depth of the respirations and thus greatly assists the heart by increasing the force of the respiratory pump. It also, according to some authorities, distinctly increases the value of digitalis in pneumonia by tending to bring the circulation into equilibrium.

If one determines to use the icebag it is most important that it should be firmly fixed, otherwise it will tend to slip down on to the groin and be a source of great discomfort. The sensitive groins should be protected with wool or lint. A medical man, a member of the Liverpool Medical Institution, has mentioned to me the comfort and benefit which he received from the icebag during an attack of pneumonia and he also referred to the discomfort which he experienced until his groins had been protected and the icebag firmly fixed in its correct position.

Liverpool.

FOUR CASES OF ACUTE INTESTINAL INTUSSUSCEPTION; OPERATION; RECOVERY.

BY F. C. WALLIS, F.R.C.S. ENG.,
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CASE 1.—The patient, aged two years and three months, was admitted to Charing Cross Hospital on Jan. 29th, 1903, [illegible] istory of abdominal pain of one week's duration. [illegible] ns were normal. The pain was paroxysmal. [illegible] be felt per rectum on admission but after an [illegible] nd mucus were passed.

Operation.—On the same day under chloroform a firm transverse tumour could be made out at the level of the umbilicus (nothing being felt before the anæsthetic owing to straining). After a two-inch incision above the umbilicus the intussusception was easily reduced; it was of the ileo-cæcal variety. There was slight œdema of the gut. The abdomen was closed in one layer. The operation occupied 12 minutes. Recovery was uneventful.

CASE 2.—The patient, a child, aged seven months, was admitted to the Metropolitan Hospital under my care on July 21st, 1903, with vomiting and collapse for one and a half hours. The pulse could hardly be felt and the extremities and nose were cold. Nothing abnormal could be made out in the abdomen. On the next day, vomiting continuing and blood being passed per rectum at 4.30 P.M. and 6 P.M., the presence of a swelling in the hepatic region was diagnosed and operation was decided on. The temperature was 103° F. in the morning.

Operation.—Under A.C.E. mixture the tumour was made out with ease and I opened the abdomen in the right linea semilunaris by a two-inch incision. The intestines were somewhat congested and distended and it was not found possible to get at the intussusception until the incision had been enlarged and the gut allowed to escape. This was protected by hot cloths and the intussusception (of the ileo-cæcal variety) being drawn up into the wound seven inches of invaginated gut were gradually reduced by combined pressure and traction. The invaginated gut was healthy but a good deal injected. The abdominal wound was closed by silk-worm gut through all the layers of the wall. On July 23rd some blood was passed by the bowel. The temperature sank to normal on the twelfth day, after removal of the stitches, and the child was discharged on August 8th. (N.B.—There were some vomiting and diarrhœa until August 2nd, when breast-feeding was resumed.)

CASE 3.—The patient, a child, aged 11 months, was admitted to Charing Cross Hospital under my care on April 20, 1903. The history was similar to that of the last case—viz., sudden onset of vomiting, paroxysmal pain, and the passage of blood and slime per rectum on the day of admission. The pulse was 160 and the temperature was 97·4° F. An elongated tumour was readily seen and felt in the left half of the abdomen, not very tender, hard, and slightly moveable.

Operation.—This was performed seven hours from the first symptoms and one hour from admission, under chloroform and later chloroform and ether, by median incision below the umbilicus. The tumour, which was easily hooked up by the index finger and readily reduced, was of the ileo-cæcal variety, the appendix appearing last. The operation lasted about nine minutes. The wound was closed by interrupted sutures. On April 23rd, after one drachm of castor oil, the bowels were opened twice; there was no blood or slime. On the 27th the stitches were removed. The patient was discharged in good condition.

CASE 4.—The patient, aged six months, was admitted into the Metropolitan Hospital under my care on June 27th, 1903, with a history of vomiting and much pain for one day. Blood and mucus came from the rectum and a sausage-shaped tumour was present in the right iliac region.

Operation.—Under chloroform an incision was made over the swelling in the right iliac region. The intussusception was ileo-cæcal and easily reduced. The abdomen was sutured in one layer. On June 28th there was acute bronchitis in both lungs which quickly cleared up. On the 30th the patient was much collapsed and had convulsions for four hours. On July 6th the stitches were removed. The temperature was normal on the seventh day. On the 17th the patient was discharged quite well.

These four cases were operated on as soon as the condition was recognised and no attempt to reduce the intussusception by any of the well-known methods was attempted. I have long been of opinion that such methods should not be attempted and *should not be taught*. It must be only in extremely rare cases, if ever, that any good is obtained by injections of water, gas, air, &c., and the usual results of this treatment are waste of valuable time, loss of vitality in the small patient, the possibility of a rupture of the intestine, a continuance of the symptoms, and of the condition of temporary starvation which exists in these patients and which is a serious factor in infants.

In two cases the incision was made in the right semilunar line and in the two others in the mid-line, this depending on the position of the intussusception. In all four cases the intussusception was lifted out of the abdomen, reduced, and returned. No attention was paid to the thickened and inelastic condition of the invaginated bowel—this rapidly recovers; the incision was sewn up with one set of sutures. The operation in Case 1 took 12 minutes; in Case 2 it took 15 minutes; in Case 3 nine minutes; and in Case 4 ten minutes. Feeding was commenced a few hours after the operation and recovery was uneventful in all the cases except in Case 4, which but for prompt treatment might easily have succumbed to an attack of bronchitis.

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[10] Loc. cit.

Early diagnosis is an essential point for the successful treatment of these cases. It is not necessary to wait until a tumour can be felt. Vomiting and the passage of blood-stained mucus coming on suddenly in an otherwise healthy child are sufficient indications for an anæsthetic to be given. When the abdominal walls are thus relaxed any tumour formed by the intussusception can be readily felt and dealt with at once The dangers of waiting were exemplified in Case 2, where, because no tumour could be felt, nothing was quite a large one and had to be manipulated carefully during its reduction.

These cases emphasise the conclusions drawn by Mr. H. M. Rigby in his paper in THE LANCET of Feb. 7th, 1903, p. 364

Harley-street, W.

A CASE OF ACUTE INVERSION OF THE PUERPERAL UTERUS; REDUCTION BY TAXIS; RECOVERY.

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AND

ROBERT MUSCHAMP, L.R.C.P. & S. EDIN.

ACUTE inversion of the uterus is a condition which fortunately very rarely occurs. Dr. Robert Barnes[1] stated in 1885 that the accident had become so rare that many men of large experience had never seen it. In former days it was not uncommon and this may be said to be the case in countries where obstetric practice is largely in the hands of women. Let us now hope that eventually our efforts to improve the efficiency of midwives and the art of obstetrics generally may render it still more rare. Owing to the infrequency of the condition no useful statistics are available, but a number of cases have been reported and collected from time to time, especially abroad. The obviously dangerous symptoms of acute inversion are those of shock which is severe and uterine hæmorrhage, and from either or both of these conditions about one-third of the cases die. About three-fourths of the fatal cases die within half an hour. Of those who survive the immediate dangers nearly one-fourth die in the chronic stage, often when the re-establishment of menstruation leads to further hæmorrhage. Although generally due to faulty management of the third stage of labour there are doubtless certain abnormal conditions occasionally present under which the catastrophe may occur spontaneously.

For the opportunity of treating the following case, and especially for the trouble taken in obtaining a history of the accident, I am indebted to Mr. Robert Muschamp of Guiseley who was called in to see the patient and at once recognised the state of affairs and had the woman conveyed to Leeds to be placed under my care. The following is the history of the case so far as Mr. Muschamp had been able to get it from the midwife who was present at the confinement.

The patient, aged 28 years, married, was in her third pregnancy. Her first labour was instrumental and the second, which took place about two and a half years previously, was normal. On Jan. 19th, 1904, she did her day's washing and about 12.30 A.M. on the 20th she commenced with rather severe labour pains. The midwife was sent for and the child was born about 20 minutes after her arrival. The whole duration of labour was about six hours. The placenta came away without much pain 15 minutes after the delivery of the child and on the midwife slightly pulling the cord and asking the patient to cough. There was a free discharge, but, in the words of the midwife, "not what you would call a flooding." The patient, however, stated that she lost much more than she did at her previous confinements. The midwife felt the uterus before putting on the binder and it was, in her opinion, in its usual place and contracted. The binder was applied firmly. Immediately afterwards the patient was attacked by violent after-pains which continued all day. On the 21st she was easy but looked very pale and sickly. She remained in about the same condition on the 22nd. On the 23rd the bowels acted after half an ounce of castor oil. On the 24th she felt better and sat up in a chair for about ten minutes while the bed was made. She made no complaint of feeling faint and got back to bed all right. On the 25th she took a dose of liquorice powder, followed by one of castor oil and brandy. Early next morning (the 26th) she got out of bed and sat on the commode, when she had a great bearing-down sensation as though she wanted to relieve the bowels. At 6 A.M. she sent for the midwife and complained of something being down. On examination the midwife found a protrusion from the vagina to the extent of about an inch. She gently pressed this protrusion and it seemed to spring back. Mr. Muschamp was then called in by the midwife and he found the patient in a semi-collapsed condition, the temperature being subnormal and the pulse small and beating 120 per minute. On vaginal examination he found a fleshy and somewhat elastic tumour of about the size and shape of the lower three-fourths of a large Schweppe's soda-water bottle with the bottom rounded off and slightly flattened. The tumour was covered with tissue débris mixed with blood, &c., the whole giving off a very fœtid odour. On introducing his hand further—to where the neck of the uterus should have been had the tumour been merely a protrusion—he found the tumour practically continuous with the vaginal wall. The case was clearly one of complete inversion of the uterus and Mr. Muschamp at once sent the patient to the Hospital for Women and Children, Leeds, under my care.

On admission the patient was in a collapsed condition, the extremities were cold, and the pulse (126) was almost imperceptible at the wrist. The temperature was subnormal. There was very little hæmorrhage. The usual restorative measures were therefore adopted and it was thought wiser to allow the patient to recover a little if possible before doing any more. On Jan. 27th, being the eighth day of the puerperium and about 24 hours after admission, I made a careful examination. The abdomen was flaccid, not very tender, and easily palpated. No trace of the fundus uteri could be detected above the pelvic brim. On vaginal examination an offensive tenacious bloody discharge was noticed and a round swelling occupied the distended vagina, its lowest pole reaching to within about half an inch of the vulval outlet.

It was decided to attempt reduction with the aid of an anæsthetic. Mr. J. F. Dobson took the responsibility of the latter duty and I am specially obliged to him for his skilful help for reasons referred to later. The patient was placed in the left lateral position. After clearing away by douching and swabs the foul lochial discharge and débris which were present in the vagina and clinging to the surface of the tumour, I inserted my left hand completely into the vagina and satisfied myself that the mass was that of a completely inverted uterus and nothing else. There was no trace of a cervical ring, the neck of the uterus passing directly and smoothly into the vaginal fornices at the top of the pelvis. The surface of the mass was softish and of a pinkish colour, somewhat roughened and spongy, especially on its anterior aspect. This anterior portion also seemed rather more impressible and was no doubt the placental site. The right hand was then passed up above the pubes and a bimanual examination was made. No fundus uteri was detected anywhere except in the grasp of the left hand, but on pressing the fingers downwards in the hypogastric region the inverted cervix could be made out with ease and a finger could be inserted into the depression formed by the inverted structures. Owing to the contracted state of the uterus it seemed doubtful whether I should succeed in reducing the displacement by taxis or whether gradual methods would have to be adopted, such as elastic pressure by Aveling's or other procedures. I tried the former. The uterus was grasped in the left hand and gently compressed. The right hand was then used for counter-pressure above the pubes, the finger tips being so far as possible held in the form of a ring on the rim of the depression felt through the abdominal wall. The anterior part of the uterine wall was softer than the posterior and could be more readily indented. I took advantage of this and pressed this portion up with my thumb. As soon as a pouch was formed upwards in this part the advantage gained thus was maintained by the pressure of a gauze pad held in sponge forceps. A further portion of wall lower down was then pushed up and so on. The cervix was noted to yield as further portions bulged upwards into its canal. Ultimately the whole uterine and cervical walls were restored completely to their normal position, the last portion to return being the posterior lip of the cervix. Finally, I passed several fingers into the uterus as far the fundus and by internal and external manipulation made sure that the reduction was complete. Keeping the fingers in the uterus the cavity was freely irrigated with weak biniodide of mercury solution (1 in 5000) and finally packed from above down with iodoform gauze as the fingers were withdrawn.

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[1] Obstetric Medicine and Surgery, vol. ii.

It is important to emphasise the fact that during the actual progress of replacement, which occupied some eight or ten minutes, the patient suffered severely from shock and at this time required very careful attention from the anæsthetist, Mr. Dobson. Saline infusion, hypodermic injections of strychnine, and other measures were required. When the operation was over the condition markedly improved.

On the day of the operation the gauze was removed and the uterus, which retained its normal shape, was irrigated with sterilised water and repacked. On the following day the gauze drainage was discontinued. The temperature rose to 101° F. on the second day but gradually settled and from the sixth day remained normal. The extreme anæmia was dealt with in the ordinary way and rapid improvement took place. The patient left the hospital on the sixteenth day after operation and on that day a pelvic examination was made. The uterus was apparently in a condition which could be described as normal for the third week of the puerperium. There was no displacement and the uterus was symmetrical and firmly contracted. The cervix was also normal.

Remarks.—The diagnosis of the case was definite and the result of treatment was satisfactory. The point of interest is as to when the inversion took place. Mr. Muschamp suggests that a partial inversion was produced during the removal of the placenta and that the inversion was completed by the contraction which followed during the period of severe after-pains. In support of this the history relates an artificial removal of the placenta; some pulling on the cord and voluntary coughing and straining; then a free hæmorrhage and for several hours violent after-pains; a few days afterwards rectal pressure symptoms and an attempt to relieve them by aperients. The symptoms became worse on purging and on straining at stool the fundus was forced through the vulva. This explanation seems to me entirely the correct one and I think it extremely unlikely that the inversion took place on the seventh day when Mr. Muschamp was called in.

KOPLIK'S SPOTS IN THE DIAGNOSIS OF MEASLES.

By J. C. MUIR, M.D. CANTAB.,
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IT will be readily admitted that in dealing with outbreaks of measles in a hospital or other institution one of the most important points is to make a definite diagnosis as soon as possible in every suspected case. The same is true in private practice if it be desirable and possible to shield from infection the younger or especially feeble members of the family. The comparatively slight attention paid to Koplik's spots in this country and the fact that they have even been regarded as of no great value must be my excuse for venturing to record so small a number of cases. I am indebted to Dr. J. Biernacki, medical superintendent of the Plaistow Hospital, for permission to publish them.

CASE 1.—The patient, a male, aged five years, was admitted for scarlet fever on Jan. 1st, the fifth day of the scarlatinal attack; the temperature, which had fallen to 99·8° F., rose to 102° without obvious cause. On the 2nd there was distinct broncho-pneumonia without other catarrhal symptoms. On the 4th the temperature was 103°. Koplik's spots were present; they were not looked for earlier. A diagnosis of measles was made and the patient was isolated. There were no distinct coryzal symptoms. On the 5th the rash was seen. This case is interesting as an instance of measles developing in the acute stage of scarlet fever.

CASE 2.—The patient, a male, aged four years, was admitted for diphtheria. On Dec. 31st the temperature, which previously had been normal, rose to 99·2° F. On the 2nd (the third day) he had slight cough. Koplik's spots were present but were not typical; on the 3rd they were distinct. A diagnosis was made and the patient was transferred to the measles ward. On the 4th (the fifth day) the rash developed.

CASE 3.—The patient, a male, aged three years, was admitted for diphtheria. On Dec. 31st the temperature was 102° F. at 11 P.M. On Jan. 3rd (the fourth day) Koplik's spots were present; they were not looked for earlier. A diagnosis was made and the patient was transferred to the measles ward. The catarrh was very slight. On Jan. 4th (the fifth day) the rash developed.

CASE 4.—The patient, a male, aged two years, was admitted for scarlet fever. On Jan. 2nd the temperature was 99° F. On the 4th (the third day) the rash and Koplik's spots were both present. The spots were not looked for earlier.

CASE 5.—The patient, a male, aged one year, was admitted for diphtheria. On Jan. 7th the evening temperature was 101° F. He had a slight cough and had sneezed. On the 9th the temperature was 100·2°. Koplik's spots were present (36 hours from the onset). The catarrh was very slight. A diagnosis was made and the patient was transferred to the measles ward. On the 11th (the fifth day) the rash developed.

CASE 6.—The patient, a male, aged five years, was admitted for scarlet fever. On Jan. 4th he had a slight nasal discharge. On the 7th the temperature was 100° F. On the 8th (the second day) spots were present, within 24 hours of the onset of the pyrexia. There was no catarrh. On the 11th (the fifth day) the rash developed.

CASE 7.—The patient, a female, aged five years, was admitted for diphtheria. On Jan. 10th the temperature was 98·8° F. in the morning and normal in the evening. On the 11th the temperature was 102° in the evening. Koplik's spots were present (second day). On the 12th (the third day) a slight and atypical rash was present. Catarrh was practically absent. On the 13th the rash was characteristic.

CASE 8.—The patient, who was a brother of the patient in Case 7, aged one year, was admitted for diphtheria. He was examined on Jan. 12th in view of the occurrence of the last case. He had very slight cough but no symptoms suggesting measles. The temperature had been 98·8° F. on the 10th but normal before and since. Koplik's spots were found on the 12th. He was isolated in the forenoon with a diagnosis of measles. In the evening the temperature rose to 100°. On the 13th the rash developed.

CASE 9.—The patient, a male, aged three years, was admitted for scarlet fever. On Jan. 17th the temperature was 99 8° F. On the 18th (the second day) spots were present though not well marked. On the 20th (the fourth day) the rash developed. The spots were now well marked.

CASE 10.—The patient, a male, aged two years, was admitted for diphtheria. On Jan. 22nd the temperature at 11 P.M. was 102·8° F. On the 24th (the third day) there were some doubtful spots; the catarrh was slight. On the 25th (the fourth day) the spots were distinct. The patient was transferred to the measles ward. On the 26th the catarrh had increased Late at night there were doubtful traces of rash. On the next day (the sixth) the rash was characteristic.

CASE 11.—The patient, a male, aged five years, was admitted for scarlet fever. On Jan. 24th the temperature was 100 6° F. On the 25th spots were present at 3 P.M. (24 hours from the onset) but were not well marked. At 11 P.M. they were quite well marked. A diagnosis was made. No catarrh was present. On the 28th (the fifth day) the rash developed.

Three other cases occurred before the above but were diagnosed and isolated without reference to the spots. In these 11 cases, in which the spots were definitely looked for, they were found in all, though in most larger recorded series there have been exceptions. Unfortunately, in the earlier ones the spots were not looked for sufficiently soon, but in those in which a systematic search was made their appearance was never delayed beyond the third day of pyrexia and occasionally they were seen within twenty-four hours of its onset. The interval from their appearance to that of the rash varied between one and three days. Except in Case 1 the temperature was previously normal or subnormal, so that the onset could be accurately dated. In Case 6 there was slight nasal discharge for three days with normal temperature; in all the others pyrexia was the earliest symptom. Case 8 is specially interesting as it presented no symptoms suggestive of measles and was only examined for the spots on account of the relationship to Case 7. In almost all the cases the prodromal catarrh was very slight, a fact which enhanced the value of the spots. In some of them it is not too much to say that a certain diagnosis was impossible, at that date, apart from their presence. I had not at first the courage to put a child into a ward with other cases of measles on the strength of the spots, with only slight (and in itself insufficient) collateral evidence of infection. Latterly, however, I did so, and in no case did the rash fail to develop. Cases of pyrexia in other conditions, such as serum rash, broncho-pneumonia, and the like, were carefully examined, but only once did I find any condition which could not, with care, be differentiated from the spots. The case was one of diphtheria in which there occurred one evening a temperature of 102° F. with cough. On examination I certainly thought I saw two or three Koplik's spots and had the patient placed in a ward by himself. Next morning, however, there was no trace of the spots nor did they subsequently develop. The cough proved to be the earliest symptom of a severe attack of diphtherial paralysis. It may be said, then, that making allowance for the shortness of the series, it bears out the conclusion of most writers that Koplik's spots are of much value in the *early diagnosis of measles*. Other symptoms which will usually be present and may even occur before the pyrexia must not be neglected. It is where these other symptoms are slight and inconclusive as in some of the above cases, that the presence of the spots may decide the diagnosis. They are absent in, roughly, 10 per cent. of recorded cases.

Plaistow, E.

A CASE OF RENAL ABNORMALITY.

By RUPERT BUTTERWORTH, M.B., B.C. CANTAB.,

HOUSE PHYSICIAN AT THE DERBYSHIRE ROYAL INFIRMARY, DERBY.

BY the courtesy of Dr. E. Rice and Mr. R. H. Luce, under whose care the patient was while in the Derbyshire Royal Infirmary, I am enabled to report what I hope may be considered an interesting abnormality.

A man, aged 34 years, was admitted into the infirmary on May 20th, 1904, with a history of hæmatemesis and he was said to have had some fits the precise nature of which could not be ascertained. There was no history of any renal trouble. He was obviously very ill and died a few hours after admission. No hæmatemesis occurred nor did he have any fits during that time. He was somewhat comatose and there was some bleeding from his gums. His tongue was not bitten.

At the post-mortem examination it was found that there were miliary tubercles along the meningeal blood-vessels, there being fairly large aggregations in some places. They were chiefly on the vertex and comparatively scarce at the base. There was congestion of the blood-vessels of the left occipital lobe. The lateral ventricles were considerably dilated. The upper lobe of the right lung was shrunken and airless, the bronchi being hard and dilated. There were no cavities or scars. The bronchial glands were calcareous. The stomach was distended with fluid but contained no blood. There was congestion of the veins at the cardiac orifice.

The interest of the case consisted in the fact that there was only a single kidney, firmly fixed, situated in the middle line. The upper end just overlapped the bifurcation of the abdominal aorta and the main portion lay between the two common iliac arteries. It rested on the fourth and fifth lumbar vertebræ and the upper segment of the sacrum. It was approximately of the size of a normal kidney, if anything slightly smaller. As I wished to send it intact to the St. Mary's Hospital Museum, London, I did not separate it from the ureter to weigh it. For the same reason I did not cut it and I am indebted to the curator, Dr. J. F. H. Broadbent, for the description of the kidney on section. In shape it was lobulated and broader at the upper end than at the lower. The renal artery came from the right common iliac. On section Dr. Broadbent states that he found a considerable degree of hydronephrosis with chronic thickening of the calices and connective tissue framework with atrophy of kidney tissue of which there was very little remaining. There was a single ureter six inches in length. It rose from the posterior aspect of the kidney low down. Its lumen was very large, averaging three-quarters of an inch. There was a constriction just before it entered the bladder, into which it opened by a single orifice in the middle line. There was no stone found or any reason to believe that the dilatation was other than congenital. The bladder wall was normal. The rectum crossed the single ureter almost at right angles and dipped down into the pelvis on the right side of the bladder—a curious relation, but it did not appear to have exerted pressure on the ureter.

The whole condition is perhaps more interesting from a surgical than from a medical point of view, although it seems extraordinary that the small amount of kidney tissue was sufficient, and should such an abnormality occur in a woman it would be a possible cause of obstructing labour by diminishing the conjugate.

Derby.

AN UNUSUAL CASE OF MUSCULAR ATROPHY.

By W. LANGDON BROWN, M.A., M.D. CANTAB., M.R.C.P. LOND.,

ASSISTANT PHYSICIAN TO THE METROPOLITAN HOSPITAL; JUNIOR DEMONSTRATOR OF PRACTICAL MEDICINE, ST. BARTHOLOMEW'S HOSPITAL.

THE following case of progressive wasting of the muscles of the shoulder girdle which I have had under observation for two and a half years presents some unusual and interesting features.

The patient first came under my care in November, 1901. He was then 13½ years of age. He was said to have lost power in the left arm at the age of five months. Since that time the left arm had always been smaller than the right but there had been no progress in the wasting till one year ago. One brother had died in an asylum, otherwise there was nothing in the past history or family history bearing on the case. At first sight the diagnosis seemed to lie between old infantile palsy or Erb's juvenile paralysis. The history was untrustworthy, so that it was difficult to estimate how much of the wasting was recent and how much of it was old. But the fact that the left arm, measured from the coracoid process to the styloid process, was an inch shorter than the right showed that some of the wasting must have been of long standing. Yet a response was elicited from all the muscles both to the cell and to the coil currents. This made it look very like a myopathy, but there were two points strongly against this: (1) the affected muscles showed marked fibrillary tremors; and (2) the grouping of the muscles was quite different from that found in the myopathies, as the following table shows:—

Erb's type.		*Present case.*	
Biceps	atrophied.	Deltoid	Completely atrophied.
Triceps		Supraspinatus	
Supinator longus		Infraspinatus	
Deltoid	natural.	Biceps	Partially gone.
Supraspinatus		Triceps	
Infraspinatus		Pectorals	
		Supinator longus	natural.

In all other respects the boy appeared normal and in good general health. In 1902 the right side began to get weak also and fibrillary tremors were noticed on this side. In October, 1902, he was admitted to the National Hospital for the Paralysed and Epileptic, Queen-square, under the care of Sir William Gowers; the registrar has kindly informed me that the opinion formed at that time was that the boy had infantile palsy with doubtful muscular atrophy occurring subsequently. I did not see him again till the end of 1903 when I was struck with the increased loss of power in the left arm and the wasting of the left hand. It was stated that he had begun to have fits of unconsciousness during which he struggled and occasionally passed urine, but this was never seen during his stay in the Metropolitan Hospital where he was under my care from Feb. 29th to March 21st, 1904. His condition on admission was as follows. He was a healthy looking lad, 16 years old. His arms were very thin, especially the left. On this side the deltoid was almost absent, the head of the humerus, the acromion, and the coracoid process being very distinctly seen. The supraspinous and infraspinous fossæ did not appear to be occupied by any muscle at all. The trapezius was present but not well developed. There was very little of the pectoralis major remaining. The biceps and triceps were much wasted. In all these muscles fibrillary tremors were to be seen. There was no noticeable wasting of the muscles of the forearm. The thenar eminence of the hand was flattened and the interossei appeared to be slightly wasted. Formerly he could raise the left arm above the head without much difficulty; now he had to adopt the following complicated manœuvre. The upper arm was first approximated to the chest and the scapula fixed. The forearm was then flexed and finally the whole arm was raised by simultaneous extension of the forearm and rotation of the shoulder forward. On the right side the supraspinatus, infraspinatus, and deltoid were all slightly wasted and showed fibrillary tremors. The muscles of the abdomen and legs were not wasted. The knee-jerks were normal, there was no spasticity, the gait was not affected, and no disturbance of sensation could be discovered. The electrical reactions tabulated below were very different from those obtained in 1901:—

Left Side.—I. *Responding neither to Cell Current nor to Coil Current.*

	Spinal origin.
Deltoid	4th and 5th C.
Supraspinatus	4th C.
Abductor pollicis	8th C. 1st T.
Lumbricales...	
Interrossei (except fourth palmar)	

II.—*Not Responding to Coil Current, Sluggish to Cell Current.*

	Current in milliampères.	Spinal origin.
Fourth palmar interosseous	14	8th C. 1st T.
Adductor pollicis	13	
Infraspinatus	12	4th C.
Supinator longus	10	5th C.

III.—*Responding to Coil Current, somewhat Sluggish to Cell Current.*

	Current in milliampères.	Spinal origin.
Pectoralis minor	10	7th C.
Biceps	8	5th and 6th C.
Triceps	8	6th and 7th C.

IV.—*Reacting readily to both Currents.*

	Current in milliampères.	Spinal origin.
Pectoralis major	6	6th and 7th C.
Trapezius	6	2nd and 3rd C.
Extensors and flexors of forearm	6	6th and 7th C.

Right side.—All responded to cell current though the infraspinatus required a current of more than 15 milliampères and all responded to coil current.

That the condition is a progressive one there can now be no doubt. The increased loss of power is well shown by the difficulty experienced now in raising the arm, the increased wasting is seen in the intrinsic muscles of the hands, and the increased degeneration is amply attested by a comparison of the electrical reactions in 1901 and 1904. Old infantile palsy cannot account for these facts, especially as fibrillary tremors can now be seen on the right side. Erb's juvenile type of muscular dystrophy is negatived by the distribution of the wasting and by the disappearance of coil current excitability in certain muscles without loss of cell current excitability. Moreover, fibrillary tremors do not occur in myopathies. There remains the spinal type—chronic anterior poliomyelitis. Looking at the spinal representation of the muscles involved we see that the fourth, fifth, and eighth cervical and first thoracic segments are most affected, while intermediate segments, the sixth and seventh cervical, show less degeneration. And the degeneration in the lowest segments is quite recent. Beevor in Allbutt's "System of Medicine" points out that progressive muscular atrophy begins either at the upper or lower end of the brachial enlargement of the cord, while the part corresponding to the sixth cervical escapes. The grouping, then, of the affected muscles, the total absence of electrical response in some of them, and the reaction of degeneration in others, together with the presence of fibrillary tremors, seem to make it certain that chronic anterior poliomyelitis exists in this case. The history and the defective development of the humerus on the left side point also to an old acute anterior poliomyelitis. But if we take this view there are three unusual features in the case. 1. It is most exceptional for acute anterior poliomyelitis to become chronic. All the damage which is going to be done is usually done at once. And in this case there was an interval of about 12 years before the lesion became progressive. 2. Chronic anterior poliomyelitis is not a disease of youth. Beevor states that it rarely occurs before 25 years of age, though a case has been recorded in a child, aged one and a half years (Thomson and Bruce). 3. Chronic anterior poliomyelitis usually shows itself first in the small muscles of the hand. Here the shoulder girdle was attacked first, though the more ordinary procedure is being followed now, for the intrinsic muscles of the hand are degenerating faster than those affected earlier. Perhaps the previous attack of infantile palsy determined the onset of the progressive muscular atrophy in an area already damaged.

Finsbury-square, E.C.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF "LATENT" PNEUMOTHORAX.

BY RICHARD BEVAN, L.R.C.P. LOND., M.R.C.S. ENG., D.P.H.

THE description of a case of pneumothorax recorded in a recent number of THE LANCET by Mr. E. F. Coghlan[1] has prompted me to put on record the notes of a case of so-called "latent" pneumothorax which recently occurred in my practice and in which the rapidity and completeness of the patient's recovery were as remarkable as they were in the case referred to.

On Sunday, Feb. 28th, 1904, I was sent for to see a young man, aged 24 years, a clerk in an office, who until the previous Friday morning had enjoyed the most robust health. As a proof of this he assured me that although he had been in his present situation for six years he had been absent for one day only during that period on account of sickness and that was for a severe cold in the head. He gave the following history. On Thursday afternoon after finishing his day's work he wished to put away a large pile of heavy ledgers on which he had been working. In height these, when being carried, extended from his chin to the length of his outstretched arms. His usual practice was to get his fingers underneath the pile, to tip them, and to allow them to fall bodily on to his chest. There was no lifting as the ledgers when resting on the desk were on a level with his chest. He had performed the same manœuvre scores of times without ill effects and he at the time felt none on this particular occasion. Being anxious to have some exercise after his day's work he walked from his office home, and no pain or discomfort or difficulty in breathing made its appearance before retiring for the night, except a feeling of extreme coldness. On waking in the morning and endeavouring to get up he experienced much difficulty in breathing, the sensation being, he said, as if one lung was solid and useless. The dyspnœa and distress were much increased later and especially on any movement, yet he determined to go to the office. During the whole day he felt very ill and thought that he had pneumonia or some acute lung trouble. On Saturday he remained at home, any movement causing him extreme breathlessness, but on the other hand while lying flat on his back and remaining quiet he had no pain and the urgency of the breathing was relieved. This made him hope that the attack would pass off. On Sunday, however, I was sent for. He was up when I saw him and his condition was as follows. While he was lying quite still there was not much apparent distress, his respirations being 32 per minute, his pulse 124, and his temperature 97·8° F. He was a healthy-looking [illegible] eight, well nourished [illegible] pounds. On examin- [illegible] walls was observable on the left side and the intercostal spaces were widely distended. On palpation no vocal fremitus could be obtained either in front or behind and the percussion note on that side was so absolutely dull and muffled in tone as to make me at first believe that the left pleural cavity contained fluid. The dull note extended evenly all over the front and back and no heart impulse was anywhere on that side observable. On auscultation no breath sounds or vocal fremitus could be heard at the back or front, but at or about the fifth intercostal space in front there was to be heard on inspiration a peculiar metallic sound which it is difficult to describe accurately, but which resembled in a marked degree the peculiar metallic spring-like noise which is made by my collar stud (which has a moveable head on a spring attachment) when I move my head. This sound, I may here remark, ceased on the third day of my attendance and was, I suppose, due to the escape of a minute bubble of air from the valvular opening in the lung and its bursting in the pleural cavity. On examining the right side of the chest the heart apex was discovered at a point in the fifth interspace about one inch beyond the right border of the sternum. Over and around this position the heart sounds were fairly audible. With this exception the physical signs on the right side were normal, the dividing line between the two pleural cavities being easily mapped out by the percussion note and the presence and absence of vocal resonance. The bruit d'airain was absent. The patient was simply kept quiet in bed for the first fortnight. He had no pain or dyspnœa and he slept and ate well. On the third day of my attendance the extreme distension of the left side had lessened perceptibly and the percussion note for the first time became markedly hyperresonant all over, including, of course, that portion of the left side usually occupied by the heart. From the first he gradually got better; the heart beats lessened in frequency, the tension in the chest lessened, the heart gradually moved over to its proper position, and the breath sounds returned, first at the apex in front and then gradually lower and lower; the difference in the vocal resonance on the two sides became less and less marked as the lung became less compressed by the absorption of the contained air until at the end of eight and a half weeks (April 28th), when I examined him carefully before letting him go for change of air prior to going back to work, no abnormal symptom could be discovered. He never at any time had any cough. His temperature never rose above [illegible] uring the illness able [illegible] in the pleural cavity. [illegible] He returned to work after a fortnight's change well and strong.

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[1] THE LANCET, April 16th, 1904, p. 1052.

With regard to the cause of this accident, although an interval of some hours elapsed between what was the apparent cause and the effects, yet there is no doubt in my mind that the blow or weight on the chest by the ledgers was the direct cause. The leakage of air was so very gradual, the opening being minute and probably valvular, that it is impossible to say at what moment physical signs could have been discovered if they had been looked for. Distress did not arise until compression of the lung had become extreme. It has been argued by the office in which he was insured that he *ought* to have felt the symptoms sooner, but when in bed lying quietly on his back he never during the whole course of his illness had the slightest pain, distress, or dyspnœa, so that physical signs probably existed long before they were apparent to him. With regard to the mode of causation, we have first a deep inspiration filling out the chest cavity to the lung's utmost capacity and closure of the glottis, the lower edge lying between the chest wall behind the sixth rib and the firmly contracted diaphragm. Suddenly the patient has a smart blow from the heap of ledgers falling on to his chest wall, bending in the sixth rib, and possibly nipping or forcibly compressing the edge of the lung and rupturing a minute air vesicle. M. Gosselin even says that the prolonged compression of the over-distended lung will cause it to give way, the glottis being tightly closed. The analogy has been suggested of a bit of the inner tube of a bicycle being accidentally nipped between the wire of the outer casing and the rim of the wheel when not properly returned after mending a puncture, &c., and rupturing the tube directly the rider mounts and puts pressure on the tube. It has been suggested, too, that in most if not all of these cases of pneumothorax occurring in the apparently healthy some previous disease, probably tuberculous softening, has conduced to bring about the result Here we have no family or previous personal history which would lead one to suspect it, and the complete recovery of the patient tends to nullify any such supposition; besides which the history of the accident would to my mind be quite sufficient to account for the damage to the lung without there being any necessary previous disease, while finally the absence of any effusion or pleurisy tends to confirm my contention of its absence.

West Kensington, W.

PTOMAINE POISONING FOLLOWED BY DESQUAMATION.

BY PERCY T. GOODMAN, L.S.A. LOND.

ON May 20th, 1904, I was called in the early morning to a family of seven persons who had all partaken of a fish supper on the previous evening. They were in a state of collapse, with pallid faces, clammy perspiration, and cold extremities, and were complaining of severe abdominal pain and vomiting. In two cases diarrhœa was present with very offensive stools. There was no urticaria or rash of any description. None of the family had any rise of temperature or sore-throat. Warmth was applied to the extremities and a purgative was given followed by stimulants (ammonia and ether). All the patients recovered and I saw nothing more of them until June 1st when the mother brought one of her boys to me on account of his school teacher having sent him home because of the condition of his hands and feet from which the skin was coming off, chiefly on the palmar surface, in large flakes. The mother also had some slight desquamation on the forearms. I went to the house and saw the other children whose ages ranged between seven and 16 years, all of whom had the same curious desquamation on the palms of the hands and the soles of the feet. The father alone was not affected in this manner.

I have heard of one other similar case which occurred in the practice of my friend Dr. J. Snowman of Brondesbury, but I do not remember having anywhere read an account of this remarkable condition after food poisoning. The points of interest in these cases lie in their strong resemblance to post-scarlatinal desquamation and in the fact that six of the seven persons who suffered from ptomaine poisoning developed this unusual sequela.

Spitalfields, E.

SEQUEL TO A CASE OF INOPERABLE CANCER TREATED BY OOPHORECTOMY.

BY WALTER EDMUNDS, F.R.C.S. ENG.,

SURGEON TO THE TOTTENHAM HOSPITAL

IN THE LANCET of March 29th, 1902, at p. 888 is recorded a case of scirrhus of the breast in which symptoms of intrathoracic growth appeared five years after amputation. There was also a recurrence in the remaining breast. Oöphorectomy and thyroid feeding were had recourse to, with the result that at the time of the report, a year after the operation, the patient was much better. The tumour in the breast and axillary glands had almost disappeared and the dyspnœa, too, had nearly gone. The further history of the case is that nine months later the patient was not so well: the tumour in the breast had somewhat increased and was commencing to involve the skin; the dyspnœa, too, was somewhat worse. Three months later the skin over the tumour had ulcerated and on this account it was thought advisable to amputate the breast. Unfortunately the patient died from heart failure while under the anæsthetic. An account of this part of the case has already been placed on record by the anæsthetist.[1]

A post-mortem examination was made by Dr. L. Freyberger at which he invited me to be present. The right breast was as described; there were also enlarged glands in the axilla and recently infiltrated glands in the flank. At the bifurcation of the trachea was a mass of secondary growth involving the roots of the lungs. The left lung was bound to the chest wall by old adhesions, the aorta was atheromatous, and the heart had undergone some fatty degeneration. Although the oöphorectomy did not save the patient's life it produced for a time great benefit; the tumour in the remaining breast almost disappeared, while the small growth behind the ear did completely disappear; the symptoms due to the intrathoracic growth were also greatly relieved. In this case then, as in many others, much good was done by the operation. In conclusion, it may be pointed out that any theory as to the pathology of cancer must explain the improvement effected by oöphorectomy in recurrent scirrhus of the breast.

Devonshire-place, W.

A Mirror
OF
HOSPITAL PRACTICE, BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Procemium.

GREAT NORTHERN CENTRAL HOSPITAL.

A CASE OF SARCOMA OF THE PLEURA AND LUNG WITH CONSECUTIVE PERICARDITIS AND GROWTH IN BRAIN AND PANCREAS, PRESENTING UNUSUAL CLINICAL FEATURES.

(Under the care of Dr. H. W. SYERS.)

THE patient, a man, aged 31 years, married, was admitted into the Great Northern Central Hospital on Sept. 3rd, 1903, complaining of pain in the abdomen, headache, and malaise. He was in his usual health until the last week of the previous April, when he complained of feeling giddy from time to time. On May 14th he fell a distance of four feet on to a mound of soft earth. From this time onwards he complained of headache, backache, and of pain over the upper portion of the abdomen. At the beginning of June he first noticed that his eyesight was not so good as formerly and on several occasions he "saw double." At the same time some slight swelling of the face was noticed. There had been no swelling of the lower extremities or under the eyes; no vomiting, shortness of breath, cough, or jaundice had been complained of. Seven years before the patient suffered from rheumatism but the illness did not seem to have been serious. One and a half years before admission he had an attack of pleurisy affecting the left side, but was in bed one day only. There was no history of "fits" and none of alcoholism. Apart from the maladies mentioned he always appeared to have had very good health and there was no history of syphilis. The family history was unimportant. The patient was thin and rather pale. He complained of headache, not localised, and of failing eyesight, together with more or less generalised and indefinite pain, which was not, however, severe. The temperature was normal, the pulse was 96, and the respirations were 24; the tongue was clean. The lungs were healthy, except that at the left base there was dulness on percussion, extending nearly to the angle of the left scapula, and over the dull area the breath sounds were very feebly audible. The vocal resonance and vocal fremitus were both greatly diminished. In fact, there were the ordinary signs of a moderate pleural effusion at the left base. No adventitious sound could be detected in this locality. The heart was acting in an extremely forcible manner, so much so that the heart impulse, which was greatly diffused, could be seen at some distance from the bed and this even when the bedclothes were stretched over the chest as the impulse was sufficiently vigorous to raise them. The maximum impulse was in the fifth interspace and in the nipple line. No thrill could be detected on palpation. There was no murmur at the apex, but a rough systolic murmur could be detected at the second left interspace close to the sternum. The carotids did not pulsate unduly. Examination of the abdomen, and more especially of the epigastric region, revealed nothing abnormal. There was no paralysis, either general or special. Both knee-jerks were absent. A flexor plantar reflex could be obtained. These was no anæsthesia anywhere. The gait was somewhat unsteady and when he stood with eyes closed and feet together he began at once to stagger. There was slight undue prominence of the right eye but it was not certain that this had not always been the case. The pupils were equal and acted both to light and accommodation. There was no special peculiarity as regards speech. Most marked double optic neuritis was present, the lesion being especially prominent on the left side. The urine had a specific gravity of 1010; it was acid and contained neither albumin nor sugar.

On Sept. 8th it was reported that the patient had been restless and uneasy, especially at night. At times he seemed to lose consciousness momentarily and occasionally for longer periods. While unconscious he fell out of bed on two occasions. There was complete control of the sphincters. The violent action of the heart continued and was indeed more marked; the pulse-rate varied from 80 to 90. There were no fresh physical signs on auscultation either of the heart or lungs. On the 9th the condition was unchanged, except that the patient was less restless. The tendency to lose himself mentally was less marked. On the 14th a loud, harsh, pericardial friction sound was detected, loudest at the base and down the right margin of the sternum. There was no pain in the præcordial region and the temperature remained practically normal. On the 15th there was very obvious pericarditis; the apex beat was felt in the fifth interspace, half an inch internal to the nipple; it was diffuse and very forcible, raising the chest wall. No thrill could be detected. The dulness at the base of the left lung had now become absolute, and over this area the heart sounds were heard with unnatural clearness. The breath sounds were now completely absent over the dull area which extended upwards almost to the root of the lungs. The knee-jerks were still absent and irritation of the soles of the feet caused no extension of the toes. There was no paralysis or even paresis and no anæsthesia could be made out. The pupils remained equal and active both to light and accommodation.

The patient's mental condition now showed a change. He had been throughout rather silent and indifferent as to his condition, but by this time, although perfectly intelligent and readily responding when spoken to, he manifested a marked loss of initiative. He never asked for anything, showed no likes or dislikes, and made no complaint of any kind. He was not dull or lethargic, for when addressed he invariably answered clearly and to the point. The optic neuritis was, if anything, still more marked but he could see to read, though he never read a book or a paper voluntarily, remaining perfectly quiet in one position for hours together. On Sept. 19th it was noticed that the right eye was slightly more prominent than the left. The pericarditis persisted, the double friction sound being very well marked; the cardiac dulness now extended to the right border of the sternum. Nothing abnormal could be detected on examination of the abdomen, but during the next few days there were some pain after eating and flatulent distension. On the 24th he complained of severe pain in the upper portion of the abdomen, the pain extending through to the back. The pain prevented him lying down in an easy posture. He was now getting thin and the expression was worn and anxious. On the 28th the abdominal pain continued. The dulness over the left base was now increasing both vertically and towards the lateral region. On this day and on a previous occasion an exploring needle was passed into the area of dulness but neither fluid nor pus was withdrawn. On the second occasion some bright red blood entered the cavity of the syringe, but a small quantity only. On the 29th the cardiac dulness was increased in all directions, extending upwards to the left clavicle and one and a half inches beyond the right border of the sternum, and at the same time the friction sound disappeared, except at the left base, where it was faintly audible. The excessive activity of cardiac action vanished with the full evolution of the pericardial inflammation, and with the onset of fluid effusion the apex beat became invisible and could not be located by palpation.

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[1] Transactions of the Society of Anæsthetists, vol. vi., p. 66, 1903.

In the course of the next six days the effusion was absorbed, the apex again becoming visible and palpable and the double friction sound returning over the whole præcordial region. During the same period, too, the dulness over the back of the left side of the chest greatly increased, nearly attaining the apex of the lung.

The patient was now losing flesh rapidly and had much gastric pain, worse after eating. At the beginning of October a mass could be felt in the epigastric and left hypochondriac region, the tumour being of about the size of an

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temperature now became subnormal and remained so until the end. Rapid emaciation set in but the pain in the epigastrium and the occasional sickness from which he had suffered disappeared. The emaciation progressed and death ensued from asthenia on Oct. 10th. The same mental condition continued until the last, the patient being calm, placid, and altogether lacking in initiative throughout. There was practically but little evidence of lung trouble during the whole course of the illness. In the earlier stages there were occasional cough and expectoration; the latter contained no tubercle bacilli. There was no hæmoptysis at any period of the illness.

Necropsy.—The post-mortem examination was made the day after death. Rigor mortis had passed off. The body was extremely emaciated. A large, very hard mass could be felt through the abdominal wall in the epigastric and left hypochondriac regions. On opening the cavity of the thorax the left lung was found to be strongly adherent to the parietes over its lower lobe, so that some force was required in order to remove the organ and fragments of the lung were left adhering to the chest wall. There was a similar firm adhesion to the diaphragm on the part of the same lung. It was found on examination that the left lung was the seat of a new growth which also involved both the parietal and visceral pleura adjacent to the organ The left

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the pleura to the extent of half an inch. The posterior mediastinum was full of the growth which had extended forwards towards the heart; it had attacked both the pericardium and muscular wall of this organ. The posterior portion and a large extent of the anterior surface of the pericardium were infiltrated with the growth and elsewhere there were the usual appearances indicative of acute pericarditis—much roughened lymph and loss of polish of the serous membrane. There was scarcely any fluid in the pericardial cavity, the pericarditis evidently being in an advanced stage of retrogression. The wall of the left auricle was practically replaced by new growth, for the muscular fibres were almost entirely destroyed by the malignant invasion. The wall of the left ventricle was also infiltrated but its muscle was fairly sound. The valves were healthy. In the upper portion of the abdominal cavity a mass was found as large as the closed fist. This was found to consist of the pancreas and neighbouring lymphatic glands. The head and two-thirds of the body of the pancreas were infiltrated with a new growth similar to that which was present in the left lung. The glands were enlarged and full of the same new growth. No other abnormalities were found as regards the abdominal cavity. The right cerebral hemisphere was the seat of new growth. This was situated in the corona radiata in the posterior portion of this structure but entirely removed from the motor tract. The mass was of the size of an orange, almost circular in outline, and soft in consistence. Its edge was well defined from the surrounding healthy white substance. The growth did not involve the grey matter of the cortex or the basal ganglia.

Microscopic examination of the new growth proved it to be a round-celled sarcoma with a few spindle celled elements.

Remarks by DR. SYERS.—The points of interest in this case concern the pulmonary symptoms, the physical signs at the earliest stage of pericardial involvement, the mental condition, and the locality in which the new growth originated.

First as regards the pulmonary symptoms. Although the physical signs of lung affection were so marked hardly any symptoms accompanied them. Occasionally there was complaint of cough but this was never troublesome or of long duration. Expectoration was trifling in amount and there was no hæmoptysis. It is certainly remarkable that with such extensive involvement of the lung little or no symptomatic evidence of the disease—cough, fœtid expectoration, hæmoptysis—should have been present. Pain in the chest was never a prominent symptom, and was, indeed, hardly mentioned.

A few days after admission the excessive over-action of the heart became extremely obvious; it increased from the time of admission although the patient was quietly resting in bed. As mentioned in the history of the case, the action was so violent that the elevation of the bedclothes was obvious to the bystander. At this time there was no friction sound to be heard and it was not possible satisfactorily to account for the extraordinary energy of cardiac action. It was thought that the undue extent occupied by the apex beat and the over-action of the heart generally might be the result of pressure from behind, and to a certain extent this explanation is justified by the post mortem findings as the heart was certainly projected forwards by the malignant disease which involved the left lung. But there can be little doubt that the most efficient cause of the cardiac excitement was the commencing involvement of the pericardium and of the muscular wall of the organ in the new growth. It would seem that the heart by every means in its power resisted the insidious approach of the malignant invasion which, however, only too rapidly gained the mastery. When the heart was surrounded with new growth and infiltrated with it the excessive activity of the organ ceased, and with the onset of abundant pericardial effusion its action became distinctly weak.

It is seldom that the opportunity occurs of watching the very earliest onset of a malignant pericarditis and carditis, and it is therefore of interest to note the extraordinary irritability which the heart displayed at the commencement of such an invasion of a previously healthy organ, but not until several days after the phenomena had been in existence was the first very faint pericardial friction sound audible.

The mental condition of the patient was interesting throughout. During the first few days after admission he was somewhat restless, sleepless, and excitable, occasionally getting out of bed and being inclined to walk about the ward. But very soon this excitable state ceased and he gradually passed into an apathetic condition, though perfectly cognisant of all that was passing. He retained his intelligence, knew his wife and friends, and did not seem to have lost his memory, yet he manifested not the slightest power of initiative, never asked for anything, never complained or grumbled, and always responded when spoken to quite clearly and intelligently. He was most amenable in every way and yet there was obviously some great mental change which can be best described as consisting in an entire want of the power of initiative.

At no period of the illness was there any paralysis, either hemiplegic, paraplegic, or local. And so far as could be made out there was no loss of sensation, either general or special, except as regards eyesight, which was distinctly defective. The patient was in no sense emotional. There was no attack of convulsions or of loss of consciousness except on the one or two occasions referred to in the history.

Lastly, as regards the locality in which the new growth originated. There can be little doubt that the point of origin of the sarcomatous growth was the left pleura and lung, and that the involvement of the pancreas was secondary. Clinically, at all events, the case was one of pulmonary malignant disease, for the physical signs were perfectly obvious in the left chest when the patient was admitted, at a period when physical examination of the abdomen gave completely negative results. It was only after he had been nearly a month in hospital that a distinct tumour in the epigastric region was detected, although for some short time previously there had been complaint of pain after eating. Sickness was only occasional but the pain was severe and it was necessary to resort to rectal feeding for some days.

Sarcoma of the pancreas is far from common and it certainly seems that the pancreatic involvement was secondary, and this both on clinical grounds as well as from the doctrine of chances. Infection of the pancreas and glands took place no doubt through the diaphragm which was practically the only barrier between the growth in the lung and the abdominal structures which were affected. As regards the cause of the malady the history is as usual silent, for it is tolerably certain that the slight fall which took place shortly before the illness commenced can in no sense be looked upon as in any way connected with the occurrence of the disease.

To Mr. G. A. Upcott-Gill and Mr. A. de Morgan, house physicians, my thanks are due for the notes of this case, and I am indebted to Mr. Allan Hair, pathologist to the hospital, for the microscopical examination of the growth.

ROYAL DEVON AND EXETER HOSPITAL, EXETER.

TWO CASES OF ACTINOMYCOSIS.

(Under the care of Mr. C. E. BELL and Mr. J. D. HARRIS.)

FOR the notes of the cases we are indebted to Mr. P. H. Stirk, house surgeon.

CASE 1.—The patient, a fisherman, aged 38 years, was admitted under the care of Mr. C. E. Bell to the Royal Devon and Exeter Hospital on Jan. 15th, 1903. Two months before admission the patient was taken suddenly ill with pain in the bowels. He vomited and was unable to pass anything by the bowel for two days; then his bowels acted and he was somewhat relieved. The medical man who attended told him that he had appendicitis. He was fed upon nothing but milk and kept in bed for thirteen days. Since then he had had an abdominal swelling, which he thought varied somewhat in size from time to time, but was at the time of admission larger than it had ever been. He had no pain or trouble with his bowels after the first attack.

On admission, the patient was found to be emaciated and very weak with a temperature of 101° F. There was a large red, slightly œdematous swelling in the abdominal wall situated below the umbilicus and extending downwards to the pubes and a little to the right of the middle line. It was hard, not tender or painful, and dull to percussion. It not only involved the abdominal wall but seemed to go deep into the peritoneal cavity. On inquiry the patient was of opinion that the abdominal wall had only been involved for the last month. There was no evidence of disease in the respiratory, cardiac, or genito-urinary systems.

The progress of the case was as follows. Four days after admission the skin was more red than on admission and at one point immediately below the umbilicus there was a soft, fluctuating patch. This was opened and about an ounce of pus was evacuated which contained the characteristic granules in large numbers. These when stained showed large quantities of the streptothrix but no clubs. 15 grains daily of iodide of potassium were given and later increased to half a drachm daily. He seemed to improve locally and in general health. The swelling was opened in several places and similar material was obtained. Inoculation of nutrient gelatin resulted in a growth of staphylococci, streptococci, and a bacillus resembling the bacillus coli communis; there was no growth of actinomycosis. Five months after admission the patient had so much improved that he insisted on being made an out-patient. He was then able to get about, the swelling had much diminished, his temperature had been quite normal for a month, and he had gained flesh although he was still very emaciated. The patient lived many miles from the hospital and in consequence attended very irregularly. After two months he developed a cough with expectoration and was unable to go to the hospital. He was then attended locally and judging from information kindly given by his medical attendant there is little doubt that he died from extension of the disease to his lung ten months after the commencement of the illness, but no post-mortem examination was made.

CASE 2.—The patient, a female domestic servant, aged 28 years, was admitted under the care of Mr. J. D. Harris to the Royal Devon and Exeter Hospital in July, 1902. She had always had good health with the exception of one illness ten years before admission for which she was treated at this hospital; reference to the old notes of her case showed that she was an in-patient suffering from strumous glands in her neck and also consolidation and râles at the right apex. The course of her temperature at that time was also suggestive of tuberculous trouble. The family history was good. With regard to the history of her present illness, four months before admission the patient said she suffered very much from toothache in the left lower jaw and she had several decayed teeth removed. At that time there was no swelling but after the extraction an abscess formed and was opened, and since then the swelling had gradually formed.

On admission the patient was found to be anæmic but well nourished. There was a swelling on the left side of the lower maxilla extending from the angle of the jaw to the middle line; it extended upwards over the lower part of the face and downwards over the upper part of the neck; as a whole, it was deep red in colour, with patches of dark purple which were soft, fluctuating, and tender. Apart from these patches the tumour was very hard and painless on manipulation; the edges were abrupt and well defined; the teeth could only be separated about a quarter of an inch so that it was impossible to examine the mouth. There was no evidence of disease in the respiratory or digestive systems. Several of the fluctuating spots were opened and a small quantity of thick purulent material was obtained. This contained granules which, when stained by Gram's method showed abundance of the streptothrix actinomyces but no clubs.

The progress of the case was as follows. The patient was put on 15 grains of iodide of potassium per diem, subsequently increased to two drachms, and the tumour soon became smaller. Several fluctuating spots formed and were dealt with by incision. The iodide of potassium was taken until June, 1903, when she was discharged cured, the tumour having disappeared and its site being occupied by healthy scar tissue. (Mr. Harris heard from the patient during the month of February, 1904, that she was quite well and had taken a situation in London.)

Remarks by Mr. STIRK.—As recently as 1891 Professor E. M. Crookshank[1] is reported to have said that actinomycosis was undoubtedly found in man but was not of sufficient frequency to make it an important disease. Since then so many cases have been reported, both in this country and particularly abroad, that one is forced to conclude either that the disease formerly was generally unrecognised or that it has become much more frequent. Probably the apparent increase is due to improved diagnostic methods. Case 1 is of special interest as showing how this form of the disease may resemble appendicitis; similar cases have been recorded by Ransom,[2] Kern,[3] Fairweather,[4] and others. In a thesis published in 1897 Honglais collected 120 cases of appendicular actinomycosis. In this case the chief points which made one suspect that it was not an ordinary case of appendix abscess were the absence of pain and tenderness, the length of the history, and the absence of such grave constitutional symptoms as one is accustomed to see in appendicitis. Dr. Grill[5] of Tübingen, in an analysis of 107 cases collected from the literature, finds that abdominal actinomycosis is most frequent next to that of the head and neck; the ileo-cæcal valve is the part most often affected, and the disease not infrequently resembles appendicitis. The prognosis is best in those cases in which the abdominal wall is involved early and the viscera are not extensively diseased. In 77 cases of abdominal actinomycosis 46 died, 22 were cured, and ten improved. Vander Veer and Elting[6] say that 50 per cent. of abdominal cases occur in the cæcum or appendix. Heinzelmann[7] reports 11 cases with three cures. Of 12 abdominal cases I have been able to collect from recent literature nine died, one was cured, and two are reported as in good general health but still under treatment.

Case 2 is of interest as showing the possibility of the fungus having obtained admission through the carious teeth or the wounds resulting from their extraction and also from the apparently beneficial results from the administration of iodide of potassium. A report of experiments made at Chicago in the treatment of cattle suffering from actinomycosis gives 63 per cent. of cures effected by the drug but in human actinomycosis it does not appear to be so successful. The manner in which it acts is not certain. That it has no direct action on the fungus itself is probable because a solution of iodide of potassium added to nutrient media is said to have no influence on the growth of the fungus and how much its action is modified by the presence of secondary infection is also uncertain. Reports of human actinomycosis treated by iodide of potassium differ very much in results; in some it has had most marked curative effect and in other cases it is reported to have had practically no influence. It would appear to be of most value in cases of probably pure actinomycosis unassociated with secondary infections. The treatment most likely to be successful is early operation where possible, together with the iodide given internally in very large doses.

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[1] Report of International Congress of Hygiene and Demography in London, Brit. Med. Jour., August 22nd, 1891.

[2] Brit. Med. Jour., Nov. 14th, 1891.

[3] Correspondenzblatt fur Schweizer Aerzte, Sept. 15th, 1891.

[4] Brit. Med Jour., Jan. 27th, 1896.

[5] Beiträge zur Klinischen Chirurgie, Band xiii., Heft 2, 1895.

[6] Albany Medical Annual, January, 1902.

[7] Beiträge zur Klinischen Chirurgie, Band xxxix., Heft 2.

Medical Societies.

OBSTETRICAL SOCIETY OF LONDON.

Exhibition of Specimens.—Hydatid Disease in the Abdomen and Pelvis.

A MEETING of this society was held on June 1st, Dr. EDWARD MALINS, the President, being in the chair.

Dr. C. H. J. LOCKYER showed a specimen of Primary Carcinoma of Both Ovaries removed by operation from a woman, 47 years of age. Both Fallopian tubes, though apparently normal, under the microscope were found to be infiltrated with cancer elements. On this account Dr. Lockyer suggested that in similar cases the tubes, even though apparently healthy, should be removed along with the ovaries.—Dr. MARY THORNE described a case in which the left ovary was removed by operation in a patient, aged 46 years, the other ovary at the time of the operation being apparently healthy. The patient died four months later, when a deposit was found in the right ovary; the ileum had been implicated by recurrence at the original site of operation and secondary nodules had formed in the liver.

Dr. HERBERT R. SPENCER showed a specimen of Cancer of the Body of the Uterus occurring in a woman, aged 36 years.

Dr. T. W. EDEN recorded a case of Primary Hydatid Disease (Echinococcus) of the Fallopian Tube. The patient was a woman, 40 years of age, who had been married for 13 years, had never been pregnant, and presented herself at the Chelsea Hospital for Women in July, 1903, complaining of pain in the back and left side. On examination a small pelvic tumour was found in the pouch of Douglas which from its position and characters was thought to be a dermoid cyst of the right ovary. Operation was performed on Sept. 10th, when the tumour was found to be the distended and densely adherent right Fallopian tube filled with detached hydatid vesicles. The ovary was quite separate and unaffected except by adhesions. The tube and ovary of the left side were adherent but otherwise unaffected. There was no trace of hydatid disease elsewhere. The patient made a good recovery. Dr. Eden believed that only one other case of primary hydatid disease of the Fallopian tube was on record—namely, the one described by Doléris in 1896. With regard to the ovary, he believed that only one case of primary hydatid disease of that organ had been recorded—namely, the one described by Péan in 1895. Pelvic hydatids usually began in the peritoneum or connective tissue.

Dr. C. J. CULLINGWORTH and Mr. H. H. CLUTTON contributed a paper giving an account of Hydatids in various parts of the Abdomen of a patient who had been under their joint care from time to time during the last eight years. She first came under observation in the summer of 1896, when 24 years of age, with a rounded, fixed, fluctuating swelling in the suprapubic region which was thought to be a cystic tumour of the ovary or of the broad ligament. At the operation there were found hydatid cysts of both ovaries and of the right broad ligament and, in addition to those, hydatid cysts of the omentum, mesentery, and anterior abdominal wall. A larger cyst was also observed in the right loin and a second one beneath the lower end of the sternum. The cysts connected with the ovaries and the broad ligament and as many as possible of the omental cysts were removed. The operation lasted two and a half hours and the patient's condition towards the end became extremely alarming. Three months later, in October, 1896, Mr. Clutton made an incision above the umbilicus with a view to deal with the remaining cysts. He found three large and several smaller cysts attached to the liver. All except two were removed entire; the ectocystic walls of the two largest were reduced in size and attached to the abdominal incision. The shock of the operation was extreme. Another large cyst felt towards the spleen had to be left for a subsequent operation. In November of the same year a large cyst in the left iliac fossa was evacuated and a week later a suppurating hydatid cyst discharged its contents per rectum. Between this time

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ed in evacuation of a large hydatid cyst in the pelvis by means of an incision through the vaginal roof. The other severe operations were performed through the anterior abdominal wall, several of them without opening the peritoneal cavity. The various operations were briefly described. Dr. Cullingworth and Mr. Clutton could not, of course, say that the patient would have no further development of hydatid cysts, but as the case had now extended over a period of eight years they thought the present a good opportunity to place on

up to the present time.—

he case narrated by Dr.

to admire most—the persistence of the surgeons or the fortitude and endurance of the patient. The success ultimately attained justified the repetition of the operation and the wisdom in dealing with the recurrences.—Mr. CLUTTON said that the patient owed her present satisfactory condition to the fact that, contrary to the usual experience, the development of hydatid cysts had in her case been hitherto limited to the abdomen. Had the disease affected the thorax or the brain, as so often happened, the result might have been very different.—Mr. J. BLAND SUTTON suggested that Dr. Cullingworth's specimen should be re examined to determine whether the colony really arose in the ovary or in the connective tissue of the broad ligament and as it increased in size flattened the ovary over its periphery. In the distribution of echinococcus colonies among the abdominal viscera the parasite in the great majority of instances really selected the subserous tissue. This was true of the kidney where they flourished in the connective tissue of the renal sinus, the bowel, the broad ligament, the omentum, and the rectum. The immunity of the ovary depended on the fact that it lacked a loose serous investment and this was also true of the testis which seemed equally immune with the ovary to these parasites. The loose connective tissue of the mesosalpinx and the adjacent portion of the broad ligament formed admirable environments for the maturation of the embryo of tænia echinococcus but was not quite so accessible as the loose connective tissue of the mesocolon, the mesorectum, or the omentum. The multiplicity of lesions depended on the number of ova swallowed; the extraordinary number of cysts in some patients would suggest the probability that occasionally an entire proglottis had been ingested. It seemed also certain that the brood-cysts might be sown into the connective tissue of the wounds made for their removal, a view supported by the frequency with which echinococcus cysts grew in the cicatrices of operation wounds made for the removal of primary colonies. Of this Mr. Bland-Sutton had observed several cases in his own practice.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.

Delayed Chloroform Poisoning.

A SPECIAL meeting of this society was held on May 20th at Chandos-street, W., Mr. W. WATSON CHEYNE being in the chair.

Mr. HAROLD J. STILES (Edinburgh) and Dr. STUART MCDONALD (Edinburgh) contributed a paper on Delayed Chloroform Poisoning. Mr. Stiles, in his introductory remarks on behalf of himself and Dr. McDonald, said that although the occurrence of delayed chloroform poisoning had long been recognised in Germany Dr. Leonard G Guthrie, a fellow member of the society, was the first to direct attention to the subject in this country. His first paper, published in THE LANCET,[1] was entitled "Some Fatal

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[1] THE LANCET, Jan. 27th (p. 193) and Feb. 3rd (p. 257), 1894.

After-Effects of Chloroform on Children." In a second paper published in the same journal[2] Dr. Guthrie brought forward further observations in support of his contention that the fatty changes met with in delayed chloroform poisoning were not due to the action of chloroform alone; he maintained that the liver was in an advanced state of fattiness previously to the administration of the chloroform and that the latter, by diminishing oxidation, already deficient, determined the state of functional inadequacy which set up an auto-intoxication due to the accumulation of ptomaines or toxins. Mr. Stiles then described the clinical history and pathological changes in two children who died, the one three days after operation for the radical cure of hernia and the other 26 hours after an osteotomy for knock-knee. It was shown that death could not have resulted from carbolic acid poisoning, from fat embolism, or from sepsis. In the osteotomy case the fat emboli in the lungs were only present in the smallest vessels and were so scarce that death could not be attributed to them. It was interesting to note that some of the sub-lobular and hepatic veins contained a considerable amount of oil, for the most part in free droplets, but occasionally in the interior of what were evidently disintegrated liver cells. No fat was demonstrated in branches of the hepatic artery, nor could any be discovered on the aortic side of the circulation. It was evident, therefore, that the fat in the lungs was derived from that which had gained access into the hepatic veins from the disintegrated liver cells. The possibility of sepsis was carefully considered. Lantern slides and microscopical specimens (obtained from a child who died from a gangrenous inflammation of the œsophagus following operation for perityphlitis) were demonstrated to show how closely the degenerative changes in the liver, kidneys, and heart resembled those which are said to be characteristic of delayed chloroform poisoning. In neither condition were there any inflammatory changes in the glomeruli. The fact was emphasised that the same degenerative changes were sometimes present in patients who had died after operations for septic conditions, especially of abdominal origin, as were found in patients who had died from delayed chloroform poisoning uncomplicated with sepsis. The hope was expressed that pathologists would inquire more closely into the nature and causation of the degenerative changes to be found in the above-mentioned organs in surgical cases. Unfortunately the pathology and symptoms of delayed chloroform poisoning had up to recently been either overlooked or wrongly interpreted, so that the mortality could not be estimated until the condition had become generally recognised by surgeons and pathologists. With one exception the cases recorded in this country had all occurred in children while under treatment either in the Paddington-green Children's Hospital or in the Edinburgh Royal Hospital for Sick Children, these being two hospitals where special attention had been directed to the condition. In Germany, on the other hand, almost all the reported cases had been in adults and the greater proportion of these had occurred after a somewhat severe operation for infective abdominal conditions such as suppurative salpingitis, appendicitis, &c. The element of sepsis with which these cases were complicated rendered it difficult, in the present state of their knowledge, to say how far they helped to solve the problem of delayed chloroform poisoning. If it could be shown that the critical condition (persistent vomiting of a more or less hæmorrhagic type; small, rapid, and often irregular pulse; extreme restlessness, collapse, &c.) in which they occasionally found patients 48 hours or so after operation was in any way brought about by degenerative changes set up by the chloroform the question of substituting ether would have to be considered seriously even in the case of children. Unfortunately, however, the mortality in children from the effects of ether on the respiratory tract would probably be as great as, if not greater than, that due to the after-action of chloroform. It was not thought that Dr. Guthrie had brought forward sufficient evidence to show that the fatty change here described was the essential predisposing factor and that the chloroform merely acted as the "last straw." It was thought much more probable that the fatty change was entirely due to the chloroform acting on a previously healthy liver; indeed, experimental evidence seemed to give strong support to this possibility. Moreover, while the changes in the liver were so striking it must not be forgotten that other organs gave evidence of a general toxic poisoning, and it seemed hardly justifiable, therefore, to attribute the fatal result to hepatic insufficiency. Fatal cases of delayed chloroform poisoning were undoubtedly very rare and it would appear, therefore, that idiosyncrasy was the main factor in their causation just as it was in the irreducible minimum of deaths which occurred during chloroform anæsthesia. As regards the treatment of delayed chloroform poisoning Mr. Stiles and Dr. McDonald entirely agreed with Dr. Guthrie in strongly condemning the use of morphine. Rectal and subcutaneous injections of normal saline solution and if necessary intravenous injections must be employed. If the vomiting were copious the stomach should be washed out and an endeavour should be made to get it to retain some calomel or grey powder. Cardiac stimulants must be used but in moderation.

Mr. **WATSON CHEYNE** said that he was still not quite convinced that the chloroform was the only causative factor in these cases and that they must be looked on as after-effects of the administration of that anæsthetic. Although he had had two or three cases at Paddington-green Children's Hospital he thought it was very remarkable that he had never met with similar occurrences either at King's College Hospital or in private practice. The extremely short administration in some of the cases—for example, tenotomy—and the minute dose administered made it very difficult to believe that the chloroform was the cause of the fatal result.

Dr. **LEONARD GUTHRIE** thought that the frequency of these fatalities following operations under chloroform upon children might be greater than was indicated by the number of cases recorded in this country. Ten years previously he had published in THE LANCET a series of ten cases, nine of which had happened at the Children's Hospital, Paddington-green. Since then three more had occurred at the same institution. He doubted whether such experience was unique. Possibly a search in the archives of other children's hospitals might reveal more cases of a similar nature. The case against chloroform was that prolonged and repeated inhalation of that anæsthetic produced in animals profound fatty changes, not only in the liver but in the kidneys and other organs, and that such changes were almost constantly found in children dying in the manner described after operations under chloroform. But on the other hand it was difficult to conceive that such extreme fatty changes could be induced by the small amounts of chloroform absorbed during a period of anæsthesia which in some cases did not exceed a quarter of an hour or 20 minutes. Hence he inclined to the view that a fatty condition of the liver was pre-existent at the time of operation in such cases, that chloroform by its deoxidising powers aggravated and intensified the fatty changes present, and thus rendered the liver incapable of dealing with toxins entering the portal system from the intestines. The result was that such toxins passed into the general circulation and could not be eliminated on account of the specific action of the chloroform on the kidneys. The rôle of the chloroform was therefore that of the "last straw." The existence of such fatty livers might be suspected though it could not be proved by the history of so called "bilious attacks" characterised by vomiting, headache, epigastric pain, diarrhœa, or constipation associated with the odour of acetone in the breath and urine. When such a history was obtained ether should be the anæsthetic used, as experiments on animals showed that ether possessed the power of inducing fatty changes to a far less extent than chloroform.

Dr. **F. W. HEWITT** had never seen any cases at all comparable to these. He supported Dr. Guthrie's request for an inquiry on account of the extreme importance of the subject to the profession. He suggested that one of the children's hospitals should change its customary anæsthetic for one or two years to a mixture of chloroform and ether in order to observe the results.

Mr. **F. F. BURGHARD** remarked that in one of Dr. Guthrie's cases at Paddington-green on which he had operated the notable thing was that death occurred after the *second* time of operating. The case was one of a very large nævus of the chest and arm and the first operation, which had taken place several weeks before, was much the longer and the more severe of the two; nevertheless the child recovered without a symptom of any sort referable to chloroform administration.

Dr. **J. F. W. SILK** confessed that he had been very sceptical with regard to Dr. Guthrie's first paper ten years ago; he was now very astonished to find that it had been discovered in Edinburgh of all places that quite possibly chloroform might produce some ill-effects. He commented on the occurrence of the condition only in older children in spite of the fact that chloroform was given to very large numbers of infants. It was strange also that no relation could be established between the size of the dose administered and the production of the condition.

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[2] THE LANCET, July 4th, 1903, p. 10.

Mr. H. P. NOBLE had administered the anæsthetic in two of Dr. Guthrie's cases. Perhaps these cases were commoner than was usually supposed. He now thought that two deaths which he witnessed at the Hospital for Sick Children, Great Ormond-street, when he was house surgeon there were probably due to this condition.

Mr. W. J. MCCARDIE (Birmingham) had never seen a case, [illegible]

[illegible] ration due to chloroform administration and showing slight albuminuria, vomiting, and collapse before death. Fatty changes were found in the heart, the liver, and the kidneys. That author laid stress on the kidney lesions, especially on the fact that they were more advanced in the tubules than in the glomeruli, which was a diagnostic feature. He wondered whether such conditions were more apt to occur in lymphatic children, as they stood most adverse influences worse than other children. The moral was always to use ether in children.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.—Anatomy of the Pelvic Fascia.—Anatomy of the Enlarged Prostate.

A MEETING of this society was held on June 1st, Professor JOHN CHIENE, the President, being in the chair.

Dr. NORMAN WALKER showed three men suffering from Lupus complicated with Epithelioma. One of these was aged 32 years and had suffered from lupus since infancy. An epitheliomatous mass appeared on his face about one and a half years ago and it has to be noted that no x-ray treatment had been employed in this case previously to the development of the cancer. Since April, 1904, he had been treated with five-minute exposures to the x rays every second day and the result was excellent. The other two patients had been treated with the x rays for lupus before the appearance of the epithelioma. Dr. Walker also showed a case of Diffuse Psoriasis treated by the x rays. He had been sceptical as to this mode of treating the disease but with no other treatment than 14 exposures the disease had practically disappeared.

Mr. GEORGE CHIENE exhibited the following cases. 1. A man after operation for Rupture of the Middle Meningeal Artery and Laceration of the Temporo sphenoidal Lobe. The patient received a blow and as a result fell. It could not be determined which of these caused the injury. He was kept in prison for two days and while there wrote a letter. His gait was, however, noticed to be peculiar and he was admitted to the medical wards of the Royal Infirmary. Five [illegible]

[illegible] substance was seen to be lacerated. The bleeding was from a point low down. It was evidently a case of intradural middle meningeal hæmorrhage. A solution of adrenalin chloride was applied and the artery was ligatured by means of a cleft palate needle. Gradual recovery took place, though even now there were marked signs of irritability and the man lost his temper on very slight provocation. His speech was now good except when he was excited. 2. An infant on whom Laparotomy for Acute Intussusception was performed when 40 days old. Reduction was difficult but was facilitated by the application of swabs of hot sterilised wool. 3. A child after Laparotomy for a second attack of Acute Intussusception. The first operation was performed when the child was four and a half months old. After recovery the infant suffered from attacks of measles and pertussis and 18 months after the first operation suffered from a second intussusception which also had to be treated by laparotomy. Even at present the child suffered from constipation and difficulty in regulation of the bowels. Both children were now strong and healthy.

Dr. W. ALLAN JAMIESON showed a case of Keloid treated by the X Rays. The patient was a female aged 26 years. In October, 1893, she suffered pain in the region of the left breast with tenderness on pressure. This was treated for several days by rubbing in acetic acid for an hour on each occasion. This caused abrasion of the skin followed by extensive suppuration. On healing keloid appeared. On examination in March, 1904, many spots and patches of keloid were present, the area involved measuring three and a half inches in vertical height by two and a half inches across. Numerous minute outlying dots were also present. The surface was bright pink and the ridges were elevated about one third of an inch above the skin level. She had been treated by 44 exposures to the x rays of five minutes' duration each, with the result that all the smaller points had disappeared and the larger ones had almost faded. As she was anæmic ten grains of iron alginate had been administered most of the time. She was pregnant.

Dr. JOHN STEVENS showed a young man who, as a result of infantile paralysis, suffered from extensive and almost Complete Atrophy of the Muscles of the Shoulders, Arms, Forearms, and Hands, especially on the left side.

Dr. EDWIN BRAMWELL demonstrated a case of Klumpke's Paralysis in a man. This was a lesion of the eighth cervical and first dorsal nerve roots. The man had fallen from a height of 20 feet, striking against the right side of the head and right shoulder. At first there was complete loss of power in the arm, though this had improved very considerably. Most of the muscles of the arm and forearm were normal, but the flexors of the hand on the wrist and also the interossei were atrophied, as well as the muscles of the thenar and hypothenar eminences. The power of opposing the thumb was almost absent. The little finger could not be abducted. All the small muscles of the right hand, the two long flexors, as well as the flexor carpi ulnaris were weak and consequently the grasping power of the hand was feeble. There was also anæsthesia of the skin with a very definite distribution as a linear band running down the inner side of the upper arm and forearm and splitting at the ring finger.

Dr. GEORGE GIBSON exhibited a case of so-called Hypertrophic Pulmonary Osteo-arthropathy in a patient (male) suffering from slight emphysema. Over the last two phalanges of each finger the skin was sodden-looking, always moist, and devoid of hair. These areas corresponded to the nerve distribution of the ventral divisions of the nerves of the back of the hand.

Dr. DAVID WATERSTON read a communication entitled "Some Points in the Anatomy of the Pelvic Fascia in the Male in Relation to the Surgery of that Region." He said that there was a difference of opinion among surgeons regarding the best method of removing the prostate gland and this had led to a fresh examination of the anatomy of the perineal region both by section and by dissection. The improved methods now available gave clearer results than were formerly attainable and might be of service in demonstrating the advantages and difficulties of each method. Taking up first the best means of access to the organ from the perineum Dr. Waterston exhibited lantern pictures from photographs of formalin preparations of the anatomy of the perineum. The specimens showed that the superficial layer of the triangular ligament was not intimately related to the urethra but was *attached round the margin* of the bulb and that Cowper's glands lay in intimate relation to the deep aspect of the bulb and were not separated from it by a strong membrane. This explained the course of extravasated urine into the perineum in cases where the membranous urethra was torn. Taking next the musculature of the perineum it was pointed out that the muscle tissue was arranged in a very complex manner. This subject had been investigated and thoroughly discussed in the early part of the last century, but as the arrangement was very complex and difficult to demonstrate the full description was omitted from most anatomical text-books. Such structures as Wilson's muscle and the compressor of Cowper's glands were not now described. But recent advances in operative work on this region had led to descriptions by several writers, mostly continental, of structures which were found to be of surgical importance, such as the muscle passing from the anal canal to the membranous urethra. This muscle was shown and attention was directed to the thick anterior part of the levator ani muscle and to the strong character of the deep layer of the triangular ligament which was pierced by the urethra and also supported the prostate. The sheath which the prostate possessed, derived from the visceral

After-Effects of Chloroform on Children." In a second paper published in the same journal[2] Dr. Guthrie brought forward further observations in support of his contention that the fatty changes met with in delayed chloroform poisoning were not due to the action of chloroform alone; he maintained that the liver was in an advanced state of fattiness previously to the administration of the chloroform and that the latter, by diminishing oxidation, already deficient, determined the state of functional inadequacy which set up an auto-intoxication due to the accumulation of ptomaines or toxins. Mr. Stiles then described the clinical history and pathological changes in two children who died, the one three days after operation for the radical cure of hernia and the other 26 hours after an osteotomy for knock-knee. It was shown that death could not have resulted from carbolic acid poisoning, from fat embolism, or from sepsis. In the osteotomy case the fat emboli in the lungs were only present in the smallest vessels and were so scarce that death could not be attributed to them. It was interesting to note that some of the sub-lobular and hepatic veins contained a considerable amount of oil, for the most part in free droplets, but occasionally in the interior of what were evidently disintegrated liver cells. No fat was demonstrated in branches of the hepatic artery, nor could any be discovered on the aortic side of the circulation. It was evident, therefore, that the fat in the lungs was derived from that which had gained access into the hepatic veins from the disintegrated liver cells. The possibility of sepsis was carefully considered. Lantern slides and microscopical specimens (obtained from a child who died from a gangrenous inflammation of the œsophagus following operation for perityphlitis) were demonstrated to show how closely the degenerative changes in the liver, kidneys, and heart resembled those which are said to be characteristic of delayed chloroform poisoning. In neither condition were there any inflammatory changes in the glomeruli. The fact was emphasised that the same degenerative changes were sometimes present in patients who had died after operations for septic conditions, especially of abdominal origin, as were found in patients who had died from delayed chloroform poisoning uncomplicated with sepsis. The hope was expressed that pathologists would inquire more closely into the nature and causation of the degenerative changes to be found in the above-mentioned organs in surgical cases. Unfortunately the pathology and symptoms of delayed chloroform poisoning had up to recently been either overlooked or wrongly interpreted, so that the mortality could not be estimated until the condition had become generally recognised by surgeons and pathologists. With one exception the cases recorded in this country had all occurred in children while under treatment either in the Paddington-green Children's Hospital or in the Edinburgh Royal Hospital for Sick Children, these being two hospitals where special attention had been directed to the condition. In Germany, on the other hand, almost all the reported cases had been in adults and the greater proportion of these had occurred after a somewhat severe operation for infective abdominal conditions such as suppurative salpingitis, appendicitis, &c. The element of sepsis with which these cases were complicated rendered it difficult, in the present state of their knowledge, to say how far they helped to solve the problem of delayed chloroform poisoning. If it could be shown that the critical condition (persistent vomiting of a more or less hæmorrhagic type; small, rapid, and often irregular pulse; extreme restlessness, collapse, &c.) in which they occasionally found patients 48 hours or so after operation was in any way brought about by degenerative changes set up by the chloroform the question of substituting ether would have to be considered seriously even in the case of children. Unfortunately, however, the mortality in children from the effects of ether on the respiratory tract would probably be as great as, if not greater than, that due to the after-action of chloroform. It was not thought that Dr. Guthrie had brought forward sufficient evidence to show that the fatty change here described was the essential predisposing factor and that the chloroform merely acted as the "last straw." It was thought much more probable that the fatty change was entirely due to the chloroform acting on a previously healthy liver; indeed, experimental evidence seemed to give strong support to this possibility. Moreover, while the changes in the liver were so striking it must not be forgotten that other organs gave evidence of a general toxic poisoning, and it seemed hardly justifiable, therefore, to attribute the fatal result to hepatic insufficiency. Fatal cases of delayed chloroform poisoning were undoubtedly very rare and it would appear, therefore, that idiosyncrasy was the main factor in their causation just as it was in the irreducible minimum of deaths which occurred during chloroform anæsthesia. 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Mr. **WATSON CHEYNE** said that he was still not quite convinced that the chloroform was the only causative factor in these cases and that they must be looked on as after effects of the administration of that anæsthetic. Although he had had two or three cases at Paddington-green Children's Hospital he thought it was very remarkable that he had never met with similar occurrences either at King's College Hospital or in private practice. The extremely short administration in some of the cases—for example, tenotomy—and the minute dose administered made it very difficult to believe that the chloroform was the cause of the fatal result.

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[2] THE LANCET, July 4th, 1903, p. 10.

In dealing with subjective sensations of sound Sir William Gowers lays stress upon the persistence which soon convinces the sufferer that they cannot be due to an external cause and he notes that patients complain of noises *in* the ears and noises *in* the head. While much interest attaches to the classification of the varieties of these auditory forms of subjective sensation and to the discussion of their relation to vertigo, Sir William Gowers, though hopeful about the future, is not very cheering as to the present means of treating this troublesome condition. The chief lesson which he teaches is the futility of tying the internal carotid.

Other lectures included in this volume are upon Abiotrophy, Myopathy, Metallic Poisoning, Syphilitic Disease of the Nervous System, Syringal Hæmorrhage into the Spinal Cord, and Myasthenia and Ophthalmoplegia. The lecture on abiotrophy was published in our columns about two years ago[1] and it will be remembered for the ability with which Sir William Gowers suggested this new term and explained the scope of its meaning. He shows that the conception of abiotrophy is of great service in connexion with numerous forms of cutaneous, muscular, and nervous changes and he clearly indicates its relationship to the interstitial overgrowth which occurs with so many primary changes in the nervous system. His conclusion is that the new conceptions in this article will enable us to think more clearly about processes which we do not understand. This cryptic remark implies the adoption of the conceptions as working hypotheses or as algebraic symbols which may favour the attainment of ultimate truth through intermediate patches of obscurity. The two lectures on Inevitable Failure and the Use of Drugs, which seem rather disconnected from the general plan, yet have peculiar value for the thoughtful treatment bestowed upon them. Looking back gratefully to his apprenticeship to a general practitioner the author says that he learnt thus early that treatment by drugs does in a large number of cases not only a definite but a great amount of good, and while contrasting empirical and rational treatment his respect for modern experiment is exceeded by his reverence for experience which he defines as the result of innumerable experiments.

Enough has been said to show the wide scope of these lectures and the interest which they possess for all professional men. They are written in striking terms, with apt illustrations and numerous studied epigrams. The author proclaims that so far from liking new words he dislikes them and yet it would be possible to cull from this volume a fairly large number with which he has enriched medical diction, and most of them, in American parlance, have "come to stay" and have already been of service to others who desire to express a conception for which no name previously existed.

The Extra Pharmacopœia of Martindale and Westcott. Revised by W. HARRISON MARTINDALE, Ph.D., F.C.S., and W. WYNN WESTCOTT, M.B. Lond., D.P.H., His Majesty's Coroner for North-East London. Eleventh edition. London: H. K. Lewis. 1904. Pp. xxiv.–809. 24mo, roan limp. Price 9*s*. 6*d*. net.

IT is a little more than 20 years since the first appearance of the Extra Pharmacopœia and the popularity and utility of the book can be gathered from the rapidity with which new editions have been issued. There can be no doubt that this epitome of recent work has been much valued by those who are unable to keep pace with the advances of pharmacy which are chronicled in the pharmaceutical and medical journals. The appreciation of former editions of this volume is largely due to the frequent references to the original sources from which it has been compiled, but in addition it must be admitted that the general level of excellence of the selection of material renders an invaluable service to busy practitioners. In the present edition space has been gained by the deletion of much that was getting a little antiquated. The plan and scope inevitably lead to the temporary inclusion of many drugs of an ephemeral character and the authors are to be commended for the judgment displayed in the deletions necessary to make room for more recent and perhaps more valuable additions.

In spite of every care it has been found necessary to add more than 100 pages and, yet, by the employment of thinner paper, the size and weight are appreciably less than in the last edition. The scope of the work has been extended by the addition of several new sections and while these are useful in some instances they seem to be a little out of place in a work of this character; the section on surgical dressings and apparatus, which occupies 12 pages, seems to be little more than extracts from an unpriced catalogue. Mild surprise will also be felt at the inclusion of 14 pages relating to mineral waters. The information is trustworthy and valuable, it is interesting to know the chemical constituents, the uses and the season at which the health resorts may be visited, but the whole section is scarcely suggested by the title of the book and might well have been omitted. In like fashion the space devoted to radium might have been reduced; an attempt is made to tell too much relating to the extraction and to the chemical properties of radium. Roentgen rays, high-frequency current, the Finsen lamp, and radiant heat are also briefly dealt with but in all of these we feel that the information is incomplete as well as redundant. When dealing with subjects more purely related to pharmaceutical work the authors are far more happy. There is much that is admirable in the critical remarks on the weights and measures of the British Pharmacopœia and a step in advance has been made in the insertion of doses on the metric system. The lengthy list of chemicals, drugs, galenical preparations, and modes of treatment which have claimed recent attention sufficiently indicates the charitable catholicity which aims at the inclusion of all things. In fact, the present edition errs, perhaps, in the attempt to supply answers to all possible questions relating to new drugs without sufficiently holding the balance between good and bad, valuable and worthless. A similar excursion into outlying provinces occurs in the preface where the authors state that, "the recent deaths by carbon monoxide, carbon dioxide, and illuminating gas poisoning have made it necessary to mention the methods of detection of these noxious gases." Why is it necessary to do this? Are there not other books in which such information would be more appropriate? It is in no spirit of carping criticism that we object to the introduction of extraneous matter; it is because the book in its earlier form has proved so useful to professional men that we regret to see it altered in scope and character, to find its excellencies in danger of being obscured or hidden by the introduction of redundancies for which there appears to be no justification. An immense amount of labour has obviously been expended in the abstraction of the literature relating to methods of treatment and to recent pharmaceutical research work.

The general character of the Extra Pharmacopœia is so well established that medical men will welcome a new edition which has been brought up to date. They will find therein all that they require relating to advances in pharmacy. If they realise also that they are supplied with more than they anticipated or desired in other directions it is to be hoped that they will not feel disposed to complain. We think the authors are mistaken in the liberality with which they include antitoxins, analytical memoranda, and much other information, but can heartily commend the sections dealing with drugs and galenicals for their fulness and accuracy.

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[1] THE LANCET, April 12th, 1902, p. 1003.

A Manual and Dictionary of the Flowering Plants and Ferns. By J. C. WILLIS, M.A., Director of the Royal Botanic Gardens, Ceylon, some time Frank Smart Student, Gonville and Caius College, Cambridge, and Senior Assistant in Botany in the University of Glasgow. Second edition. Cambridge: at the University Press. 1904. Pp. xii.-670. Price 10*s.* 6*d.*

THE object of this work is "to supply within a reasonable compass a summary of useful and scientific information about the plants met with in a botanical garden or museum, or in the field." As the author very truly remarks further in his preface, "the student, when placed before the bewildering variety of forms in such a collection as that at Kew, does not know where to begin or what to do. ...... The available works of general reference are mostly very bulky and often out of date, and as a rule refer only to systematic or economic botany, and say nothing about morphology or natural history." Therefore the author has endeavoured to bring together in his book in a systematic and convenient manner as much information as is required by any but specialists upon all plants usually met with, discussing only those points—morphology, classification, natural history, economic botany, &c.—which do not require the use of a microscope.

The work is made up of three parts, the first of which deals with general considerations regarding the outlines of morphology, natural history, classification, and other kindred branches of botanical science; the second portion is essentially a dictionary fully describing the families and more briefly the important genera of the Pteridophyta and Phanerogamæ, while Part 3 consists of a glossarial index of economic products, technical terms, and so on. The first edition, published seven years ago, was issued in two volumes; the present edition is in one volume and there are further alterations which may be briefly referred to. In order that the work may not exceed a reasonable size Part 1 has been abbreviated by the omission of matters of controversy and by the use of smaller type for descriptive paragraphs and other articles. There have, however, been added valuable articles on practical subjects of interest to field botanists; for instance, the collection and preservation of material. Part 2, which has been revised and rewritten where necessary, is, of course, the most important portion of the book. It is singularly complete and we may safely express the opinion that no important genus about which information may be required by those for whom the work is intended has been omitted. And further, the information given is both sufficient and up-to-date with very few exceptions.

As regards omissions we may perhaps be allowed to draw attention to the following. The presence of spine-bearing roots is a well-known but uncommon feature; there is, however, no reference to their occurrence in *Dioscorea prehensilis*, which plant affords us an excellent example of such a morphological modification. Another instance may be found on p. 300. In the article on Chalazogamæ there is an abstract of Treub's classical work on *Casuarina*, in which the main features of the structure of the embryo-sac and fertilisation are given. The more recent work of Frye on the same subject is not, however, mentioned, which is to be regretted inasmuch as the observations of the latter investigator differ in some important points from those of the former, although the main fact is corroborated.

In conclusion, it may be stated that the work forms a most valuable reference book for all those interested in plants and that no serious student can afford to be without it. These opinions are based not on a hurried perusal but on the experience gained by its use during a number of years; indeed, almost since its first appearance.

The General Pathology of Inflammation, Infection, and Fever. By E. W. AINLEY WALKER, M.A., M.D. Oxon. London: H. K. Lewis. 1904. Crown 8vo. Pp. xii.+260. Price 4*s.* 6*d.*

THIS modest little brochure on the General Pathology of Inflammation, Infection, and Fever is a re-issue of a course of lectures delivered in 1902 and originally published in the *Clinical Journal.* The subject constituted, as the author informs us in his preface, "the first series of Gordon lectures delivered at Guy's Hospital, under the deed of endowment of the Research Lectureship and Laboratory established at that hospital by the munificence of Robert Gordon, Esq., of Brockham-park, for the advancement of the science of medicine and the encouragement of that spirit of investigation and inquiry for which Guy's Hospital is by tradition and history alike most justly famous."

Much has been published in the past on the subjects dealt with in Dr. Walker's lectures and of that a large proportion is controversial in character. A trustworthy and impartial synopsis of our knowledge of these subjects is therefore welcome at the present juncture when questions of infection and immunity are attracting so many workers in the field of experimental research. The present volume certainly fulfils this function, for although in one sense it is a compilation it is a compilation made in a masterly manner. In compact and handy form the original and classical experiments are reviewed and the various theories deduced therefrom are enunciated, discussed in the light of modern research, and finally weighed, the entire mass of accumulated facts being presented in an orderly and logical sequence. The first four lectures are devoted to a systematic study of inflammation, commencing with the conception of this process handed down from the time of Galen. The various modifications and additions down to the most recent definitions propounded by Adami are detailed, and of the many definitions put forward we note the author favours, not unnaturally, that associated with the name of his preceptor Burdon Sanderson, to whom the volume is dedicated. A summary of the phenomena of inflammation which we are quite willing to admit might well replace any or all of the existing definitions rounds off the book. The causes, processes, and progress, and the effects of inflammation are well treated, and incidentally we wish to express our entire agreement with the author in his deprecation of the looseness of language and of thought which ascribes a purposive character to processes occurring in living protoplasm.

Infection and immunity occupy six chapters, undoubtedly the most valuable in the book. After giving the necessary elementary details and definitions the author briefly reviews the rise and progress of our knowledge of microbial infections, then passes on to the discussion of the modes of bacterial action, and after touching on the question of susceptibility proceeds to the study of immunity proper. The views of Metchnikoff, Grohmann, Bouchard, and Ehrlich are in turn presented to the reader and discussed in all their bearings, and in this connexion we do not recollect having previously read a more intelligible and lucid account of Ehrlich's "side-chain" theory of immunity in the English language than that set out by Dr. Walker. The author's own researches on the various phases of immunity entitle him to deal with this subject in an authoritative manner and we confess to some disappointment in finding so little reference to his own work in these lectures, a criticism to which not many authors lay themselves open.

The general pathology of fever, with which the last chapters of the book are occupied, is treated in the same systematic and thorough manner as the subjects dealt with in the earlier parts of the book. A short but sufficiently full index is followed by an index of over 200 authors' names, a perusal of which latter is sufficient indication of the ground covered by Dr. Walker, whilst the book itself affords abundant internal evidence that at any rate the majority of these authors have been consulted first hand and in the original. A pleasing feature of the book, and one but too rare in works of this character, is the adequate acknowledgment of the part played by British workers in the elucidation of the problems connected with the subjects which give Dr. Walker the title for his book. In conclusion, we wish this little book the success that it deserves.

A Text-book upon the Pathogenic Bacteria for Students of Medicine and Physicians. By JOSEPH MCFARLAND, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia; Pathologist to the Philadelphia Hospital and to the Medico-Chirurgical Hospital, &c. With 153 Illustrations, a number of them in colours. Fourth edition, rewritten and enlarged. London and Philadelphia: W. B. Saunders and Co. 1903. Pp. 629. Price 15*s.* net.

NUMEROUS as are the text-books of bacteriology, especially by American authors, which have appeared in recent years, a new edition of the present work may yet be welcomed heartily. The popularity of the book, evidenced by the need for a fourth edition within seven years, has "stimulated both author and publisher to endeavour in every way to make it merit continued approbation," and undoubtedly the efforts of both have been crowned with success. A detailed criticism of a work which has reached its fourth edition can hardly be necessary but it may be useful to point out in what directions this work differs from other text-books and the principal changes made in this new issue. In the first place, there is, as indicated in the title, a rigid exclusion of all micro-organisms which are not pathogenic either to man or to some of the lower animals and of all parasites other than those belonging to the group of bacteria. In the next place, it "is not to be mistaken for a laboratory guide," though, as a matter of fact, the descriptions of the principal methods of staining and other processes used in practical bacteriology are quite as fully and clearly described as is usual in text-books which profess a more ambitious aim. Throughout the methods described, however, there is always, as in the chapter on Sterilisation, a reference to the practical needs of the medical man, so that, as the author states, it is essentially a work for the use of physicians, students of medicine, and sanitarians. This new edition has been practically rewritten and much new matter incorporated but the addition to the contents has not increased the number of pages, as a smaller type, which, however, is still large and of excellent clearness, has been used. Other changes consist in the introduction of a large number of references to original papers and an index of authors. Certain errors in the description of Gram's method which were noted in the review of the second edition have been corrected and Van Ermengen's method of flagella staining has been inserted.

The book is divided into two parts. The first is occupied with general facts about bacteria and the technique of bacteriology while the second part deals with specific diseases and their associated bacteria. The growth of our knowledge of immunity has naturally necessitated a considerable extension of the space devoted to this subject which is treated clearly and judicially, though the space occupied in the consideration of rival hypotheses does not seem always to be commensurate with their relative importance. We could wish that some of the space occupied by Viquerat's lactic acid theory had been devoted to the "side chain" theory of Ehrlich, as this is treated in so brief and summary a manner that we fear the student will find difficulty in understanding it. Though it is quite logical that the consideration of natural immunity should precede that produced experimentally yet as the facts bearing on this latter condition are so much the more numerous and definite there are distinct advantages in reversing the order of treatment. Similarly it is difficult for the student to grasp the multitude of apparently contradictory facts with which the hypotheses of immunity deal until he has studied the pathogenic organisms and their results in detail and it will not be until Part II. of this work has been mastered that the full value of the earlier chapters of Part I. will be realised.

Part II. is distinguished by its method and orderly arrangement. Each chapter begins with what may be described as a definition of the organism which is therein treated and each organism is studied in a series of paragraphs, with headings in larger type, which follow each other in definite and, so far as is possible, invariable sequence. This makes for clearness. The whole of the second part is excellent and the points of practical interest to the medical man are well brought out. Some erroneous statements as to the action of antiseptics on anthrax spores which occurred in the second edition have been altered.

The book includes chapters on the Bacteriology of Air, Soil, Water, and Some Foods. The space devoted to these subjects, though small, is quite as great as, in the present unsatisfactory state of our knowledge of these departments of bacteriology, is required in such a work. There are numerous illustrations which, like the rest of the book, are well printed. They are taken from various well-known sources and, the author remarks, are "surely superior to anything new covering the same ground."

LIBRARY TABLE.

Slight Errors of Refraction and their Influence on the Nervous System. By C. ERNEST PRONGER, F.R.C.S. Eng., Harrogate: R. Ackrill. 1903. Pp. 31.—Our readers will recollect the publication of Dr. G. M. Gould's views as to the profound and far-reaching effects produced on a person's general health by the existence of visual defects. Particulars will be found in Dr. Gould's paper on the Ill-health of Richard Wagner, which appeared in THE LANCET of August 1st, 1903, p. 306. More recently—namely, in THE LANCET of April 30th, 1904, p 1181, Mr. Simeon Snell has dealt with the same theme in a paper on Eyestrain as a Cause of Headache and other Neuroses. Mr. Pronger's monograph is a reproduction in book form of a paper read by him before the Harrogate Medical Society in March, 1903, and the illustrative cases quoted in it show that the author, who is ophthalmic surgeon to the Harrogate Infirmary, has for the last ten years been studying the remote effects of eyestrain. Headache, insomnia, nervous disturbances in children, vertigo, depression, and abnormal irritability are some of the ailments which he has traced to this cause, with the result that the wearing of appropriate spectacles gave immediate and complete relief.

Notes on the Treatment and Filling of Teeth. By W. CASS GRAYSTON, L.D.S. Second edition. London: The Dental Manufacturing Co., Limited. 1904. Pp. 254. Price 5*s.* net.—The dental practitioner will find much useful information in this little book. The author does not pretend to deal with his subject exhaustively but rather aims at referring to certain practical points which he himself has found of value and he very wisely remarks that it is the man and not always the method that makes success. A point clearly emphasised and worthy of the attention of the young practitioner is that the ideal is not always possible and that the patient is a factor to be considered in the treatment of a tooth. In places we might feel inclined to challenge some of the statements made and this is more especially the case in the chapter on the relief of pain; there is in this section apparently a lack of knowledge of pathology and general surgical principles.

What we Owe to Experiments on Animals and *The Case against Antivivisection.* By STEPHEN PAGET. London: The Scientific Press, Limited. 1904. Pp. 72 and 104 respectively. Price 1*s.* 6*d.* and 2*s.* respectively.—The facts that are briefly stated in the first of these well-composed pamphlets have already been published by the author at greater length and with more references in a book called "Experiments on Animals" (John Murray, 1903). A short summary of the facts is given in this issue which will be useful to anybody who wishes to know what has really been gained by the help of experiments on animals in physiology, pathology, and practice. The evidence adduced by the author ranges over the following subjects:—The discoveries connected with the circulation of the blood by Galen, Realdus, Harvey, and Malpighi; the discovery of the lacteals and lymphatic system by Asselius and Rudbeck, and of the functions of the gastric juice by Réaumur and others; the discovery of the glycogenic function of the liver by Claude Bernard; the experiments made by Galen, Sir Charles Bell, and Magendie on the nervous system; the contrast between the work of the great clinician Semmelweis in the General Hospital of Vienna and that of Pasteur in his laboratory in connexion with inflammation and puerperal fever; and the work of Lord Lister. The author also summarises what we owe to experiments in the treatment of anthrax, tubercle, diphtheria, tetanus, rabies, cholera, plague, typhoid fever, malaria, and yellow fever. A summary of the Act relating to experiments on animals (39 & 40 Vict., c. 77) concludes this pamphlet which should be read by all those who are interested in the progress of scientific medicine and its relations with experimental research. In the second pamphlet, the author states that he hopes against hope that his work will not give grave offence where no offence is intended, but he is bound to be aggressive even though he keeps close to the subject, which comprises the methods, literature, and arguments of the antivivisection societies. His essay is concerned with them and with nothing else. In putting the case against these societies the author writes: "It comes to this, that the medical sciences are a system of natural sciences, bound to make use of experiments, fallible, dependent on other natural sciences, and set to find and prove facts that will stand the test of time. Such a fact may, or may not, come straight out of the experimental method, and it may, or may not, go straight into the practice of medicine." Mr. Paget traces the history of the antivivisection movement. The dates show that the oldest of these societies came after the Royal commission of 1875, not before it; the first societies and the Royal commission were alike the expression of a widespead opinion 30 years ago that experiments on animals ought either to be forbidden or to be restricted. He details the policy of these societies, how they are divided into two parties—the one asking for restrictions, the other for nothing short of abolition—and brings out how this division between them and the tone of the National Society towards the smaller societies waste their energy and their funds and hinder them from working together. These societies during the last quarter of a century have published a vast quantity of literature. Mr. Paget examines the style of this literature during the past few years and the arguments which it puts forward. He also examines the attitude taken by these societies towards certain problems and interests that closely concern them—viz., towards sport, towards the medical profession, and towards the hospitals. He writes: "They do not hesitate to take advantage of all those improvements of medicine and surgery which have been made by the help of experiments on animals. They denounce the work of the present; but they enjoy all the results of the past, and will enjoy all those of the near future." Mr. Paget's pamphlets render good service in recording succinctly the knowledge that has been derived from experiments on animals and in stating the case against antivivisection in convincing words and well-arranged sections.

The Meaning of a Modern Hospital. By W. BRUCE CLARKE, M.B. Oxon, F.R.C.S. Eng., surgeon to St. Bartholomew's Hospital. London: Longmans, Green, and Co. 1904. Pp. 47. Price 1*s.*—This small book is an enlargement of an address which the author gave at the Abernethian Society of St. Bartholomew's Hospital some two years ago. The address was printed in the *Hospital Journal* and this present issue is the outcome of a number of inquiries which have been addressed to the author and a request that it might be published. In doing so the [illegible] may appeal not merely to those of the [illegible] are specially interested in the construction and well-being of hospitals but also to that somewhat larger class, the governors of, and visitors to, hospitals who are often called upon by their medical staff for certain improvements and are sorely bewildered as to why modern medicine and surgery require so many additions to the equipment which sufficed for their forefathers. Mr. Bruce Clarke acknowledges how largely he has drawn on the writings of Parkes, Galton, and Henry Burdett and how much he is indebted to them. On first glancing through the pamphlet, indeed, the reader wonders where the necessity for such a work arises, seeing that all the points touched on are to be found discussed in the many manuals on hygiene and public health that are now in the hands of the public. On reading the pamphlet carefully, however, we are struck by the excellent arrangement of the subject matter and the fulness of the detail. Here we have in a small pamphlet of 74 pages a thorough and well-arranged guide for the construction and internal arrangements of an up-to-date hospital, and remembering that the pamphlet is partly intended for non-medical readers we feel that it will meet a want and be of real use to those of the public who are interested in such matters and whose business it is to look after the well-being of these great public institutions. In turn the author treats of what a hospital is, the ward unit, ward accessories, the hospital pavilion, methods employed for cutting off one ward unit from other similar ward units in the same pavilion, the grouping of ward units together, the roof, grouping of the pavilions, isolation blocks, operating theatres, the warming and ventilation of the hospital, pathological department, sterilisation of surgical dressings, residents' quarters, nurses,' out-patient accommodation, and supervision. We cannot agree with Mr. Bruce Clarke that it is good or right to allow the sister of a ward to sleep in the room provided for her adjoining the hospital ward. No doubt being constantly in touch with her work does give her a greater interest and hold over her ward than can be the case when she sleeps at a distance from it, but at what an expense the gain is derived. We think that the sisters and nurses are better housed in separate buildings and that in this way their health of mind and body is better maintained.

VICTORIA INFIRMARY, NORTHWICH. — Mid-Cheshire's memorial to the late Queen is to be the extension of the Victoria Infirmary, Northwich. The erection and equipment of the extension are to cost between £4000 and £5000, and it was intimated the other day that Messrs. Brunner, Mond, and Co. have promised to give £1000 to the fund being provided.

THE LANCET.

LONDON: SATURDAY, JUNE 11, 1904.

Hospital Sunday.

ON Sunday, June 12th, appeal will be made on behalf of the hospitals of London to the congregations assembled for worship within and without the metropolitan area, wherever those in authority are willing to hold collections for this noble cause. Again the hospitals through the agency of the Metropolitan Hospital Sunday Fund solicit alms on behalf of the suffering poor and again we are called upon to make public their needs, to call attention to their indebtedness, and to insist on their good claim to the bounty of the charitable. In 1903 the collection made by the Metropolitan Hospital Sunday Fund amounted to the record sum of £64,975, of which £15,766 ranked under the heading of *special donations.* *On the only two other occasions upon* which a sum exceeding £60,000 has been collected the special donations were £16,307 and £21,990 respectively, so that the splendid total of last year was an achievement of which the anonymous givers who contribute to the offertory as well as the special donors of large sums may be justly proud. It rests now with the congregations who worship in church, chapel, and synagogue, and upon their friends who may not be present in person, to see that the record of 1903 is beaten by that of 1904 and that the steady progress which the Fund has made since its first effort in 1873 may continue without interruption. The hospitals have not only to struggle in order to meet the liabilities which the absence of fixed incomes necessarily imposes upon them and in order to maintain their efficiency in the districts which immediately surround them, but they have to meet the demands of a resident population which steadily and rapidly grows larger by the influx of precisely that class of needy, or more often destitute, workers whose choice in time of serious sickness or injury lies between the hospital and death. Besides this, increased facilities for travelling, the appreciation by the poor of the benefits obtainable, and other causes bring to the hospitals of London patients from all parts of the kingdom and often from localities in which no contribution is made to the metropolitan institutions through the Metropolitan Hospital Sunday Fund or otherwise.

Reference to the increasing population of London naturally brings to mind the foreign population, to a large extent consisting of the poorer classes, which fills whole streets in some districts and the presence of which has recently excited considerable attention. We have no desire to enter now into what has to some extent become a political question but we may point out that the Metropolitan Hospital Sunday Fund subsidises the French, the German, and the Italian hospitals in the same proportion as it does all others which fulfil its conditions as to management and efficiency, and also that our English hospitals pay no more regard to nationality than they do to religious creed. In such circumstances we express the hope that none of those foreigners who find London a pleasant place of residence as well as a profitable one will forget that a large number of their countrymen struggle for a living in it and in time of sickness and accident partake of its charity. We are a nation at peace with all the great powers and the influence of our monarch has been and *is* being exerted to convert that peace into friendship where too little friendly feeling existed before. The foreigner profits with the Briton from the security which such friendliness imparts to their mutual relations and he cannot show his appreciation of the fact better than by recognising the claims of the hospitals of London upon his generosity, those hospitals in which the KING and his gracious Consort who shares his throne never cease to evince their deep interest. In expressing our sincere hope that the current year may witness a further augmentation of the receipts of the Metropolitan Hospital Sunday Fund we do not make reference to the poverty of individual hospitals. The success of the Fund is largely due to the efforts of its organisers to insure that its distribution shall be in accordance with the efficiency of the institutions assisted. It is not enough for a hospital to show that it is poor; it must also show that its poverty is met with an honest front and must demonstrate the business-like efficiency of its administration. In insisting upon the necessity of carefully kept accounts readily to be understood by those wishing to examine them the Metropolitan Hospital Sunday Fund has strengthened its own position and that of each hospital which through its influence has adopted the methods recommended.

The benefit accruing to the wealthier classes from the support which they bestow upon the hospitals for the sake of their poorer brethren must not be forgotten by them. It is not limited to aid afforded in the case of accidents occurring in the neighbourhood of hospitals but consists, as the LORD MAYOR in the letter which we publish at p. 1684 aptly reminds us, in "incalculable services to those who can afford to pay for the experience gained within their walls." This is a matter to which the public may well direct its thoughtful attention. We who live in the year 1904 are familiar with conditions which to our ancestors of even a century ago would have seemed well-nigh miraculous. Vaccination has almost banished small-pox from our midst and would stamp it out completely for us did we only give it a full opportunity to do so. *Operations are performed in circumstances of* anæsthesia and asepsis which the most indifferent layman must realise to have been formerly not only impossible but inconceivable. But does the layman realise how much of this is due to the hospital or how much of the skill involved in the individual act of surgery has been acquired in these noble institutions and would not have been gained without them? Although the present age is one of progress and of considerable public and popular interest in the discoveries of science the public is curiously prone to grasp at shadows. The ills *of human life are matters of discussion* in the lay press and, to take two prominent instances, "cures" for cancer and consumption are being continually announced as accomplished facts. It is a question whether the larger public which should support the hospitals, and without whose universal support the hospitals live a precarious existence from day to day, fully realise that in the hospitals alone the saving measures which they so eagerly desire can ever be brought within the reach of suffering humanity. They too often ignore or forget the fact that such discoveries as are necessary before fell diseases can be dealt with by medical science are not the result of inspiration or of speculation. They are born of close observation of diseased conditions in all their varieties and of ceaseless study and interchange of knowledge such as are possible only in the wards of our hospitals and in the laboratories attached to them. It is not, however, for the sake of benefits some day to be enjoyed by themselves, or possibly received already, that we would urge all to give on Hospital Sunday but rather in order that their poorer brethren may be succoured by their generosity and may bless the kindly charity of the known and the unknown givers.

The Influence of the Unrecognised Case in the Spread of Communicable Disease.

With the advent of fresh administrative measures for the control of an infectious disease, no less than upon the discovery of fresh scientific facts about the disease, enthusiasts are apt to arise and proclaim that the application of such measures or the influence of such discoveries will result in stamping out. Time alone suffices to cool their ill-directed ardour, but time supplies fresh enthusiasts to re-enact the drama in connexion with other measures and other diseases. When Jenner discovered that vaccination was protective against small-pox he was led away by his enthusiasm to assert that such protection was lifelong before the time necessary to furnish the essential evidence had elapsed. It required experience to satisfy all fair-minded persons that the prophecy was not fulfilled and that to complete protection revaccination was necessary. And now vaccination has to bear the brunt of the original over-statement. With the introduction of the isolation hospital there came from unbalanced extremists somewhat similar prophecies. Infectious diseases, by means of these admirable institutions, would be "stamped out." Again the testimony of experience has cooled their ardour or convinced them of their error. When in 1889 the Infectious Diseases (Notification) Act was passed the machinery for dealing with infectious disease was thought to be complete and the only thing necessary to extinguish the diseases to which the Act related was to make the measure general throughout the country. This has now been done; but nevertheless considerable leakage in connexion with scarlet fever and diphtheria still ensues. And finally tuberculosis has received the attention of the enthusiast. According to some of those who figure prominently in the crusade against the "great white plague" the disease may be "stamped out" by sanatoriums alone; according to others compulsory notification is required; others again think that the prohibition of promiscuous expectoration would precede abatement of all forms of the disease. Since pulmonary tuberculosis is steadily declining in this country, and is likely ere many decades have passed to become extinct, it may be difficult to disprove some of the extravagant claims made in these directions, more especially as the promoters of the several panaceas seem to keep carefully in the background the fact that the disease has been steadily declining for years past and long before any direct measures against it were taken. The fundamental error underlying the fallacious beliefs and unfulfilled prophecies to which we have referred is the tendency to assume too readily that we know the whole truth with regard to the numerous and complicated factors which make up what we term "disease," and it is against this misleading conception that we have in recent years endeavoured to protest in the pages of The Lancet. One result of the over-statements in question has been the uprising of numerous anti-bodies, if we may apply this bacteriological phrase to agencies directed against the establishment of vaccination, the erection of isolation hospitals, and the provision of other unquestionably useful preventive measures and institutions. There has been in the past too great a tendency to overlook the fact that the greatest victories of public health have been what may be termed indirect victories. That is to say, that the diseases which have either vanished or are apparently in process of disappearance are those against which few direct measures have been taken. Perhaps the best illustration of this fact is the case of typhus fever, the organism of which has not yet been definitely isolated and concerning the natural history of which disease we know but little. We know, however, that the malady flourished in the overcrowded hovels of the poor where filth and poverty held sway. Now the disease is almost extinct in this country. A somewhat similar observation may be made with regard to relapsing fever and plague, while the best instance of the dying disease of the present day is that of pulmonary tuberculosis.

These reflections lead us to ask why it is that greater success has not hitherto attended our direct efforts—why it is that in spite of our compulsory notification and our isolation hospitals scarlet fever and diphtheria are still with us in a material and disturbing degree. We are not prepared with a final answer nor are we desirous to add yet another unfulfilled prophecy to the instances which we have already quoted. But there can, we think, be little doubt that a potent factor in promoting the persistence of these two diseases is the very large number of cases of each which entirely escape recognition. The medical officer of health is too prone to believe, when he has taken a map, has blocked out on it all the notified cases, and arranged them in groups according to the milk-supplies or the schools attended, the whole story is before him. But what a different story a medical man, specially trained in the various manifestations of scarlet fever, might bring back could he make a house-to-house inspection of the district and carefully examine the inmates. Or, supposing diphtheria to be the disease in question, how might the map become modified could the bacteriologist examine the throats of all those both inside and outside, the invaded area. What, too, would be the bacteriologist's story were he able to examine all the articles in the houses in which cases of diphtheria had occurred, houses which had been through a process of disinfection in so far as the room occupied by the patient after the disease was recognised? We are glad to see that Dr. ARTHUR NEWSHOLME drew attention to the importance of the unrecognised case in a lecture which he recently delivered at Victoria University, Manchester. There can be no doubt that the necessity of searching out suspicious or unnotified cases, which has so long been insisted upon in the memoranda of the Local Government Board, is not adequately acknowledged in the public health service generally, notwithstanding the fact that the progress of bacteriology has rendered such search all the more promising and all the more necessary. Anyone with experience of epidemiological investigations will easily recall instances where whole households have been notified on a given day and where the appearance of the individual cases was such as to leave no doubt of the fact that the cases had occurred at different dates. Dr. NEWSHOLME pointed out that the onus of a mistaken diagnosis is so great that medical men hesitate to act at the moment when the information which they might give would prove of maximum value to the medical officer of health. Obviously it is difficult for cases to be recognised and isolated the very moment when they become infectious—and precisely when this is we are by no means clear—but unless this can be done there may be very grave obstacles in the way of "stamping out" any given outbreak by means of notification and isolation alone. Fortunately, in connexion with certain diseases our preventive measures are becoming simplified by the progress of protective inoculation, and although we can hardly look forward to such brilliant results in the case of all diseases as have attended our efforts with respect to small-pox and diphtheria we may, perhaps, reasonably hope that temporary immunity from attack may ere long be attainable in connexion with several diseases.

But if advantage of modern knowledge is to be taken there must be a considerable expansion of the department of the medical officer of health. It is not feasible to make use of the sanitary inspector in the matter of diagnosis, hence if suspicious cases are to be sought out diligently properly trained assistant medical officers of health must be employed. Moreover, there must be greater facilities afforded for the employment of bacteriology as an aid to epidemiology, and more inducements must be offered to medical practitioners to make use of such facilities in connexion with doubtful cases. All this means increased expenditure both of time and money, but it is as well that the public should appreciate this fact: that if they desire the maximum use to be made of notification and of isolation hospitals a more earnest effort than heretofore must be made to discover the unrecognised case. Moreover, more extensive powers must be procured for the control of "contacts" and for the temporary seclusion of those who may be found to be harbouring pathogenic bacteria in their throats or elsewhere, though the yoke must not be made too vexatious at first, for the public coöperation will be wanted. A careful study of the conditions which have led almost to the extinction of typhus fever and to the decline of tuberculosis in this country may perhaps help us to make greater resistance to other infectious diseases.

Periodic Hydrarthrosis.

THE writings of Professor HOWARD MARSH have always been characterised by an especial degree of lucidity and accuracy which have greatly contributed towards the ready adoption of any new views which he has put forward from time to time. The volume of collected lectures which he published a few years ago bore eloquent testimony alike to his extensive experience and his knowledge of contemporary scientific literature, and the medical profession always awaits his words with interest. Great service can be rendered to surgery by men who occupy high positions in its pursuit when they give to the profession the fruit of many years of observation to assist in the recognition of morbid processes heretofore undescribed. It is for this reason that we welcomed heartily in our columns Professor MARSH'S Hunterian lecture, delivered at St George's Hospital on May 25th and printed in our issue of June 4th, for it dealt with a very obscure condition. Very little is known of intermittent hydrops articuli but it is probably by no means so rare as might be thought. The text-books are silent but here and there scattered about in surgical literature lie many cases which may confidently be included in this category without counting many others about which doubt may reasonably be felt. Professor MARSH by his lecture will assist other observers to diagnose the condition, and with a larger number of cases collated more definite knowledge may be obtained.

The earliest case recorded appears to have been under the care of VEILLARD in 1857, but others which were earlier were quoted at a discussion at the Société de Chirurgie of Paris after PANAS had described a case in the year 1878. Professor HOWARD MARSH has described two cases, each of which had some noteworthy points. In one there was a definite history of injury, where, three months after an apparently complete recovery, pain returned in the knee and with intervals lasted for many months. At first there was no perceptible swelling but later swelling was present and was especially obvious at night. The periodicity was very well marked, for regularly every evening the patient's knee became swollen and painful and every morning it returned almost to the normal. In the second case the joint affected, which was also the knee, became very swollen every fortnight and the swelling lasted three days and then subsided. Here the regularity of the recurrence was very exact. From an examination of some 45 cases which have been recorded it is seen that the joint most frequently affected is the knee, and this might have been expected, for as the condition is clearly an affection of the synovial membrane and as the knee has by far the greatest extent of synovial membrane, we should anticipate that the knee would be likely to suffer most frequently. Both knees may be affected and the disease may be confined to this articulation, but any of the large joints may be involved. In some cases the affection is limited to the joint first attacked; in others it passes in succession from one joint to another. The duration of an individual attack may be very short, in one of Professor MARSH'S cases it did not exceed 15 hours, but in the average case each attack lasts four days, half of this time being occupied in the progress of the swelling and pain and half in the subsidence of the symptoms. The interval between the commencement of successive attacks were most commonly a fortnight and it is curious how frequently in the accounts we meet with this degree of frequency of return. But the intervals may be very short, as in one of Professor MARSH'S cases where the exacerbations appeared daily. In some the intervals vary greatly. In one case described by PLETZER the attacks occurred irregularly at first, later they came on every three months, and later still an attack appeared every fortnight. In PANAS'S case the first attack appeared in a woman a fortnight after delivery and lasted four days; subsequent attacks came on once a fortnight and regularly on a Monday. The disease lasted four years and during this time the patient bore two children; and it is interesting to note that during the pregnancies the attacks were suspended. The local lesion is not absolutely identical in all the cases. In most there is definite, and often extensive, effusion into the synovial cavity but in others the chief change appears to be a thickening of the synovial membrane itself and this membrane is always thickened to some extent in cases which have lasted long. In the same case at one time there may be much effusion and at another the thickening of the synovial membrane is more in evidence. On the whole more women are attacked than men and the disease is rare before puberty. Occasionally there has been noticed a coetaneousness between the attacks and the menstrual periods but it is not unlikely that this was a mere coincidence. The treatment cannot be said to be satisfactory. In a number of cases the joint has been aspirated and a little of the fluid withdrawn for examination. It has never been found to be purulent but is always a thin synovia. In a few cases a bacteriological examination has been made and in all but two of those examined the fluid has been found to be sterile, and it is not improbable that in the two exceptions there had been accidental contamination. In a few cases the administration of quinine has been followed by a complete or partial disappearance of the swelling and pain, and one of Professor MARSH'S two cases proved a good instance of the value of quinine. In other cases arsenic has proved of great utility. Both of these drugs have failed, and failed utterly in many cases, but their marked success at times is such as to justify their routine employment in any case met with of this nature. No other treatment appears to be of any use.

When we approach the question of the etiology of intermittent hydrarthrosis we are confronted with the great difficulty that we have so very few facts on which to build a theory. The value of quinine and arsenic suggests that the condition may be malarial in origin, and, indeed, in several of the cases there has been a definite history of malaria. The undoubted failure of these drugs in still more cases shows that the association with malaria is probably not causal. The rapid appearance of the swelling and the equally rapid subsidence suggest that the lesion is vaso-motor in origin and therefore dependent on a disturbance of the nervous system, and this view is supported by the frequent occurrence of neuralgia in many of the cases. In one instance exophthalmic goitre was also present and this is also suggestive of a nervous etiology. Professor MARSH aptly quoted in his lecture three cases of periodic vomiting, described by JOSEPH ADAMS in 1815; two of these recovered under treatment with arsenic. These cases appear to bear some analogy to those of intermittent hydrops and, on the whole, it may be said that the nervous theory of origin has much to support it. Fuller knowledge of the disease can only be achieved by a wide observation of cases and now that the affection has been so clearly brought to the notice of the profession by Professor HOWARD MARSH it may be hoped that instances of it will be recognised, examined, and described.

Annotations.

"Ne quid nimis."

THE CHAIR OF PATHOLOGY IN THE VICTORIA UNIVERSITY.

DURING the last few years a large amount of bacteriological and other scientific work has been done for various sanitary authorities in Lancashire and Cheshire by the public health laboratory of Victoria University, Manchester. That the investigations and the resulting reports have been highly appreciated is sufficiently shown by the progressive increase in the work, for whereas there were 1504 such subjects reported on in the year 1897, there were 4652 in 1900, and 5220 in 1901. The laboratory is one of the divisions of the bacteriological department of the Owens College and was originally intended only for use in connexion with teaching, but the result of subsequent developments was to make it a well-recognised place of reference in matters relating to infectious diseases. The rapid increase of work rendered necessary in succession the appointment of laboratory assistants, the removal of the laboratory to larger premises, and the appointment of an assistant lecturer in the pathological department to relieve the professor of pathology of part of his routine teaching duties. A more important change was initiated in the summer of 1903, when it was decided to apportion the work of the existing chair of pathology between two new chairs—namely (1) a chair of pathology and pathological anatomy which would deal with the subject as needed by medical students preparing for medical qualifications; and (2) a chair of comparative pathology and bacteriology dealing with pathology from the public health point of view, the courses given by the incumbent of that chair being intended for advanced and public health students, including veterinary surgeons preparing for qualifications in veterinary State medicine. The directorship of the public health laboratory is also attached to this latter chair. The existing Procter chair of general pathology and morbid anatomy has been held since 1891 by Professor Sheridan *Delépine* who, we understand, will for the future carry on the duties of the chair of comparative pathology and bacteriology. The chair of pathology and pathological anatomy is therefore vacant and as announced in THE LANCET of May 28th applications from intending candidates will be received up to June 27th. It is stated that two local candidates—Dr. I. Walker Hall and Dr. F. C. Moore—well known both as pathologists and as teachers, are already in the field. The foundation of a chair of comparative pathology marks a new departure in connexion with medical education in this country and the Victoria University is to be congratulated on the step forward that it has taken. By the new arrangement the professor of pathology and pathological anatomy of the medical student.

THE NATIONAL SOCIETY FOR THE PREVENTION OF CRUELTY TO CHILDREN.

The annual meeting of the National Society for the Prevention of Cruelty to Children was held on May 18th The report for the past year is in most respects a satisfactory one. It is significant that the number of prosecutions is steadily diminishing and is 136 below that of last year, warnings to offenders having proved more effective than formerly. The one discouraging feature in the society's record is its financial position. It is true that the amount derived from annual subscriptions is greater by £566, while the cost per child protected has fallen from 13*s.* 5*d.* to 13*s.*

nevertheless £1301 under
diture amounts to £67,919,
e of £4818. When this is
£10,884, the total liability

of the society amounts to £15,702. The executive council is not indifferent to the meaning of these figures. Special efforts in the form of bazaars and fêtes have been organised with a view to increasing the deficient revenue and not without success. On the other hand, the necessity of stringent economy is fully recognised. It is proposed to reduce as far as possible expenditure on publishing which in certain branch districts appears to have been carried out on a somewhat liberal scale. Legal and medical expenses will also be reduced. Solicitors and medical men will only be applied to when their services are *indispensable and payment will be made upon a basis* previously arranged and notified. There is no desire, as far as we can gather, to minimise the value of professional assistance and we cannot blame the society for conducting this department of its work with an admission of the limitations imposed upon it by the amount of means at its disposal. The coat must be cut according to the cloth and provided that their remuneration is adequate medical practitioners are not likely to complain because it is not excessive.

GARBAGE AND POISONOUS MEAT.

Dr. George Newman, the medical officer of health of the borough of Finsbury, laid some very interesting items of information before his health committee on June 7th. For instance, on May 11th, Mr. Ralph Lustig of 26, Chapel-street, was fined at the Clerkenwell police-court upon two summons for depositing and exposing for sale 29 pieces of beef intended for the food of man which were unsound. Mr. Lustig was fined in all £6, a paltry sum when the seriousness of the offence is considered. From May 6th to June 2nd there were confiscated in Finsbury 3347 pounds of diseased and unsound meat, to say nothing of such cheering items, as 253 sheep livers affected with fluke and hydatids, 69 beef livers with hydatids, flukes, and tuberculosis, and 22 beef lungs with hydatids and tuberculosis. The quantity is large for one borough and is probably due to the presence of the offal shops which congregate just outside the Central Meat Markets. One case of doubtful meat, however, is so important that it deserves special mention. On March 11th one of the sanitary inspectors, by name Billings, brought to

, although not showing
factory. Dr. Newman
A. G. R. Foulerton for

were rapidly killed by small doses of cultures of this

[illegible] The meat was hung in a moderately dry atmosphere until April 19th when it had shrunk to a certain extent but still there was no putrefaction. Only the Gaertner bacillus could now be found and this retained its virulence. Mr. Foulerton further pointed out that this bacillus has upon many occasions been shown to be the cause of so-called "ptomaine poisoning" and of meat borne outbreaks of illness and Dr. Newman continues :—

> It is true that in the ord
> probably be destroyed, but
> proved to be the case in
> with the toxins which thi
> toxins would not be affe
> cooking processes. It should never be forgotten that much of the danger due to the consumption of unsound meat is owing to such toxins (or ptomaines) as the B. enteritidis and allied organisms
> neat of
> of this
> be all
>
> which venison is
> putrefaction and
> wanting. The cas
> the importance o
> exposing such m
> thorough meat inspection.

Meat of this class is exceedingly dangerous and very difficult of detection and we think that Inspector Billings deserves every credit for his acumen.

TUBERCULOUS MENINGITIS IN ADULTS.

The clinical description of tuberculous meningitis is based upon cases observed in children, in whom the disease is most common. The *Boston Medical and Surgical Journal* of May 12th contains a valuable paper by Dr. H. Jackson on Tuberculous Meningitis in Adults. He finds that the symptoms differ markedly from those of the disease in children. The paper is a study of 18 cases observed at the Boston City Hospital in the last few years. Seven of the patients were between the ages of 18 and 25 years, eight between 25 and 35 years, and three between 40 and 45 years. In three cases there was a previous history of a subacute disease two years before admission, which suggested preceding tuberculous disease—namely, in one case pleurisy, in one a cough which lasted a long time and kept the patient in bed, and in the third case some disease that kept the patient in bed several weeks. In one case no history was obtainable and in the remaining 14 cases there was no history of a preceding illness. Therefore in the diagnosis of tuberculous meningitis the absence of evidence of a preceding tuberculous disease is of little weight. On the other hand, in only two cases did the necropsy fail to reveal old healed tuberculous lesions but in none was there extensive disease capable of diagnosis during life. The period of illness before admission was much shorter than in children. One patient was admitted as a case of sunstroke with the history of sudden unconsciousness, one had complained of sore throat for two days, one had been ill for two weeks, three for a week, and seven for ten days. In one case the patient had been ill with vomiting and diarrhœa for four weeks. In only three cases was there a history of symptoms lasting several weeks and in these there was general, in addition to meningeal, tuberculosis. The prodromal symptoms in all were indefinite and suggestive of many acute fevers rather than of cerebral disease. In only four cases was stress laid on headache or vomiting though slight headache was present in others. Three patients were delirious and in the case of one insanity of some form was suggested. The general impression made by the cases may be gathered from the fact that in most of them Widal's test was performed. The course of the disease in hospital was that of some cerebral trouble. One-third of the cases presented the state described as "typhoid delirium" and two-thirds presented varying degrees of stupor and delirium. Headache was often admitted when the question was asked but in only one case was it severe. The kind of headache, photophobia, cerebral cry, and restlessness usually present in children suffering from the disease were absent. In two cases there were convulsions. In the first part of the acute stage the pulse was slow. The rate was usually from 60 to 70 until the last few days of the disease and occasionally was as low as 50. In the last two or three days of life the rate was from 130 to 150 and in a few cases even to 180. The temperature was unimportant, being usually from 100° to 101° and rarely over 102·5° F. In one case it was normal or subnormal. The leucocyte count was lower than in acute cerebrospinal meningitis. Of nine cases 23,000 were found in one, 17,400 in another, and in the remainder the number was below 12,000. Lumbar puncture was performed in eight cases. In all the fluid spurted out, showing that it was under pressure. The fluid was almost clear and contained a few flocculi. In one case the bacillus tuberculosis was found in it. The results were therefore very different from those obtained in acute cerebro-spinal meningitis, in which the fluid is purulent or semi-purulent and organisms are easily obtained on culture. Examination of the fundi yielded little of importance; in only one case was optic neuritis found. In three cases there was no paralysis but the patients were very ill and died soon after admission. In 12 cases paralysis was limited to one or more ocular muscles. Thus the rule was that paralysis was limited to the ocular muscles. In two cases there was slight facial paralysis in addition to strabismus. In one case there was extensive paralysis—left mydriasis and complete left hemiplegia. Other signs of cerebral disease, such as retraction of the head, Kernig's sign and opisthotonos (found only once), were less frequent and less marked than in cerebrospinal meningitis. After the onset of acute symptoms three patients died in less than three weeks and several in less than one week. The clinical and post-mortem examination of the lungs corresponded; in no case was a lesion found sufficient to give rise to signs during life. In 16 of the 18 cases small areas of chronic pulmonary tuberculosis or caseous lymphatic glands were found. Acute miliary tuberculosis of the lungs was present in seven cases and general acute miliary tuberculosis in five. The spinal meninges were involved in eight cases.

THE SUNSHINE OF ENGLAND AND SWITZERLAND COMPARED.

IN THE LANCET of May 14th, p. 1370, the sunshine recorded during April in Switzerland and the south of this country was compared and it was seen that the advantage was altogether with the latter. The figures for May, on the contrary, show that during that month the conditions were reversed, the only British station to approach the majority of those in Switzerland being Jersey, a spot which represents Normandy far better than it does England. The Swiss values were probably higher than they appear in the table, for the two days for which the records are not to hand may have been almost cloudless. All the home totals were much below those of a normal May, especially on the coast of Sussex, while it is curious that London, which had an excess greater than the other places in April, should have maintained its relative superiority by having a comparatively small deficit during May. The disproportion in the records from Switzerland and our own coasts is, of course, greater than it appears, as at this time of the year the sun is above the horizon a very appreciably longer time with us than is the case about 250 miles further south. Even in the more northern parts of these islands, where the duration of daylight is greater than on our south coasts, the sunshine was less than that registered during April. Aberdeen had 145 hours, *Harrogate 128, Nottingham 136,* and Birmingham 133. The most sunny of the Swiss resorts was again that situated near the borders of Italy, Lugano, and this was followed at a respectful distance by Berne, the elevated Davos, and Zürich. The station with the greatest altitude (Santis) had the least sunshine, but even that was equal or superior to any of our own resorts excepting Jersey and Torquay.

May Sunshine in the South of England and in Switzerland.

Stations.	No. of hours.	Difference from average.	Stations, with altitude.	No. of hours.*
Aberystwyth	172	?	Geneva (405 metres)	182
Scilly Isles	163	– 75	Lausanne (563 ,,)	199
Plymouth	178	– 40	Montreux (553 ,,)	186
Jersey	193	– 57	Berne (572 ,,)	208
Torquay	183	– 47	Basle (278 ,,)	186
Bournemouth	172	?	Zürich (493 ,,)	204
Hastings	158	– 77	Santis (2500 ,,)	178
Margate	143	– 52	Davos (1560 ,,)	205
Bath	142	?	Lugano (275 ,,)	239
London (Westminster)	*130*	*– 34*		

* These totals are not quite complete, the returns for the 6th and 21st not being available.

CHILDREN'S COUNTRY HOLIDAYS FUND.

The Earl of Erroll and Lord Avebury have just issued a letter of appeal on behalf of that large and important section of our population, the 800,000 children under 14 years of age who fill the elementary schools of London and West Ham, the majority of whom do not leave London *for a holiday* in the country or leave it *for a single day's excursion only.* It is the object of the Children's Country Holidays Fund to place within the reach of children of either sex and every creed whose parents are willing to assist the opportunity of obtaining the permanent physical and moral development which is fostered by residence amid new surroundings and by a glimpse of nature and of country ways. The fund has, except in a few cases, adopted the plan of boarding out London children with country cottagers. In 1903 over 34,000 children were sent to country friends in this manner, the cost per head being about 14*s.*, including railway fares. But the work is always growing and larger expenses can only be met by more liberal help. The fund is doing more and more each year to provide for a very real and urgent need and it is for this reason that the Earl of Erroll and Lord Avebury once more appeal to the public to assist. Cheques should be made payable to the Treasurer, 18, Buckingham-street, Strand, W.C.

BLOOD CHANGES PRODUCED BY ETHER ANÆSTHESIA IN MAN AND THE LOWER ANIMALS.

IT has been known for some time that the inhalation of ether and consequent entry of ether into the circulating blood are followed by blood changes chiefly of the nature of hæmolysis. A careful paper by Dr. J. M. Anders and Dr. L. N. Boston of Philadelphia, which space does not permit us to print in full, details experiments bearing on this point that have been performed upon animals and observations made upon the human subject with regard to the same question. The subjects of investigation were in the case of human beings patients undergoing comparatively slight operations or else persons inhaling ether purely for the sake of the investigation. Earlier research has shown that the fall in hæmoglobin in ether anæsthesia reaches its lowest level 24 hours after the termination of the anæsthetic state, one half of the fall *taking place during the first* hour after anæsthesia and the other half during the next 23 hours. Dr. Anders and Dr. Boston find similarly that hæmoglobin is reduced in every instance as the result of ether anæsthesia, that the reduction varies according to the length of the inhalation, that 10 per cent. of the reduction takes place during the first 20 minutes of the inhalation, and that hæmoglobin reaches its lowest level at from 24 to 30 hours after the termination of the anæsthesia. There is less decided loss during a second administration conducted soon after the first and the reduction is more quickly recovered from. Changes in the red cells are always present after the anæsthetic state is reached, the individual cells being thick and compact. Leucocytosis occurred in two-thirds of the animals experimented upon. In human beings the leucocytes were sometimes increased and sometimes diminished, always returning to the normal number soon after the cessation of anæsthesia. Myelocytes in small numbers appear in human blood after ether anæsthesia. As regards hæmoglobin Dr. Anders and Dr. Boston find that the colour index reaches the normal 72 hours after the cessation of anæsthesia. In general terms it may be said that etherisation produces increased hæmolysis, followed by rapid regeneration of cells with increased number of red corpuscles.

THE HEREDITARY TRANSMISSION OF ALKAPTONURIA.

Dr. Archibald E. Garrod sends us the following interesting note:—"In the *Gazzetta Medica Lombarda*, 1889, vol. xlviii., p. 115, Professor Francesco Orsi of Pavia gave an account of 'Tre individui di una stessa famiglia colpiti da Pirocatechinuria,' and on p. 135 of the same volume his assistant, Dr. Cesare Magni, has a further communication. 'Sulla Pirocatechinuria.' These papers have hitherto escaped the notice of those of us who have collected the recorded cases of alkaptonuria. The very full description of the urine given includes practically all the characteristic features of alkaptonuria, such as the darkening on standing or on addition of an alkali, the reduction of Fehling's solution, the negative result of the bismuth test for sugar, and the absence of rotation of the polarised ray. The attribution of its properties to the presence of pyrocatechin was merely a reflection of the views prevalent at the time and Dr. Magni mentions alkaptonuria as an alternative name for the condition. In the absence of any direct evidence that pyrocatechin was the abnormal substance present in these cases we are justified as classing them as examples of alkaptonuria. The first patient, Signor C. S., aged 20 years, was brought to Professor Orsi by his cousin, a medical student, on the supposition that he had diabetes. Professor Orsi goes on to say: 'I had occasion later to analyse the urine of Signorina R. S., a sister of Signor C. S., and found it to resemble that of her brother. Moreover, I have been assured by the student, Signor F. S., that the urine of the mother of Signor C. S. and Signorina R. S. also presents the main characters of that of her children.' Although a large proportion of alkaptonurics are brothers and sisters, only one other instance of the direct transmission of the anomaly from parent to child is known—namely, in the family under Professor W. Osler's observation[1] in which a father and son and a brother of the father have exhibited the peculiarity. The fact that this hitherto overlooked record affords a second example is my excuse for calling attention to it in the present note." Dr. Garrod, as is well known, writes with authority on the subject of alkaptonuria and its literature, having himself also worked at the chemical relations of this peculiar substance. The above addition to the scanty number of cases on record is of great interest as an example of the hereditary transmission of the condition and also as indicating that some cases may have escaped notice, the reduction of Fehling's solution being attributed to some other substance such as pyrocatechin or sugar. It is also a point worthy of notice that several of the rarer anomalies of metabolism, such as pentosuria and cystinuria, as noted in another column (p. 1673), show peculiar family relations as do the more common metabolic diseases—gout and diabetes.

ASH AN ASSET.

As everybody knows the ash left on burning tobacco is considerable and, as a matter of fact, the mineral matter of the tobacco leaf frequently amounts to as much as a fifth part of its weight. Thus, a ton of tobacco leaf would yield four hundredweights of ash which represents valuable mineral constituents withdrawn from the soil which have to be replaced by abundant manuring. It has been calculated that a ton of tobacco withdraws over a hundredweight of mineral constituents per acre of land. In 1901 the home consumption of tobacco in the United Kingdom was at the rate of two pounds per head, or a total of about 40,000 tons, which represents, at what is now a probably low computation, approximately 8000 tons of ash annually committed to the winds or dissipated in some way or other. This would appear to be an astounding waste of material which must be of enormous value to the soil considering that 75 per cent. consists of calcium and potassium salts and 15 per cent. of magnesium and sodium salts, including nearly 5 per cent. of the essential constituent to all plants—phosphoric acid. On the face of it there would seem to be a fortune in store for that individual who could devise a successful means for the collection of tobacco ash, and it is great pity that so much valuable material should for ever be lost to the soil without any attempt at direct restoration being made. It means an economic loss which without artificial resources would ultimately starve and ruin the soil used in the production of tobacco. Ash after all ought to be a valuable asset in the economy of things. Similarly, in the form of animal excreta there is annually an enormous loss of material of the utmost value to the soil, although the time may not be far distant when we shall see even that economically restored to the land. The late Sir John Lawes once argued that the discharge of sewage into the sea did not necessarily imply waste for we had it back in the shape of a bountiful fish harvest, but the sequence of events is very doubtful.

JAUNDICE IN SECONDARY SYPHILIS.

THOUGH jaundice in secondary syphilis has been described by writers from Paracelsus downwards it does not seem to have received much attention in this country. It is certainly far from common, for Werner in the records of the Hamburg hospitals found only 57 cases of jaundice in 15,799 cases of secondary syphilis. In the *American Journal of the Medical Sciences* for May Dr. W. J. Calvert has reported the case of a man, aged 27 years, who was admitted to hospital on June 6th, 1902, with intense jaundice. Six weeks before a sore developed on the glans penis. On June 3rd the patient first noticed the jaundice. On admission there were intense jaundice, an indurated chancre, one enlarged right inguinal gland, and slight general glandular enlargement. There was no fever. The liver was of normal size and not tender. The urine contained bile pigments but the fæces were not decolourised. Three days later a general macular eruption appeared. The general condition of the patient was good; there was neither fever nor digestive disturbance. Under mercury and iodide the jaundice and secondary symptoms disappeared in three weeks. The pathology of jaundice in secondary syphilis is not settled. It has been ascribed to various causes—enlarged glands pressing on the bile-ducts, secondary eruptions in the intestines obstructing the flow of bile, congestion of the liver, and [illegible] diseases. Two types can be distinguished, a benign and a grave. In benign cases the jaundice develops rapidly without the usual digestive disturbances of catarrhal jaundice. In three-fourths of the cases the jaundice develops simultaneously with the secondary symptoms; in the remainder it develops either before or after them. In degree it varies from a light to a deep tint. Its course runs parallel to that of the secondary symptoms. It lasts from a few days to two months, but if treatment is neglected it may become chronic. The hypochondriac region may be tender. In two of Werner's cases the liver was enlarged. The urine has the ordinary characters of jaundice and the fæces are more or less decolourised. Pruritus is seldom present. Werner observed xanthopsia in three cases. In grave cases the jaundice first develops as in benign cases, but on the fifth or sixth day delirium, hæmorrhage, purpura, or coma occurs and death often rapidly follows. In an annotation we have recently described at greater length this form and related a remarkable case.[1]

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[1] See THE LANCET, Dec. 13th, 1902, p. 1616, and Jan. 2nd, 1904, p. 10.

THE REBUILDING OF ST. BARTHOLOMEW'S HOSPITAL.

ON the evening of June 3rd a concert in aid of the Rebuilding Fund of the Royal Hospital of St. Bartholomew was given under the auspices of Signorina Giulia Ravogli at Queen's Hall. The principal item of the performance was Gluck's *Orfeo* in which Signorina Ravogli of course took the title part. She was assisted by Miss Lydia Nervil as Eurydice and Miss Martha Cunningham as Amor. The choruses were sung by the members of the Leeds Choral Union and the whole performance was conducted by Mr. Alfred Benton. We are glad to say that the hall was well filled so that the funds of the hospital must have benefited to a considerable extent. Signorina Ravogli's rendering of the part of Orfeo is too well-known and too highly appreciated to be in need of any further praise here and she received every assistance from the other two principal singers. The choruses were sung with the attack and precision and the beauty of vocal tone for which the Leeds Choral Union is so well known. We cannot omit to give special praise to Mr. Albert Fransella's perfectly beautiful rendering of the flute part in the number entitled "Ballet of the Happy Souls," a melody which always seems to us as perfect an expression in musical terms of "Animula, Vagula, Blandula" as can be imagined. But Gluck's music is invariably in exact accordance with the feeling of the story which it illustrates. Mr. Malsch also deserves commendation for his playing of the hautboy obbligato to the air which follows almost immediately afterwards. After the performance of *Orfeo* the Leeds Choral Union sang two choral numbers by Elgar and Mendelssohn. Altogether the performance was most enjoyable.

VACCINATION IN BURMA.

IN the *Rangoon Gazette* of April 27th Dr. T. F. Pedley makes a very serious indictment of the management of the Provincial Vaccination Department of Burma. Briefly, his charges are that "a sufficient staff of competent honest vaccinators and a regular supply of good lymph" are not provided. In illustration of the latter complaint he states that in the Northern Shan States and Chin Hills the successful results in 1900-01 were officially given as 22·49 and 28·39 per cent. respectively. In Rangoon itself a vaccination depot for the production of animal lymph was established in 1883 and maintained until 1900, when the Government grant was withdrawn. Afterwards civil surgeons and district vaccinators were directed to obtain lymph from another station distant, as measured by [illegible] services. The lymph formerly provided in Rangoon had seldom or never failed even a month after its issue, but the new lymph is usually inert in a week or ten days and failures are frequent even earlier. As a natural result the Burmese are said to be losing confidence in vaccination, and resorting more and more to the ancient practice of small-pox inoculation. The diminution is officially acknowledged and the superintendent general of vaccination attributes it to three causes: (*a*) that outside municipal limits vaccination is not compulsory or small-pox inoculation illegal; (*b*) that in the past the district vaccinators made false returns, which are now checked by closer supervision and by punishment; and (*c*) that an indifferent class of men seek employment as vaccinators. The last statement quite falls in with Dr. Pedley's contention. Vaccinators, it seems, have an average pay of about 27 rupees a month and this includes travelling expenses, so that coolies can earn more in the port of Rangoon. The questions raised by Dr. Pedley are certainly serious and demand full investigation. It is the boast of Britain that subject races benefit by its control. Obviously health administration is among the most important functions of central and local government. The Burmese are said to be a reasonable people, ready to accept vaccination if offered to them by trustworthy hands. In such circumstances the proportion actually vaccinated, which is given as about 300 per 10,000 of population in Lower Burma in 1902-03, is miserably small, and Dr. Pedley makes out a strong case for governmental responsibility for this most unsatisfactory state of affairs. The subject is very well worth the attention of those members of the British Parliament who take special interest in the welfare of our great dependencies in the Far East.

ON THE USE OF ALCOHOL IN CASES OF PNEUMONIA.

IN a suggestive and carefully reasoned paper on pneumonia, read before the Liverpool Medical Institution by Dr. John Hay and recorded *in extenso* at p. 1643 of this issue, some strong views are expressed against the routine use of alcohol in cases of threatened cardiac failure during the course of that disease, supported by statistics and tables of somewhat startling character. He found that in considering a group of 150 cases, 47 of which were treated by himself without administration of alcohol, while the remaining 103 were treated by his colleagues, alcohol being given when the usually recognised indications for its administration arose, the mortality in the former group (those untreated by alcohol) was 16 per cent. less than that in the latter, or, eliminating the cases admitted moribund from both groups, there was a difference of 15 per cent. in favour of the cases treated without alcohol. Dr. Hay states that he has taken great care to eliminate every source of error and we must accept his figures as showing the difference he claims. At the same time there would seem to us to be one or two factors requiring elucidation, leaving out of consideration the smaller number of cases dealt with in the former group. First, although the average age of the two groups of cases is practically identical, it would have been of interest to compare the age mortality of the two groups in decade periods. Again, considering the group of 103 cases treated by his colleagues with alcohol there would seem to be three possibilities: first, that all the patients seen by them were treated with alcohol; or secondly, that the cases not treated by alcohol were excluded, which would seem to be negatived by the statement that no selection was made; or thirdly, that this group includes cases to which no alcohol was given, in which case it would be of interest to know what proportion these form of the total. These are points which require elucidation before the absolute value of the figures given can be made out. Dr. Hay quotes the currently received views of the pharmacological actions of alcohol in support of his conclusions—viz, that it dilates the peripheral vessels and lowers the blood pressure, exerting no direct action upon the heart itself except to enfeeble it in large doses. At the same time examples are not wanting of drugs which seem to exert actions in disease almost in defiance, so to speak, of their pharmacological actions. Strychnine itself, which Dr. Hay so rightly commends as "a good stimulating cardiac tonic," is a case in point, for according to many pharmacologists strychnine has no action upon the heart, producing its effects on the vascular system entirely through the vaso-constrictor centre. We hold no brief for the use of alcohol in pneumonia; in fact, there is little doubt that it is frequently administered in too large amounts and too early in the disease. At the same time we cannot but feel that with so large a variation as 15 or 16 per cent. in so relatively small a group of cases the difference may be due to more than the one variant, especially when we remember that some statistics in other diseases—notably typhoid fever—certainly seem in favour of the use of alcohol. Dr. Hay's statistics are, however, a valuable contribution to a debateable question and we may express the hope that his work will direct attention to the matter and stimulate others to make observations.

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[1] THE LANCET, April 30th, 1904, p. 1221.

THE CORONERS' SOCIETY.

THE Coroners' Society of England and Wales held its annual banquet at the Holborn Restaurant, London, on June 2nd. Amongst those present were the President of the society, Mr. H. White, who took the chair; Mr. Gray Hill, the President of the Law Society; Mr. H. A. Harben, chairman of the Public Control Committee of the London County Council; Mr. C. E. Troup, C.B., Mr. William P. Byrne, C.B., Mr. W. O. Danckwerts, K.C., Mr. William Martin, M.A., LL.D., Mr. M. L. Macnaughten, Assistant Commissioner of Police; the Mayors of Richmond (Surrey), West Ham, and Bury (Lancashire), Mr. T. Fraser Black, J.P., Mr. W. G. Austin, Mr. C. Edgar, J.P., Mr. W. H. Eves, J.P., Dr. G. Danford Thomas, Dr. F. J. Waldo, Mr. M. H. Taylor, Dr. S. I. Oddie, Dr. R. L. Guthrie, Dr. Ernest W. White, Dr. T. Outterson Wood, Mr. S. F. Butcher (vice-president), Mr. Walter Brooke, Mr. F. Danford Thomas, Mr. A. M. M. Forbes, Mr. R. M. Mercer, Mr C. L. Rothera, Mr. T. Christophers, Mr. A. C. Langham, Mr. Luke White, M.P., Mr. Isaac Bradley, Mr. G. E. Hilleary, Mr. Lovell Smeathson, Mr. H. B. Sewell, Mr. E. D. Prickman, Mr. Walter E. Cunliffe, Mr. Henry White, jun., Mr. J. R. Richards, Mr. W. W. Parker, Mr. G. P. Wyatt (honorary treasurer), and Mr. Walter Schröder (honorary secretary). After the usual loyal toasts had been honoured Mr. Butcher proposed the toast of the "Imperial and Local Government," and in the course of his remarks pointed out that the Government should take more heed of the advice obtainable from coroners. Mr. Luke White, in replying, commented on the valuable experience gained by the coroners in connexion with the problem of the housing of the poor. Mr. Harben, who also acknowledged the toast, referred to the connexion between the London County Council and the coroners. The Mayor of Richmond, who also answered to this toast, spoke of the duties devolving on the coroners and men- [illegible]

and especially dwelt on the good work done by Dr. Danford Thomas in supplying important information for the use of the Home Office. The toast of "The Officers of the Society," which was proposed by the President, was cordially received and was acknowledged by Mr. Schroder.

THE DISTRIBUTION OF PLAGUE.

THE medical officer of health of the Cape Colony states that for the week ended May 14th there was only 1 case of plague discovered in the colony—namely, a native male at Port Elizabeth. 395 rats and 127 mice were examined bacteriologically during the week, of which 4 rats proved to be plague infected. In the Cape Town and Harbour Board area 522 rodents were examined during the week but none were affected with plague. With reference to the Transvaal the following motion was passed unanimously by the Transvaal Medical Society at the meeting held in the board room of the Johannesburg Hospital on April 7th:—

> th [illegible]
> or [illegible]
> M [illegible]
> w [illegible]
> co [illegible]
> wl [illegible]
> the disease. In the opinion of this society their promptness and energy have undoubtedly led to the saving of many lives.

As regards the Transvaal, a telegram from Lord Milner, received at the Colonial Office on June 4th, states that the plague return for the week ending that date was as follows: total number of fresh cases reported since May 28th, 2, both coloured persons. 3 cases have been found not to be plague, making present total of suspected and proved cases 139, 24 being whites and 115 coloured persons. The total number of deaths reported since May 28th was 1, a coloured person. As regards the Mauritius, a telegram from the Acting Governor, received at the Colonial Office on June 4th, states that for the week ending June 2nd there were 3 cases of plague and 2 deaths from the disease. In Hong Kong for the week ending June 4th there were 36 cases of plague and 37 deaths from the disease.

ON THE OCCURRENCE OF PENTOSURIA AS A FAMILY ANOMALY.

UNDER the above title Dr. M. Bial[1] of Kissingen records three cases of pentosuria occurring in one family. The first case was that of a married woman from Lodz who was referred to Dr. Bial for some slight degree of glycosuria with obesity. An analysis of the urine in a chemical laboratory at Lodz showed a reduction equivalent to 0·3 per cent. of sugar. Dr. Bial on testing it found that with Fehling's solution it gave a distinct reduction which appeared during boiling, while with the pentose testing reagent described by him[2] a very definite reaction was obtained. No results were obtained with fermentation or polarisation experiments. To confirm the presence of pentose the phenylhydrazin test was applied and the osazone was prepared from one litre of urine, about 0·5 gramme being obtained. This proved to be pentosazone, since its melting point was 150° C. and its nitrogen content was 17·01 per cent., while glucosazone has a melting point [illegible] 6 per cent. The br [illegible] came under observa [illegible] examinations of his [illegible] from 0·1 to 0·3 per cent. Dr. Bial, by the application of the same tests, was able to show that the reduction of Fehling's solution [illegible] patient, who was of neuropathic [illegible] ncies, was assured that his con- [illegible] ne, and not the grave disease he had imagined it to be. Another sister of this patient had also been regarded as diabetic but an examination of the urine proved the sugar to be pentose and not glucose. The urine of several other members of the same family was examined, including that of the father, of two other brothers, and of two children daughters of the first and third patients respectively, but neither glycosuria nor pentosuria was found. The paper contains an interesting *résumé* of the literature of pentosuria. The condition was first described by Salkowski and Blumenthal in 1895,[3] since which time a number of cases have been recorded by different authors, more especially during the last three years, among them in two sisters by Blumenthal. Both Dr. Bial and Dr. Blumenthal regard pentosuria as an anomaly of metabolism comparable to cystinuria, which has also recently been regarded as a family disease by Dr. Abderhalden. The importance of the condition of pentosuria, which is apparently harmless in itself, is its liability to lead to wrong conclusions in life assurance work and to its confusion with glycosuria and diabetes. It would certainly seem to be worth trying Dr. Bial's test in some of the cases in which a small or an anomalous reduction is obtained with Fehling's solution, as is the case in a not inconsiderable number of urines.

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[1] Berliner Klinische Wochenschrift. 1904, No 21.

[2] THE LANCET, April 19th, 1902, p. 1123.

LEPROSY IN NEW SOUTH WALES.

IN a report to the Colonial Government, dated March 31st, 1904, Dr. J. Ashburton Thompson states that on Jan. 1st, 1902, there were 14 persons (13 men and one woman) remaining under detention in the lazaret at Little Bay, not far from Sydney. One patient was admitted, two died, and three were discharged during the year. There were therefore ten persons remaining in the lazaret at the end of the year; three were natives of New South Wales, of European descent, one was a native of Germany, one was a native of England, one was a native of the United States of America, one was a Javanese, and three were natives of China. The three patients who were discharged suffered from lepra nervorum; one of them returned to his home in the Island of Aoba and two, who were white natives of the colony, returned to their homes on the ground that the disease was quiescent. A charitable allowance was made to the family of one of them as it was very unlikely that his trophic mutilations would allow of his earning a livelihood. The working expenses of the lazaret for the year were £1696, being an average of £133 7*s.* 9*d.* per inmate per annum.

MEDICAL EXCURSIONS TO FRENCH WATERING PLACES.

THE sixth annual excursion to French watering places will commence on Sept. 3rd and will continue till the 15th. As on the previous occasions the leader of the party will be Dr. Landouzy, professor of clinical medicine in the Paris Faculty, who will address meetings at various places on the subject of the therapeutic applications of mineral waters. The district to be visited is in Central France and Auvergne. The party will assemble on the forenoon of Sept 3rd at Lamotte-Beuvron which is a station on the Orleans Railway between Orleans and Vierzon. An express train from Paris arrives about 10 A.M. After lunch and a visit to the sanatorium the party will leave at 3 P.M. for Chamblet-Néris. Among the numerous places subsequently visited will be La Bourboule, Le Mont-Dore, Royat, and Vichy. The party will separate at Pougues-les-Eaux on Sept. 15th. Only medical men and medical students, French or foreign, are eligible to join the excursion; medical men may be accompanied by their wives. All the French railways will convey members from their homes (and in the case of foreign arrivals from the frontier station) to Lamotte-Beuvron and on the corresponding return journey from Pougues at half fares. Intending visitors should communicate with Dr. Carron de la Carrière, 2 Rue Lincoln, Paris (8me), giving their names, addresses, the name of the railway station from which they will start, and, in the case of foreign visitors, the name of the frontier station by which they will arrive. Names cannot be received after August 15th. The subscription of 250 francs (£10), covering all the expenses of the excursion, should be paid to the Director of the Crédit Lyonnais, Agence B, Compte V.E.M., Place de la Bourse, Paris.

RADIO-ACTIVITY IN RUSSIAN MUD BATHS.

AT a meeting of the Physical Section of the Russian Physico-Chemical Society on May 24th Professor I. I. Borgman gave a report on the results of his inquiry on the radio-activity of certain Russian mud baths. The lecturer demonstrated on a screen. He had found that the mud baths of Kuyalnitsk and Arensburg possess radio-activity, whilst those of Berdyank and Saska possess this quality only to a very limited extent. But samples from other baths showed no signs of it. His systematic tests began on March 17th and continued right on till May. Some of the effects observable were that the sulphuric acid that served to dry the mud of the Kuyalnitsk baths as well as the vessels and other objects that had been in contact with it had acquired the radio-active property. Professor Borgman had sent a sample of the mud bath of Kuyalnitsk to Dr. London who tested it for bacteria and found that it arrests the growth of bacteria. It seems probable that radio-emanations are ubiquitous and more than a year ago Professor J. S. Thomson of Cambridge found evidence of them in ordinary drinking wells and in the earth. More recently the same property has been found to reside in the thermal waters of Bath and Buxton, while Droitwich brine is also radio-active. The subject is still steeped in obscurity but it is not improbable that radio-activity may be found to be a factor of considerable importance in hydrotherapeutic practice. It may be concerned in the beneficial effects of a mud application. All muds are not curative, neither is it probable that they are all radio-active or inhibitory to the growth of micro-organisms.

HIS MAJESTY THE KING has graciously consented to lay the foundation-stone of the new buildings of St. Bartholomew's Hospital during the course of next month.

THE Cavendish lecture of the West London Medico-Chirurgical Society will be delivered by Professor von Mikulicz of Breslau on Friday, June 24th, at 8.30 P.M., in the Town Hall, Hammersmith. The subject is, Experiments on the Immunisation of Operation Wounds. A conversazione will follow.

AT the annual meeting of the Incorporated Medical Practitioners' Association, held on June 2nd, Mr. Robert Ambrose, Member of Parliament for the Western Division of County Mayo, was elected president for the ensuing year.

CARDIFF INFIRMARY.—The committee of the Cardiff Infirmary Sunday Fund announces that as a result of the collections on "Infirmary Sunday" (April 24th) the sum of £590 has been handed to the institution. The committee, however, will keep the fund open until Dec. 31st so that any congregation which had not been able to arrange for a collection on April 24th may have an opportunity of doing so.

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[3] Berliner Klinische Wochenschrift, 1885.

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 10, 1826.

DR. HOPE AND HIS LECTURE TO THE LADIES OF EDINBURGH.

THE fifteenth day of February of the present year will be long considered a remarkable era in the history of the modern Athens. For the first time, we believe, that any thing of the kind has been attempted in Europe, the splendid portals of the University of Edinburgh were thrown open to the fair sex, and they were permitted to approach the pure fountain of science, and sip a little of its refreshing streams. On that memorable day Dr. HOPE, the Professor of Chemistry, commenced a popular course on that fascinating subject. That learned lecturer has been long celebrated for his oral instruction, but still more famous for his showy experiments exhibited to the grown-up children of the male sex, whose admiration and wonder have been often excited by his Breslaw or Boaz-like dexterity.

Last year his excellent friend and able colleague, Mr. Leslie, condescended to withdraw his attention for a little from his profound speculations on radiant heat, or from the study of the Hebrew language, in which he is so deeply skilled, and astonished the ladies with the wonderful powers of the magic lanthorn and the solar microscope, and while they were glowing with admiration, he cooled their ardour by producing, in a moment, a mountain of ice. Pondering on this extraordinary feat, the learned Professor of Chemistry determined to enter the list of honourable rivalship; and having consulted his honourable patrons, the Lord Provost and Magistrates, on the propriety of this plan, received their unqualified approbation, and announced his intention to the citizens at large. By the way, is this not a direct acknowledgment of the right of the Magistrates of Edinburgh, as patrons of the University, to regulate its affairs, a subject in course of litigation, we understand, in the courts of law, and to which we shall probably soon direct our attention.

The news of the proposed lectures flew on the wings of the wind; and the ladies were delighted to find that they were on the eve of emancipation and were to be entirely relieved from the antiquated shackles, almost indeed corroded with rust, with which they had been long fettered. Dresses, parties, and balls were no longer heard of; the tongue of scandal was silent; chemistry, chemistry and *Hope*, was in every one's mouth, and to be admitted within the walls of the famed University was quite ravishing! The long expected day at last arrived: coaches and chaises, gigs and curricles, were all in requisition. Prince's-street, the fashionable winter promenade of the beaux and belles of the modern Athens, was deserted; the shops of the milliner and silk mercer were abandoned; the voice of the auctioneer was addressed to empty benches, and the strokes of his hammer resounded from the walls of a vacant room. Attracted by the novelty of the exhibition, a dense current of vehicles was seen flowing from North to South before the hour of two o'clock; and as they drew up before the noble portico of the College, and attempted to enter it, what was their surprise and astonishment to find that admission, by the usual approach, was refused; and being ordered to move round to the South side of the edifice, their surprise was not diminished when it was perceived that they must enter the seat of learning by a *window*.[1]

Conversion extraordinary of the Royal College of Physicians at Edinburgh into a Soho-square Bazaar.

THE splendid hall of the Royal College of Physicians in George-street, was opened a few weeks ago, under the auspices of that learned body, as a Bazaar, in which was exhibited an extensive and varied collection of children's frocks, work-baskets, fire screens, caps for dress and undress, child's dolls, pincushions, confectionary, and numerous other articles suited to the taste or agreeable to the palate of an immense crowd of every rank, sex, and age, which the novelty of the scene had attracted to the spot. A brisk sale continued for some hours and we understand that the whole stock was bought up.[1]

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[1] Excerpts only have been transcribed.

THE WATERS OF CHÂTEL GUYON.

BY SEYMOUR TAYLOR, M.D. ABERD., F.R.C.P. LOND.,
PHYSICIAN TO THE WEST LONDON HOSPITAL.

IT may interest some of the many readers of THE LANCET to read an account of the above-named health resort and its medicinal waters. I visited Châtel Guyon in the summer of 1902 and I was so much struck with the potentialities of the place that I was prompted to lay before the profession the advantages which sufferers from certain diseases, especially from gastro-intestinal disorders, might derive from a course of the waters there.

Châtel Guyon is comparatively unknown so far as the British public are concerned. Our patients are sent more frequently to Vichy, to Royat, to Mont Dore, to Plombières, or to la Bourboule; whilst Châtel Guyon in the immediate vicinity has been overlooked, notwithstanding that its waters are at least as efficacious as those of its neighbours if not more so. On the other hand, the French and Italians, as well as the people of other nationalities, know the value of its springs and its climate, and patients suffering from certain definite groups of diseases resort there in large numbers for restoration to health. There is even local evidence that the value of its springs was not unknown to the Romans.

The small town of Châtel Guyon is situated in Puy-de-Dôme, Auvergne, at an altitude of about 1500 feet above sea level. The nearest railway station is Riom (on the Paris-Lyon-Méditerranée Railway) about four miles away, whence a good service of omnibuses and carriages conveys visitors through a charming series of vineyards to Châtel Guyon. Riom itself is about eight hours from Paris.

Châtel Guyon consists of two separate portions, an old town and a new town. The former nestles round the side of a high hill quite apart, and its inhabitants are for the most part concerned in agriculture. The new town has sprung up in recent years on the banks of a mountain stream (Sardon) which is largely augmented by the springs which boil up from its bed. In this new town only are found the various springs, baths, and other establishments which require description.

The season extends from May to September inclusive. The best months are July, August, and September. During these months the climate is bland yet invigorating. July is the warmest month but the daily mean variation in temperature only ranges between 55° F. in the early mornings of September and 78° at midday in July. The valley is sheltered from violent winds by vineclad hills, and thunderstorms, though not unknown, are rare and of short duration only. The soil is dry and permeable, there are no stagnant pools as no water collects, and after the heaviest rains the roadways are dry in a few hours.

There are more than 20 springs in Châtel Guyon and many more which could certainly be used with profit are manifest in the bed of the river. Others have doubtless to be discovered. The principal springs or "sources" are named Gubler, Marguerite, Yvonne, and Deval, and although these vary slightly from one another in their physical and chemical qualities I doubt if there is so much difference in their action as to call for special comment. The following characteristics therefore may be regarded as practically common to all.

The water rises up in the basins at a temperature of from 76° to 100°, bubbling and effervescent, with intermittent larger escapes of gas. It is clear, limpid, of slightly acid reaction, odourless, and by no means disagreeable to drink, a slight saline astringent taste being due to iron in solution. It reminds one of draught of flat, warm soda-water. Indeed so palatable is the water that it is freely drunk by the inhabitants in order to quench thirst. The chemical composition of the waters, as will be seen from the following table, shows that they are extremely rich in sodium chloride, magnesium chloride, and also in calcium bicarbonate, with free carbonic acid gas. The quantities are stated according to the metric system of measurement.

	Grammes per litre.
Chloride of sodium	1·6
„ magnesium	1 5
Bicarbonate of calcium	2·1
„ sodium	1·0
„ iron	0·06
„ lithium	0 01
„ potassium	0·2
Sulphate of calcium	0 5
Free carbonic acid gas	1·1
Silica	Trace.
Arsenic	Trace.
Total	8 0

This table shows that the two chlorides which are the most important ingredients are present in the waters to the extent of, roughly, 0·63 grain per ounce. The chloride of magnesium is the most important ingredient and is probably unequalled in quantity by any other known European spring. In fact, it is perhaps the only natural water in which iron, magnesium chloride, and free carbonic acid gas exist together. I know of no other European spring which affords such a large percentage of magnesium chloride, and this property alone should make Châtel Guyon a famous health resort. The temperature of the different springs, however, varies considerably between the 64° of the Source Romaine, which is not much used, and the 95° of the Source Yvonne. The specific gravity of the waters is about 1004 and the quantity issuing from the various springs has been computed at about 500,000 gallons a day, and with this abundant supply it is obvious what a large number of visitors might receive the benefits of the waters, not only internally but in the form of baths. Indeed, the free supply of water fresh from the springs to the bathing establishments is one of the greatest desiderata in the treatment of the various patients who visit this health resort.

The experiments and researches carried out by Sir Lauder Brunton, Laborde, and others show that chlorides, whether of magnesium or of sodium (and the waters of this spa are essentially of this class) increase the activity of the muscular tissue of the empty viscera and of the secretions of the gastro-intestinal canal, as well as of those accessory glands which pour their secretions into it. These salts also exert a direct action on the involuntary muscular tissue, so that the gall bladder and biliary passages contract more vigorously and the more effectually discharge their contents. Hence this effect on the intestinal tube is slightly purgative at the time these waters are being taken, an effect which is not transitory but lasts for a varying time after they have been discontinued. A similar tonic effect on the muscular tissue of the heart is also most noteworthy and is spoken of later.

The waters, as may be inferred, are either (1) drunk, or (2) used for bathing purposes, or (3) used for the irrigation of the stomach, of the larger bowel, or of the vagina, according to the various maladies for which they are prescribed.

1. When taken by the mouth the quantity usually ordered by the local medical man is from half a pint to two pints per diem. When taken in this quantity they are found to restore the muscular tone to the stomach and the intestinal canal and to increase the various secretions which are poured out into this large area and also those of the liver and the pancreas. From the consequent augmented flow of bile and of pancreatic juice the bowels are freely evacuated though never purged and the intestine is in a measure disinfected. Consequently one meets at the various springs patients who have been sent to Châtel Guyon suffering from gout, plethora, habitual constipation, dyspepsia, and atony of the bowels. They include, on the one hand, people who have probably indulged too freely in the pleasures of the table, and, on the other hand, those patients whose sedentary occupations predispose to obesity and whom we send to Carlsbad or to Harrogate. In larger doses (from two to three pints daily) the waters are distinctly purgative. But the effects of these waters are by no means limited to the alimentary system. They produce great changes on the urinary tract. Indeed, from personal experience I am inclined to think that their action on the urinary system is their most marked feature. After a course of the waters not only is the desire to micturate increased but the expulsive power of the bladder is restored, the quantity of urine is greatly increased, its specific gravity is diminished, apparently by cleansing the system of any accumulation or any excess of uric acid and urea, whilst the chlorides are diminished. In addition, I learned from the notes of our medical *confrères* practising in the town that albuminuria is lessened, especially that form which is secondary to diseases of the heart and lungs. These beneficial results would appear to be due principally to the tonic action of the waters on the involuntary muscular system. They have also marked effects on the cardio-vascular system. Not only are the cardiac centres stimulated but the heart muscle itself is strengthened and the systolic thrust is made more vigorous, whilst the pulse-rate is slightly accelerated and its tension is increased. Hence all forms of œdema, and also albuminuria, due to cardiac defects, especially such as are secondary to dilatation of the heart or degenerative changes in its muscular walls, derive extreme benefit from a course of the waters. Indeed, I was so much struck with the potentialities of the springs in this direction that I have suggested to the authorities that they should, under the supervision of the local medical practitioners, train male and female attendants in the methods of administering the graduated exercises which are practised with so much success at Nauheim, Harrogate, and other spas.

2. The baths are also excellent. The original baths situated near the casino are being renovated and replaced by more modern apparatus so as to bring the treatment by balneological therapeutics thoroughly abreast of the times. The bath receptacle itself is of the ordinary shape but of somewhat cold appearance owing to the slight coating of iron oxide which is deposited by the water. Each bath holds about 500 litres or about 100 gallons. The water flows direct from the springs and if necessary its temperature can be raised, but the best effects are probably produced by the water in its virgin state. It flows freely through the bath which is thus practically renewed every four minutes, and hence the bather obtains the full results of the heavy charge of the principal constituents—namely, the chlorides, bicarbonates, and the free carbonic acid gas. On entering the bath the first sensation is rather depressing; this, however, speedily gives way to one of agreeable pleasure as the temperature of the water (33·5° C. = 92·3° F.) is that of a "warm bath." It also affords a peculiar and characteristic oleaginous or velvety sensation to the skin and one feels as though one could easily float on the surface. After reclining a few minutes it is found that innumerable small bubbles of carbonic acid gas have adhered to the surface of the body, and these, increasing in size by amalgamation, finally become detached and rise to the surface. The effect of all this is to produce vaso-motor action. The capillaries are dilated and there is a sense of general warmth. This is more especially noticed on emerging from the bath after 20 minutes' immersion, when the skin is reddened and there is a feeling of warmth and glow. But above all is the agreeable sensation of increased bodily activity and elasticity. A walk which prior to the bath would have seemed to be irksome is now taken with spirit and eagerness, whilst any previous oppression, or tiredness, or dyspnœa due to any exertion entirely disappears. The muscular system, both voluntary and involuntary, is braced up; there is an increased secretion from the kidneys and micturition is performed with vigour. The pulse is also increased in volume and tone.

3. In the higher part of the valley a new establishment has been built where, under the care of skilful and highly trained attendants, massage, rectal irrigation, and lavage of the stomach are administered. In the women's department, which is quite isolated and distinct from the male section, there are skilled masseuses who carry out vaginal or rectal douchings which may have been ordered by the physician. From all accounts that I could gather lavage of the stomach is most efficacious in those cases in which dilatation is secondary to fermentation and other effects of bacteria. The carbon dioxide would appear to exert an antiseptic effect on the mucosa of the stomach, the secretion of the gastric juice is increased in quantity, in acidity, and in activity, whilst the appetite is markedly improved. Chronic cases of atonic dyspepsia appear also to derive extraordinary benefit. Irrigation of the colon is performed in a scientific method which is seldom practised in this country. The water is allowed to pass into the bowel slowly and continuously by force of gravity and measurements are carefully recorded and strictly adhered to according to the physician's directions. If one may judge by the notes readily afforded me by the medical men practising at the spa and also by the large

number of visitors, rectal irrigation would appear to be most useful in those sufferers from corpulence and plethora in whom atony of the lower bowel is a distressing symptom. The local effect of these waters not only increases the natural expulsive power of the rectum but augments the circulation of the bowel generally, and is therefore especially useful in hæmorrhoids an[illegible] On the other hand, patients [illegible] run some risk apparently if th[illegible] lavage at Châtel Guyon. Many cases even during the suppuration stage are sent to Châtel Guyon for cure, a step obviously fraught with danger. Cases even in the subacute stage run some risk and their advent is discouraged by the local physicians. I am not satisfied as to the action of the waters in appendicitis but it is evident that in many instances abscess rapidly forms, calling for urgent surgical treatment. Possibly the strong peristalsis which is set up by the water may stimulate renewed activity in the cæcum and appendix. It cannot be too strongly insisted that cases of appendicitis can only be sent to this spa after most careful consideration when active inflammatory trouble has long since passed away, and even then they should not be sent to Châtel Guyon with the idea of effecting a cure from the use of the waters. On the other hand, patients suffering from that obstinate disorder membranous colitis appear [illegible] from treatment at this resort [illegible] the large intestine which is so [illegible] ere [illegible] of [illegible] of the contents [illegible]

Finally, the hotels are good and there are excellent apartments for those visitors who require privacy.

MEDICINE AND THE LAW.

The Case of Frank Rodgers.

A FEW weeks ago a shocking tragedy in Cambridgeshire attracted considerable attention owing to facts which were indisputable. A boy, 15½ years of age, intentionally shot and killed his mother. She was a drunkard who was intoxicated when he murdered her and he said when he was arrested that he had done it for the sake of his sister. There could therefore be no doubt that the mother's habits and the unhappiness and disgrace in which they involved her family had preyed upon the boy's mind, that he had formed the idea that to take her life would be an effective method of removing her and of thus benefiting his young sister who, as a boy of nearly 16 years of age would no doubt bitterly feel, must suffer from the presence and example of such a mother. He accordingly fired at her with a revolver well knowing what he was doing and having an object in view in doing it. In these circumstances there could be no dispute as to the act being murder or as [illegible] by the prisoner, so that the [illegible] at the recent Cambridge, as[illegible] reference to the state of the poor boy's mind when he aimed the fatal shot. There was nothing in his youth to excuse him and every *person tried for crime is presumed to be of sound mind* until the contrary is proved on his behalf. The evidence elicited on behalf of young Rodgers from the witnesses for the prosecution who were aware of the history of the family was to the effect that the boy was naturally an affectionate son and fond of his mother, that he had grown rapidly and was anæmic, and that he suffered from headaches and bleeding at the nose. It was also proved that his mother's intemperance had caused him acute distress and that her brother and uncle had been addicted to intemperance and had been insane. It was stated later in the case that her father had been intemperate. Medical evidence was given on the prisoner's behalf by Dr. R. Percy Smith and Dr. Charlton Bastian as to the result of their examination of him and as to the extent to which the family history referred to would predispose him towards mental unsoundness. Each of these witnesses admitted, what indeed was plain to all, that the boy knew what he was doing and meant to do it, but Dr. Bastian, in answer to a question put to him in re examination, expressed the view that "the idea that he must put an end to the state of affairs at his home overrode all other considerations and prevented him from being able to tell right from wrong. There was an obsession of the prisoner's mind which warped it like a delusion." In his summing up Mr. Justice [illegible] that "it was suggested [illegible] under an uncontrollable [illegible] which medical men were very fond; but the jury should be on their guard against yielding to it in most cases." The precise meaning of medical men being fond of a particular line of defence is not clear. Medical witnesses give evidence of what they believe to be the fact with regard to a prisoner's condition and it is then for the judge to direct the jury as to whether the condition thus indicated constitutes such insanity in point of law as will entitle the prisoner to be held irresponsible for his crime. The learned judge added, however, that other circumstances proved were in favour of the view that the prisoner did not know the nature and quality of his acts, these being his family history, his physical health, his rapid growth and weakness, his headaches, his bleeding at the nose, and his morbidness and languor shortly before the crime was committed. The jury found that the prisoner was guilty but was insane when he committed the crime, a verdict which was fully justified by the *facts*, and *which might* have been expected to be found in such a case upon less convincing evidence. The reports of the trial do not mention whether any observation was made at any time as to the presence of the revolver in the prisoner's home. Apparently it was borrowed from his brother and a more undesirable possession for a boy than a revolver it is difficult to imagine. In a house where one of the inmates is a drunkard or not of strong mind it is still more dangerous. There is an Act of Parliament which regulates the sale of revolvers but to what extent it is enforced actively throughout the country it is not easy to say. Crimes committed with the cheap pistol are still frequent and prosecutions connected with infringements of the Act, if they occasionally take place, are but rarely reported in the newspapers. And yet the Act provides the police with powers the exercise of which should tend to the prevention of crime, and although far from perfect it is by no means deserving to be neglected. In the absence of a pistol it is quite likely that young Rodgers would never have conceived, or would have been unable to carry out, his insane intention of ridding his family of the mother by depriving her of her life.

ASYLUM REPORTS.

Glasgow Royal Asylum, Gartnavel (Annual Report for 1903).—The average number of patients resident during the year was 441, comprising 184 males and 257 females. The admissions during the year amounted to 154—viz., 71 males and 83 females. Of these 122 were first admissions. Dr. Landel R. Oswald, the medical superintendent, states in his report that the number of the admissions was the largest recorded for some years. All were private patients and 22 sought treatment voluntarily. Alcoholic excess was a prominent factor in the production of the insanity of a large proportion (29) of admissions, but other causes, such as the climacteric and adolescent periods of life, accounted for 17 cases and senile decay for six. A hereditary tendency to insanity or nervous disease was ascertained to be present in the largest proportion of cases (44 in number), "though it probably existed in a larger number though not so admitted by the relatives" of the patients. "I do not wish," continued Dr. Oswald, "to minimise the gravity of the fact that alcoholic excess is year by year being the direct cause of more and more insanity, that organic brain disease is becoming more frequent, and that old age is now, as never before, accompanied by such mental symptoms as to make asylum treatment necessary for the patient's safety; but it is obvious that to solve the problem of the prevention of insanity and the consequent reduction in the number of the insane, we must go further back and eradicate or modify the tendencies that lead to it, whether these are inherited or are acquired in childhood or early life. ...... No one can work amongst those who are the subjects of mental disorder without thinking deeply and often on this subject of the prevention of insanity, and no one can see much of the child life in the poorer parts of a large city without believing that the possibility of the prevention of insanity might be largely brought about by influences brought to bear on them, I believe by their physical and mental education.

...... The education to which I refer must be based on the study of the individual, it must take a large view of the physical as well as of the mental constitution of the child, and it must do so specially when such a child is known to have inherited or acquired a tendency to brain disease." The mental condition of suspected children should be ascertained periodically. The brains of neurotic children are in school life over-stimulated and thereby ultimately weakened. The number of patients discharged as recovered during the year amounted to 53—viz., 23 males and 30 females, or 12 per cent. of the average number resident. The deaths during the year amounted to 30, or 6·8 per cent. as calculated on the same basis. Of the deaths three each were due to senile decay, bronchitis, renal disease, and pulmonary tuberculosis, two to general paralysis of the insane, and the rest to other causes. The Commissioners in Lunacy state in their report that the asylum was in excellent order, that every section of the building had a clean, bright, and well-furnished appearance, that the detached cottages were home-like in their arrangements and afforded most satisfactory accommodation for a selected class of patients, that the patients were evidently managed with consideration and kindliness, that their mental and bodily condition was carefully studied and their individual requirements liberally met, and that the medical registers and case-books were found to be kept regularly and correctly. The committee of management states in its report that "no application for admission even at the lowest rate of board (if the patient was considered a suitable case) was refused during the year. ...... The directors desire it to be known to the medical profession that they are willing, through the physician superintendent, to favourably consider the admission for a limited period, at rates under the lowest fixed amount of £40 per annum, of cases of acute and recent mental illness" of members of the poorer classes.

Derby Borough Asylum (Annual Report for 1903).—The average number of patients resident during the year was 323, comprising 145 males and 178 females. The admissions during the year amounted to 86—viz., 42 males and 44 females. Of these 71 were first admissions. Dr. S. Rutherford Macphail, the medical superintendent, states in his report that "the best test of the increase or decrease of insanity in a district is to take the cases occurring for the first time in each year and to exclude all readmissions. Analysing the admissions from Derby Union for the last three quinquennial periods from this standpoint we find that the average number of first admissions in 1889 to 1893 was 56, in 1894 to 1898 it was 57, while in 1899 to 1903 the average was 69. No doubt there has been a considerable increase of population in recent years and a large and populous area has been added to the borough of Derby in the last quinquennium, but this is not sufficient to account for an increase of over 20 per cent. of the first admissions. We are therefore forced to the conclusion that there is in the borough an appreciable increase of mental disease requiring asylum treatment." The mean age of the patients admitted was 41·5 years and six were over 65 years of age. As usual, nearly two-thirds of the admissions suffered from recognisable physical disease and only six were classified as in average health. Five patients were admitted in a critical and almost moribund condition, two of them dying within a fortnight and the other three in about a month. Hereditary predisposition and alcoholic intemperance were the two chief causes of insanity in the admissions. The number of patients discharged as recovered during the year amounted to 39—viz., 18 males and 21 females or 12·1 per cent. of the average number resident. The deaths during the year amounted to 37 or 11 4 per cent. as calculated on the same basis. Of the deaths two were due to pneumonia, three to pulmonary and other forms of tuberculosis, four to cardiac disease, seven to senile decay, nine to general paralysis of the insane, and the rest to other causes. No serious casualties or accidents have occurred during the year and with the exception of a few cases of influenza there has been no epidemic of infectious disease. The report of the Commissioners in Lunacy is not printed in the present annual report. The committee of management states in its report that the weekly charge of maintenance per patient was 11*s.* 1*d.* for borough patients and 14*s.* per week for out-borough patients. Private patients were charged at the rate of 17*s.* 6*d.* and 21*s.* weekly. The farm accounts showed a profit on the year's working of £252 11*s.* after deducting £147 13*s.* for rent, rates, and insurance.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

TUESDAY, MAY 31ST.

BUSINESS was resumed on Tuesday, Sir WILLIAM TURNER being in the chair.

Preliminary Scientific Committee.

On the motion of Sir VICTOR HORSLEY, seconded by Dr. MCVAIL, Mr. Jackson was added to the Preliminary Scientific Committee.

Education Committee's Report.

Sir JOHN BATTY TUKE moved the adoption of the report by the Education Committee, which was received and entered on the minutes on Saturday. He said this was the last report he would have the honour of signing as chairman of the committee and he begged to congratulate the Council and the committee on having obtained the services of Dr. Windle who was intimately acquainted with medical education in all its branches.

Dr. WINDLE seconded the motion. He said he could give some additional information as to the ages of the students. He found that the students entered in Birmingham during the last 12 years numbered 552. Of these 26 were under 17 years of age and 526 over. Two were under 16 years of age and of the 26 entered under 17 years of age it was interesting to note that 12 were qualified, 10 were on the way to qualification, whilst the others had given up study. Of the 526 over 17 years of age, 465 were over 18 years of age. The largest number entered at any age was 107 between 17 and 18 years of age and the oldest student was between 41 and 42 years of age. One of the two entered under 16 years of age went out to South Africa as a civil surgeon and wrote to say that he had achieved the ambition of his life in getting a hundred guinea fee for an operation. He was only 25 years of age. As to the section of the report headed "Conference with the Consultative Committee on School-leaving Examinations" he explained that the scheme was now in the hands of the Board of Education, which he hoped would deal with it without very great delay. He could not say anything about the details of the examination. Of course, it would be clear to the Council that the first effect would be to add another to the already long list of examinations, but it was hoped that the final result would be to clear out a great many examinations.

The report was adopted.

Report on Finance.

Dr. PYE-SMITH proposed that the report of the Finance Committee on the Council's income and expenditure for 1903 be received and entered on the minutes. He read the report which was as follows:—

The income of the General and Branch Councils for the year ending Dec. 31st, 1903, was	£8,200 10 7
The expenditure for the same period was	10,365 12 3
Consequently there is a deficit on the year's working of ...	£2,165 1 8

The receipts from fees show an increase of £106 5*s.* 6*d.*, the English Branch having received £143 7*s.* 6*d.* more, the Scottish Branch £99 8*s.* more, and the Irish Branch £136 10*s.* less; the General Council has received £78 less for colonial registrations, and the net increase, therefore, is only £28 5*s.* 6*d.*

It will be remembered that in July last the fees for the registration of additional qualifications and for restoration to the Register were raised from 5*s.* to £1. The result of this is shown in the following table:—

	1902. No. of fees.	1903. No. of fees.	1902. Cash received. £ s.	1903. Cash received. £ s.
English Branch	569	596	142 5	264 5
Scottish Branch	158	152	39 10	112 5
Irish Branch	73	70	18 5	25 15
Total	800	818	£200 0	£402 5

The increased fee has only been in force for five and a half months, but it will be seen that the number of fees received is slightly larger than before, and the net result from the point of view of the Council's finances is certainly satisfactory.

The Irish Branch shows a decrease of 32 in the number of original registration fees received, but the English and Scottish branches show an increase of four and three respectively. The following items of expenditure call for explanation. (*a*) The increase of £181 8*s* in General Council fees is due to the fact that the meetings occupied two days more than in 1902 and the new scale of travelling allowances.

, only came into force gain a special session, Executive Committee

for labour and

of the former index, published in 1887, was £311 17s. for labour and £233 5s. for printing, making a total of £595 2s. (d) The increase of £186 19s. 11d. in the cost of inspection of examinations is due to the larger number of these under review. Owing to the unfortunate illness and death of the inspector the series of inspections was not completed; thus the increase in this item is not so large as it would otherwise have been.

As to the income and expenditure of the three branch councils for the past three years, although no outlay was incurred by the expense of an election (£350), the deficit of the English branch anch shows an re due to the Council. £140 3s. 3d. in

average of the risen £200 since Council received decreased the that is to say,

have been paid will, if sold, add £912 12s. 2d. to the profits.

£1000.

Dr. BENNETT seconded the motion which was agreed to.

On the motion of Dr. PYE-SMITH, seconded by Dr. McCALL ANDERSON, a grant of £150 was made towards the expenses of the Irish Branch Council during the current year.

Election of a Treasurer.

Mr. Tomes was elected one of the two treasurers on the proposal of the PRESIDENT, seconded by Dr. PYE SMITH.

Appointment of Committees.

The following committees were elected:—

The Finance Committee: The Treasurer, Sir Patrick Heron Watson, and Dr. Bennett.

Executive Committee: From the English Branch Council, Dr. Payne, Dr. MacAlister, Dr. Pye-Smith, and Mr. Tomes; from the Scotch Branch Council, Sir John Batty Tuke and Sir Patrick Heron Watson; and from the Irish Branch Council, Sir Charles Ball and Sir C. Nixon. The President is an *ex officio* member.

Penal Cases Committee: From the Irish Branch Council, Sir C. Nixon and Sir W. Thomson; from the Scotch Branch Council, Sir Patrick Heron Watson and Dr. Finlay; and from the English Branch Council, Dr. Windle, Mr. Tomes, Sir Victor Horsley, and Sir Hugh Beevor.

There was a tie in the voting for the Penal Cases Committee between Sir Hugh Beevor and Dr. MacAlister, but Dr. MacAlister retired.

Report of the Public Health Committee.

Dr. BRUCE moved the adoption of the report by the Public Health Committee. The report stated that having considered a communication from the Advisory Board of the War Office the committee had agreed to advise the Council to add to the present list of districts and commands recognised as suitable for the purpose of outdoor training in hygiene under Rule 3 (e) of the Council's resolutions and rules for diplomas in public health the following additional military commands—viz.: Madras, with a civil population of 72,000; Bengal, with a civil population of 38,000; and the Punjab, with a civil population of 42,000. The committee had also considered an application from Dr. Pinching, Director-General of the Sanitary Department of the Ministry of the Interior of Egypt, asking if the Council were prepared to recognise the Sanitary Department of Egypt as competent to issue the necessary certificates to army medical officers and others, required in Rule 3 of the resolutions and rules adopted by the General Medical Council on Dec. 2nd, 1902, and May 29th and Nov. 30th, 1903, for diplomas in public health. The committee recommended that this application should not be granted. The Sanitary Department of the Ministry of the Interior, Egypt, was not under the control of the Director-General of the British Army Medical Department and was in no sense comparable with the districts and commands as defined in Rule 3 (e) of the Council's resolutions and rules for diplomas in public health.

Sir CHARLES BALL seconded the motion which was agreed to.

Report of the Pharmacopœia Committee.

Dr. MACALISTER moved that the report of the Pharmacopœia Committee be received and entered upon the minutes. He read the document as follows:—

hand of the Pharmacopœia is

It will therefore be unnecessary to print a fresh issue this year.

The Executive Committee has referred to the Pharmacopœia Committee for consideration and report a memorial from the Decimal Association and other papers relative to the Weights and Measures (Metric System) Bill, which after amendment by a select committee has passed the House of Lords and is now awaiting consideration by the House of Commons.

The committee have also had before them the notice of motion on the subject which has been placed on the Council's programme by Mr. Jackson.

The committee are strongly impressed with the importance of bringing the weights and measures of the British Pharmacopœia into accord with the international system which is current in the pharmacopœias of all other countries. In the Pharmacopœia of 1898 what may be described as a transitional method was adopted. Doses were expressed in the familiar impe

ceutical processes in

directions for analyti

the metric system to

employed in this c

appreciably simplifie

insert, in reference to dosage at least, equivalents expressed in the old

1651.

Sir JOHN MOORE seconded the motion. He considered that the Council should do everything in its power to facilitate the introduction of the metric system of weights and measures.

The motion was adopted.

The Metric System of Weights and Measures.

Mr. JACKSON moved:—

He said that this country was behind most of the civilised countries in adopting a system of metric weights and measures. The adoption of the metric system would facilitate the teaching of arithmetic in the schools and would save much of the time which could be better devoted to other subjects. This was the testimony of schoolmasters to whom inquiries had been addressed. Such a distinguished man as Lord Kelvin had said in the discussion on the Metric Bill in the House of Lords that the time had come for compulsion in this matter. Some people had said that it would be a long time before the English people would become accustomed to the new system, but he understood that in Germany the people soon got accustomed to it. He did not think that there would be any great danger of confusing "grains" and "grammes" if it were adopted here.

Mr. TICHBORNE seconded the motion. There were two difficulties in connexion with the introduction of the metric system in England. It was the introduction of the international metric system that was proposed, not a metric system based on native measures. The other difficulty was the dose, but he thought that these difficulties would be overcome.

The motion was carried unanimously.

The PRESIDENT: Steps will be taken to communicate this motion to the Lord President.

Report of the Dental Education and Examination Committee.

On the motion of Sir CHARLES BALL, seconded by Dr. LINDSAY STEVEN, the report of the Dental Education and Examination Committee was received and entered in the minutes.

The report contained an allusion to the serious illness of the chairman of the committee, Mr. Tomes, which prevented him from attending it this session.

The first recommendation in the report was:—

> 1. That the application of Mr. Edward Barton Roper for registration as a foreign dentist, under the provisions of Section 10 of the Dentists Act, 1878, be not acceded to.

It was explained in an appendix to the report that Mr. Roper is a dentist of British nationality, but domiciled in France, who has obtained the diploma of Chirurgien Dentiste after three examinations.

Sir CHARLES BALL, in moving that the recommendation of the committee be adopted, said that this case opened up a very large question whether the French curriculum was comparable with those which they had already accepted. There was not sufficient evidence before the committee on that question. It also opened up the legal question of reciprocity. In the absence of Mr. Tomes the committee therefore recommended that the application should not be granted.

Dr. LINDSAY STEVEN seconded the motion and the recommendation was unanimously adopted.

Sir CHARLES BALL moved another recommendation of the committee:—

> That the application of the Dental Board of Victoria for the recognition of the Diploma of Licentiate of Dental Surgery of Victoria be not acceded to.

He said that the committee in examining this application saw that the Dental Board of Victoria fulfilled pretty well the requirements of the Council with one important exception. That exception was that it did not require any evidence that a candidate had been instructed in clinical medicine and surgery. There were lectures on the subject at the dental school, but it was quite clear that a student could obtain its diploma without having seen any other patient but a dental patient. It had been represented to them that this would probably be remedied in future, but in all the circumstances the committee could not recommend the Council to grant the application.

Dr. LINDSAY STEVEN seconded the motion and the recommendation was agreed to.

Dentists and Joint Stock Company Registration.

Sir CHARLES BALL moved:—

> 1. That copies of the judgments in the cases O'Duffy *v.* Jaffe, Surgeon Dentists, Limited, and the Kin[illegible] Joint Stock Companies, together with the [illegible] General Medical Council, be sent to the I[illegible] Council for his information.
>
> 2. That, in view of the judgment of the Chief Baron Palles, the General Medical Council hope that the Government will take such steps as may be necessary: (*a*) To restrain the Registrar of Joint Stock Companies from registering any new company unlawfully using the term dentist or any similar title which would be likely to lead the public to believe that the members of such company were registered dentists when such is not the case. (*b*) To prevent companies already registered from continuing unlawfully to use the term dentist or any similar title which would be likely to lead the public to believe that the members of such companies were registered dentists when such is not the case. (*c*) To in like manner prevent the use by companies of unlawful titles which would be likely to lead the public to believe that the members of such companies were registered medical practitioners when such is not the case.

In submitting this motion Sir Charles Ball said that these decisions had raised questions of great importance to the medical profession as well as to the dental. Under the Dental Act it was held that an unqualified person could not adopt the title of dentist, but in order to obviate this difficulty a number of companies were formed and registered under the Joint Stock Companies Act. The Dentists' Association of Ireland wishing to try a test case of this kind took proceedings against Jaffe and Company, a registered company carrying o[illegible] taken to the King's Bench Division and the decision was that a company not being a person within the meaning of the Act could not be prosecuted for using the title of surgeon dentists. As might be expected this was followed by a large increase of these companies in Ireland. The Board of Trade began to think that this was a serious matter and it suspended the registration of these companies. There was a gentleman named Rowell who felt aggrieved at this action and he therefore applied for a mandamus against the registrar of joint stock companies in Ireland to compel the latter to register his company. The Board of Trade said that it would be bound by any decision which the court arrived at. But even while the case was under discussion the Board of Trade, as he was told, was advised by the law officers of the Crown in Ireland that the decision that a company was not a person within the meaning of the Act was a right decision, and judging by the lists of companies that were being formed the Board of Trade appeared to have resumed the registration of these companies even before the decision in the Rowell case. Sir Charles Ball read a large number of extracts from the decision of Chief Baron Palles in this case in which the latter said: "As the aid of this court and of the prerogative writ of mandamus cannot be granted for the purpose or with the effect of perpetrating a fraud this application ought to be refused and, of course, refused with costs." In conversation with one of the officers of the Crown who took an interest in this matter he distinctly stated that there was not the slightest difficulty in putting an end to all this trouble without legislation if the Board of Trade were to refuse to register any companies in which untrue terms were included. However, there were companies in existence and this was the method which he suggested to stop it. The use of these terms was likely to defraud the public and to make them believe that the companies were registered dentists. When that was not the case they could be enjoined at the suit of the Attorney General to stop making use of these terms. He thought that the Council ought to ask the Government to take this step. This matter affected the medical profession in the same way as it affected dentists and he thought that the Board of Trade should not be allowed to register companies as "medical." The Rowell case, he understood, had not been made the subject of appeal to the House of Lords and therefore the decision did not apply to England and Scotland. He was informed, however, that it would receive consideration in similar cases arising in England and Scotland. If the decision were overridden by the House of Lords then legislation might be necessary.

Mr. TICHBORNE seconded the motion which was unanimously carried.

The Medical Act Amendment Bill.

A communication from the Privy Council as to General Laurie's Bill to amend the Medical Act, 1886, was received and entered upon the minutes.

It was agreed to intimate to the Lord President of the Privy Council that the Council would welcome such a change as would facilitate the application to Canada of the provisions of Part 2 of the Medical Act of 1886.

Canvassing for Medical Clubs.

Dr. LINDSAY STEVEN moved:—

> That it be remitted to the Executive Com[illegible] report to the next session of the Council upon [illegible] as systematic canvassing on behalf of a medic[illegible] scribers to a medical club instituted by himself and involving the employment of a paid collector of the entry money and the subscriptions to the club, which would be looked upon by this Council as constituting the practitioner so acting to have been guilty of infamous conduct in a professional respect.

He said the function of the Council was not only to regulate the education of the profession but also to guide its ethics. If the Council formulated a resolution similar to that which it formulated on medical associations and on unqualified assistants for the guidance of the profession he thought it would be a great advantage.

Mr. BROWN, in seconding the motion, said there were numerous private medical clubs and medical men were very much afraid to send out a collector to collect the fees which must be necessarily collected in many cases from patients who resided at a considerable distance from the surgery. It was not the intention of the Council to suppress the existence of clubs. They had existed beyond the memory of man and they discharged a very useful purpose in society. Although the difficulties were great they ought to face them and form some sort of regulation which should be a guide to medical men in this matter.

Dr. MACALISTER said there was one thing that should make the Council pause before issuing a definition of an offence. In the case of covering and medical aid it was after a long series of particular trials that they summed up their experience and adopted resolutions. If they now formulated a definition of the kind of canvassing which was unprofessional and bad they might very well miss out what might happen in the next case. They had better wait before fixing a hard and fast rule which might be got round by the ingenious.

Dr. LINDSAY STEVEN agreed that it might be better to wait and he withdrew his motion for the present.

Issue of Medical Certificates.

In the absence of Sir Victor Horsley Mr. JACKSON moved:—

> That No. 8 of the minutes of the Executive Committee of May 24th, 1904, be referred again to the committee in consultation with the legal advisers as to the action to be taken in regard to the issue of medical certificates contrary to the provisions of the Medical Acts.

The minute of the committee had reference to a communication from the Medico-Political Committee of the British Medical Association forwarding a communication from the education committee of the borough of Bootle in regard to the giving of a medical certificate by a local chemist and druggist in the case of a girl unable to attend school. The committee resolved that the Medico-Political Committee of the British Medical Association be informed that on the face of it the certificate forwarded to the Council appeared to be invalid under Section 37 of the Medical Act, 1858, and that the Council had no jurisdiction over chemists and druggists who gave invalid certificates.

Dr. BRUCE seconded the motion.

Dr. NORMAN MOORE said it was not in the power of the Council to do anything and the Executive Committee ought to be supported in its decision.

Dr. MACALISTER said that when the committee discussed this matter the legal officers were present. The question was entirely a legal one and no action could be taken without a new Act of Parliament. There was no medical question involved.

Mr. JACKSON remarked that they might bring it under the notice of the Central Board of Education.

Sir PATRICK HERON WATSON thought this was a matter of common law.

On a show of hands the motion was defeated.

County of Durham Medical Union.

The Council considered a communication from the County of Durham Medical Union asking if the Council would consent to receive a deputation from the union to lay before it some of the difficulties experienced by the union in its dealings with medical men who did not behave in a professional manner.

Dr. MACALISTER said the Business Committee had left this matter for the Council to decide. He moved that the President of the County of Durham Medical Union be informed that the Council would be prepared to receive a written communication from that body in respect of the difficulties to which it referred and the Council would then be in a position to decide whether any further conference was necessary. He said that deputations were always difficult and not always satisfactory and it was to the advantage of both bodies that the Union should have the opportunity of putting its case in precise language.

Dr. NORMAN MOORE seconded the motion which was agreed to.

Reappointment of Registrar.

The PRESIDENT moved the reappointment of Mr. H. E. Allen as general registrar. He said they all knew from many years' experience, and perhaps no member better than himself, the admirable qualities of Mr. Allen.

The motion was agreed to.

Length of Speeches.

Dr. PAYNE intimated that next session he would move that in order to economise the time of the Council it is desirable to place a limit on the length of speeches of individual members.

Notice of Complaint against Practitioners.

Sir WILLIAM THOMSON moved that it be remitted to the Executive Committee to consider and to draft an instruction to the Penal Cases Committee to ascertain in each case from the person or persons who have lodged a complaint against a practitioner whether the complainant or complainants have brought under the notice of the practitioner charged their disapproval of his conduct. He said the motion had reference to an incident which had occurred in a case the other day.

Dr. M'VAIL seconded the motion which was unanimously agreed to.

This concluding the public business,

Dr. NORMAN MOORE, in moving a vote of thanks to the President, said they all offered their warmest thanks to him for his conduct in the chair throughout the session.

Sir WILLIAM THOMSON seconded the motion which was agreed to.

The Council conducted some further business *in camerâ* and the proceedings of the session terminated.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ELECTION OF MEMBERS OF COUNCIL.

ON Thursday, July 7th, the Fellows of the Royal College of Surgeons of England will meet to elect three Fellows to fill the vacancies in the Council occasioned by the retirement in rotation of Mr. Thomas Bryant, the resignation of Mr. T. Pickering Pick, and the death of Mr. T. R. Jessop.

The following list of the members of Council gives the date at which each member will retire. The date of the first election is given in every case in which the member has been elected to the Council more than once.

Retire in 1911: Mr. H. T. Butlin, St. Bartholomew's Hospital (first elected 1895); Mr. G. H. Makins, St. Thomas's Hospital; and Mr. C. T. Dent, St. George's Hospital.

Retire in 1910: Professor Howard Marsh, St. Bartholomew's Hospital (first elected 1892); Mr. J. H. Morgan, Charing Cross Hospital; and Mr. H. H. Clutton, St. Thomas's Hospital.

Retire in 1909: Mr. A. W. Mayo Robson, Leeds Infirmary (first elected 1893); Mr. W. Watson Cheyne, King's College Hospital; and Mr. R. Clement Lucas, Guy's Hospital.

Retire in 1908: Sir Alfred Cooper (first elected 1892); Dr. J. Ward Cousins, Royal Portsmouth Hospital (first elected 1895); and Mr. A. Pearce Gould, Middlesex Hospital.

Retire in 1907: Mr. H. W. Page, St. Mary's Hospital; and Mr. C. W. Mansell Moullin, London Hospital.

Retire in 1906: Mr. F. Richardson Cross, Bristol Royal Infirmary; Mr. Henry Morris, Middlesex Hospital (first elected 1893); and Mr. John Langton, St. Bartholomew's Hospital (first elected 1890).

Retire in 1905: Mr. J. Tweedy, President, University College Hospital (first elected 1892); Sir Henry G. Howse, Guy's Hospital (first elected 1889); Mr. Edmund Owen, St. Mary's Hospital; and Mr. Rickman J. Godlee, University College Hospital.

Retires in 1904: Mr. Thomas Bryant, Guy's Hospital (first elected 1888).

We understand that at present there are seven Fellows who are candidates for the three vacant posts of the Council; they are in alphabetical order: Mr. H. Gilbert Barling of Birmingham, Mr. C. H. Golding-Bird of Guy's Hospital, Mr. A. A. Bowlby, of St. Bartholomew's Hospital, Mr. W. Bruce Clarke of St. Bartholomew's Hospital, Mr. Harrison Cripps of St. Bartholomew's Hospital, Mr. Frederic S. Eve of the London Hospital, and Mr. J. Bland-Sutton of the Middlesex Hospital. It is possible that there may be more candidates, for nominations can be received up to Monday next, June 13th. Nomination forms can be obtained from the secretary.

REVIVAL OF THE FELLOWS' DINNER.

It is intended to hold a Fellows' dinner on the evening of the day of election to the Council and it is hoped that it will serve as an occasion for the meeting of the Fellows, for since the introduction of voting by post for the Council the personal attendance of Fellows has greatly diminished.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 9279 births and 4277 deaths were registered during the week ending June 4th. The annual rate of mortality in these towns, which had been 16·1, 15·5, and 15·4 per 1000 in the three preceding weeks, further declined last week to 14·6 per 1000. In London the death-rate was 13·2 per 1000, while it averaged 15·2 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 5·5 in King's Norton, 7·0 in Handsworth (Staffs.), 8·0 in Burton-on-Trent, 8·7 in Newport (Mon.), 9·0 in West Hartlepool, 9·4 in East Ham, 9·5 in Smethwick, 9·6 in Hornsey, and 9·9 in Coventry; while the highest rates were 18·8 in Stockport, 18·9 in Middlesbrough, 20·3 in Norwich, 21·3 in Preston, 22·2 in Newcastle-on-Tyne, 22·5 in Huddersfield, 24·0 in Warrington, and 34·9 in Wigan. The 4277 deaths in these towns last week included 495 which were referred to the principal infectious diseases, against 525, 528, and 519 in the three preceding weeks; of these 495 deaths 217 resulted from measles, 125 from whooping-cough, 58 from diarrhœa, 40 from diphtheria, 30 from scarlet fever, 23 from "fever" (principally enteric), and two from small-pox. No death from any of these diseases was registered last week in Willesden, Hornsey, Hastings, Plymouth, Devonport, Burton-on-Trent, Walsall, West Bromwich, Grimsby, Barrow-in-Furness, Rotherham, Tynemouth, or Newport (Mon.); while among the other towns the highest death-rates from the principal infectious diseases were recorded in Walthamstow, Hanley, Warrington, Salford, Burnley, Huddersfield, Leeds, Sunderland, and Rhondda. The greatest proportional mortality from measles occurred in Walthamstow, Norwich, Birkenhead, St. Helen's, Burnley. Huddersfield, Leeds, Newcastle-on-Tyne, and Rhondda; from scarlet fever in Hanley and Warrington; from diphtheria in Hanley and Stockton-on-Tees; from whooping-cough in Birmingham, Smethwick, Warrington, Bolton, Blackburn, and Swansea; and from "fever" in Wigan. Of the two fatal cases of small-pox registered in these towns last week one belonged to Leicester and one to Halifax. The number of small-pox patients under treatment in the Metropolitan Asylums hospitals, which had been 99, 96, and 118 at the end of the three preceding weeks, had declined again to 96 at the end of last week; 10 new cases were admitted during the week, against 26, 18, and 33 in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital on Saturday last, June 4th, was 1673, against 1600, 1630, and 1663 on the three preceding Saturdays; 207 new cases were admitted during the week, against 239, 222, and 194 in the three preceding weeks. The deaths in London referred to pneumonia and to diseases of the respiratory system, which had been 231, 210, and 188 in the three preceding weeks, further declined to 181 last week but were nine in excess of the number in the corresponding period of last year. The causes of 50, or 1·2 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leicester, Bolton, Salford, Leeds, Newcastle-on Tyne, Cardiff, and in 46 other smaller towns, while the highest proportions of uncertified deaths were registered in Birmingham, St. Helen's, Preston, Sheffield, Hull, Sunderland, Gateshead, and Tynemouth.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 17·9, 18·7, and 17·6 per 1000 in the three preceding weeks, rose again to 18·1 per 1000 during the week ending June 4th and was 3·5 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 10·8 in Perth and 13·0 in Leith to 19·4 in Greenock and 23 0 in Dundee. The 600 deaths in these towns included 26 which were referred to whooping-cough, 16 to measles, 14 to diarrhœa, three to scarlet fever, three to diphtheria, and two to small-pox, but not any to "fever." In all, 64 deaths resulted from these principal infectious diseases last week, against 75, 58, and 62 in the three preceding weeks. These 64 deaths were equal to an annual rate of 1·9 per 1000, which was 0·2 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 28, 21, and 29 in the three preceding weeks, declined again last week to 26, of which 16 occurred in Glasgow, four in Edinburgh, three in Aberdeen, and two in Paisley. The deaths from measles, which had been 17, 16, and 12 in the three preceding weeks, rose again to 16 last week, and included six in Greenock, four in Edinburgh, three in Glasgow, and three in Dundee. The fatal cases of diarrhœa, which had been 13 and 15 in the two preceding weeks, decreased last week to 14, of which seven were registered in Glasgow, two in Edinburgh, two in Dundee, and two in Aberdeen. The deaths from scarlet fever, which had been four, four, and two in the three preceding weeks, rose again to three last week, and included two in Edinburgh, where two of the three fatal cases of diphtheria also were registered. The two deaths from small-pox belonged to Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 90, 97, and 85 in the three preceding weeks, rose again last week to 87, but were 24 below the number in the corresponding period of last year. The causes of 34, or nearly 6 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 21·6, 21·9, and 21·3 per 1000 in the three preceding weeks, further declined to 19·7 per 1000 during the week ending June 4th. During the past four weeks the death-rate has averaged 21·1 per 1000, the rates during the same period being 14·7 in London and 18·2 in Edinburgh. The 143 deaths of persons belonging to Dublin registered during the week under notice showed a decline of 12 from the number in the preceding week and included 16 which were referred to the principal infectious diseases, against 17, 13, and 8 in the three preceding weeks; of these, 9 resulted from whooping-cough, five from measles, and two from "fever," but none from small-pox, scarlet fever, diphtheria, or diarrhœa. These 16 deaths were equal to an annual rate of 2·2 per 1000, the death-rates last week from the principal infectious diseases being 1·6 in London and 2·2 in Edinburgh. The fatal cases of whooping-cough, which had been ten, five, and four in the three preceding weeks, rose again last week to nine. Five deaths from measles were recorded last week, against two, two, and none in the three preceding weeks. The 143 deaths in Dublin last week included 21 of children under one year of age and 39 of persons aged 60 years and upwards; the deaths of infants showed a slight decline, while those of elderly persons exceeded the number in the preceding week. Two inquest cases and two deaths from violence were registered, and 55, or more than a third, of the deaths occurred in public institutions. The cause of only one death registered in Dublin last week was not certified.

THE SERVICES.

Royal Navy Medical Service.

Appointment of Director-General.

Inspector-General Herbert Mackay Ellis has been selected for the appointment of Director-General of the Medical Department of the Royal Navy, in succession to Inspector-General Sir Henry Frederick Norbury, K.C.B., who will shortly relinquish that post.

Royal Army Medical Corps.

Lieutenant-Colonel C. Seymour, has been selected to succeed Colonel T. Ligertwood as physician and surgeon of the Royal Hospital, Chelsea, and has taken up the duties there.

Indian Medical Service.

Colonel W. R. Browne has been selected to officiate as Surgeon-General with the Government of Madras, in the absence of Surgeon-General D. Sinclair, on leave in England.

Army Medical Reserve of Officers.

Captain F. D. Woolley, Royal Army Medical Corps Volunteers, to be Surgeon-Captain (dated June 4th, 1904). Surgeon-Lieutenant J. R. Williams, 3rd Volunteer Battalion the Royal Welsh Fusiliers, to be Surgeon-Lieutenant (dated June 4th, 1904).

IMPERIAL YEOMANRY.

Northumberland (Hussars): Surgeon-Captain A. Brumell to be Surgeon-Major (dated June 4th, 1904). Oxfordshire (Queen's Own Oxfordshire Hussars): Surgeon-Lieutenant (Honorary [illegible] resigns his [illegible] (Queen's Ov[illegible] McCall resigns his commission (dated May 28th, 1904).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Carnarvonshire: The undermentioned officers are transferred from the 1st Cheshire and Carnarvonshire Royal Garrison Artillery (Volunteers);—To be Lieutenants: Surgeon-Lieutenant-Colonel E. J. Lloyd (dated June 4th, 1904) and Surgeon-Lieutenant C. W. Owen (dated June 4th, 1904).

Rifle: 1st Volunteer Battalion the Manchester Regiment: Surgeon-Captain W. F. O'Grady to be Surgeon-Major (dated June 4th, 1904). 5th (Ardwick) Volunteer Battalion, the Manchester Regiment: Surgeon-Major J. G. Saville resigns his commission and is granted the honorary rank of Surgeon-Lieutenant-Colonel, with permission to wear the prescribed uniform (dated June 4th, 1904). 5th (Irish) Volunteer Battalion, the King's (Liverpool Regiment): Surgeon-Lieutenant-Colonel D. E. Flinn resigns his commission and is granted the honorary rank of Surgeon-Colonel, with permission to wear the prescribed uniform (dated May 28th, 1904); Surgeon-Lieutenant J. G. Moyles resigns his commission (dated May 28th, 1904); Lieutenant H. M. Bayer resigns his commission and is appointed Surgeon-Lieutenant [illegible] John Mauries Ahern to be Sur[illegible] 28th, 1904). 3rd Lanarkshire: [illegible] A. Napier to be Brigade-Sur[illegible] [illegible]d is borne as Supernumerary whilst holding the appointment of Senior Medical Officer of the Scottish Rifle Volunteer Infantry Brigade (dated May 28th, 1904). 1st Volunteer Battalion, the Northampt[illegible] H. S. Baker to be [illegible] 2nd (South) Middl[illegible] Isaacs is permitted to change his name to Edmund Percival Isaacs Coke. 4th Volunteer Battalion, the Manchester Regiment: Captain and Honorary Major John Crawhall Nichol, retired, to be Surgeon-Lieutenant (dated May 28th, 1904). 5th (Glasgow Highland) Volunteer Battalion, the Highland Light Infantry: Supernumerary Brigade-Surgeon-Lieutenant-Colonel D. Cowie, Senior Medical Officer, Highland Light Infantry, Volunteer Infantry Brigade, resigns his commission, and is granted the honorary rank of Surgeon-Colonel, with permission to wear the prescribed uniform (dated May 28th, 1904).

BEARER COMPANY ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

3rd London Bearer Company: Captain E. Lloyd-Williams to be Major (dated June 4th, 1904). The London Companies: Captain J. Harper to be Major (dated May 28th, 1904). Gloucester and Somerset Bearer Company: David Brynmor Chiles-Evans to be Lieutenant (dated May 28th, 1904). North-East Lancashire Bearer Company: Captain J. M. H. Martin to be Major (dated May 28th, 1904). 4th or City of London Bearer Company: John Forbes to be Lieutenant (dated May 28th, 1904). Welsh Bearer Company: Major C. Downing to be Brigade-Surgeon-Lieutenant-Colonel whilst holding the appointment of Senior Medical Officer to the Welsh Volunteer Infantry Brigade (dated Jan. 23rd, 1904).

A GALLANT ACTION.

The *London Gazette* of June 7th contains the following: "The King has been graciously pleased to signify his intention to confer the decoration of the Victoria Cross on the under-mentioned officer, whose claims have been submitted for His Majesty's approval, for conspicuous bravery in Somaliland, as stated against his name:—Lieutenant Clement Leslie Smith, Duke of Cornwall's Light Infantry—At the commencement of the fight at Jidballi on Jan. 10th, 1904, the enemy made a very sudden and determined rush on the 5th Somali Mounted Infantry from under cover of bushes close at hand. They were supported by rifle fire, advanced very rapidly and got right amongst our men. Lieutenant Smith, Somali Mounted Infantry, and Lieutenant J. R. Welland, M.D., Royal Army Medical Corps, went out to the aid of Hospital Assistant Rahamat Ali who was wounded and endeavoured to bring him out of action on a horse, but the rapidity of the enemy's advance rendered this impossible and the hospital assistant was killed. Lieutenant Smith then did all that any man could do to bring out Dr. Welland, helping him to mount a horse and, when that was shot, a mule. This also was hit and Dr. Welland was speared by the enemy. Lieutenant Smith stood by Dr. Welland to the end and when that officer was killed was within a very few paces of him, endeavouring to keep off the enemy with his revolver. At that time the dervishes appeared to be all round him and it was marvellous that he escaped with his life."

WAR MEDALS FOR CIVIL SURGEONS.

The War Office announces that a number of war medals for civil surgeons who served with troops during the campaign in South Africa have been received but cannot be forwarded as the present addresses of the gentlemen to whom they have been awarded are unknown. Civil surgeons who have not received their medals are requested to make application to the secretary, War Office, 68, Victoria-street, London, S.W.

THE WAR IN THE FAR EAST.

There are, as is always the case and may be confidently expected, rumours as to military movements that have already been made or are about to take place, but there is little really known about the actual situation of the belligerent forces at the present time and still less of the intentions of those in command of them. We do not, for example, know for certain that General Kuropatkin is moving south in order to relieve the garrison in Port Arthur in deference to the pressure of political opinion in Russia, nor does it seem likely that the Czar should have issued any definite order in favour either of the alleged policy of Admiral Alexeiff or that of General Kuropatkin. But there does not seem to be any doubt about the Japanese intentions to attempt the capture of Port Arthur, for which they have been carefully preparing. From a strategical and military point of view the situation is most interesting when it is remembered that in addition to the large Japanese force besieging Port Arthur there are the two other Japanese armies in the field under Generals Kuroki and Nodzu watching the Russian movements and presumably ready to strike in at an opportune time on the Russian flank and rear. But so far as the medical aspects of the campaign are concerned there is a comparative dearth of information. It is understood that hospital accommodation and preparations on a large scale have been provided at Vladivostock of which place, however, we hear almost nothing.

A Russian medical man who has lived a long time in Japan writes in the *Warsaw Dnevnik* on the hospitals of the Japanese Red Cross Society as follows. The wards, corridors, and specialists' cabinets are wonderfully clean and neat, and the cabinets are furnished with all necessary instruments and appliances. Every 40 or 50 steps along the main passages short light corridors branch off, each ending in an invalids' room. All the bedsteads are iron, they are very wide, and are provided with excellent linen. The wards in the chief hospital of the society, as indeed in all Japanese hospitals, are divided into four classes: those of the first class accommodate only one patient, or at most two; those of the fourth class will take in as many as 20 or 24 patients in one large room. But everywhere uniform cleanliness and order prevail. No smell is allowed to hang about. Ventilation is assured. The illumination is by electricity and the heating by stoves. He closes his article by observing that such knowledge makes it more comforting to the relatives of such as may fall into their hands, for their conduct towards their invalided enemies is "correct."

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

The June issue of the *Journal of the Royal Army Medical Corps* contains a communication by Mr. Ernest E Austen of the Zoological Department of the British Museum on the House Fly and certain Allied Species as Disseminators of Enteric Fever among Troops in the Field. The author quotes many facts to prove his thesis and after discussing the natural history of the order diptera rightly says: "It is one thing to draw attention to admitted facts and quite another to indicate a remedy." He hopes, however, that the authorities of the Royal Army Medical Corps will without delay seriously consider the question of flies and latrines in standing camps in hot climates. "Unless this be done and material improvements in the existing system be effected it is inevitable that recent experience will be repeated in the next great war in which we are involved and wastage from enteric fever will continue to the same extent as of old." The paper is a suggestive one and deserves careful attention. Among the other communications we may call attention to Mauser Bullet Wounds of Nerves, a Surprising Lesion, by Major S. F. Freyer, C.M.G., R.A.M.C.; Major J. Fayrer's contribution on High-frequency Currents; Lieutenant-Colonel A. M. Davies's notes on the Instruction of Staff and Regimental Officers in Military Hygiene; and the second part of the editorial article on Malta Fever.

Permission has been given to Dr. Fristedt, assistant surgeon, Swedish Army, to visit the barracks and hospitals in London about the beginning of August.

A walking contest between soldiers which took place in the outskirts of Paris on May 29th has resulted in one death and numerous cases of heat-stroke. 30 per cent. of the competitors are said to have been in need of medical assistance. The distance was about 28 miles.

It has been decided to abolish the rum ration on transports and to substitute, on homeward voyages only, an issue, on payment of *2d.* a pint, of British-brewed ale or an alternative ration of chocolate at *½d.* a pint, to troops who desire to make such purchases.

Correspondence.

"Audi alteram partem."

HOSPITAL SUNDAY.

To the Editors of THE LANCET.

SIRS,—I am this year President and Treasurer of the Hospital Sunday Fund and as such I appeal most earnestly to all classes, rich and poor, to assist me, each according to his means, to make the collection as large as possible, for the institutions for which I am pleading are sorely in need of help. All must know of the very great benefits conferred by our hospitals, for not only do they succour the very poor, but as training schools for our medical men they render incalculable services to those who can afford to pay for the skill and experience gained within their walls. Now if everyone will give something to swell the amount I am sure the institutions will be placed in a position to fulfil the charitable duties for which they were established. Mr. George Herring has again with splendid liberality offered to add one quarter, up to £25,000, to the sum collected in places of worship. I am, very truly yours,

J. T. RITCHIE,
Lord Mayor.

Mansion House, E.C., June 6th, 1904.

SPONGES AND FORCEPS LEFT IN THE ABDOMINAL CAVITY.

To the Editors of THE LANCET.

SIRS,—The distressing calamities which occur in connexion with this subject from time to time necessitate, in my judgment, some definite action on the part of surgeons to render this accident impossible. I am thankful to say that one of these surgical disasters has never occurred to myself though operating on all sorts of abdominal cases over a series of years. I have always adhered to two principles: the first to use few sponges and forceps and to have the number of these written on a slate; and the second to verify the sponges and forceps personally after each abdominal case and never to leave this duty to a subordinate. Also I have made it a rule never to pass a sponge deeply into the abdomen without attaching it to a long pair of forceps which projects from the wound and cannot fail to attract attention to the sponge beneath. As for tearing sponges into pieces, or using "wholesale" wool and gauze "dabs," as is often now done, I can only say that such practice is fraught with risk and I cannot too strongly inveigh against it.

On talking this serious matter over with my friend Dr. Hewitt, who from the coign of vantage occupied by the anæsthetist is able to judge largely of surgical practice, he suggested a method for the custody of sponges which I at once put into use. A coarse wire tray is made containing (for myself) six compartments. This lies in the antiseptic lotion and the six sponges are each in its own compartment. At the end of the operation the tray is shown to me with each sponge in its place. The number of compartments may be made to vary with the fancy of the operator as to the number of sponges to be employed. Next as to pressure forceps, I am having constructed a white delf disc 12 inches in diameter and about half an inch thick. In this are bored 18 holes equidistant round the edge. These holes are plainly numbered in red figures. The "clips" stand in the disc and at the end of the operation, before the wound is closed, the operator is shown each pressure forceps in its proper place. He can see that "all is right" at a glance. Added to these precautions the numbers should be written on a slate previously to operation which prevents the error of adding to the number of forceps or sponges after the operation is commenced. Large forceps and clamps can hardly be left in the abdominal cavity. I recommend these simple devices very strongly and earnestly to the notice of my professional brethren both for hospital and private practice. The surgeon cannot avoid personal responsibility for these serious mishaps, and all of us who have been long in practice know of instances of their occurrence in the practice of well-known operators. Such cases have never obtained unfortunate publicity but speak eloquently to the truth of the maxim "Humanum est errare." I am, Sirs, yours faithfully,

A. MARMADUKE SHEILD.

Cavendish-place, W., June 6th, 1904.

THE SO-CALLED PANCREATIC REACTION IN THE URINE.

To the Editors of THE LANCET.

SIRS,—We consider Dr. P. J. Cammidge's reply to our criticism of his "pancreatic reaction" as very unsatisfactory. It will, perhaps, be best to state some of our objections to his "reaction" and to his letter in tabular form so that he and others may the more easily estimate their merits or demerits.

1. Dr. Cammidge's remarks about the varying solubility of lead chloride in hot and cold water were well known to us but as an answer to our criticism are quite beside the mark. The fact that lead chloride is soluble at all in water at 0° C. should have suggested to Dr. Cammidge the necessity of removing the lead salts from the solution with which he was experimenting before proceeding with his test. Therefore we, in estimating the value to be attached to this "pancreatic reaction," thought it advisable to remove this possible source of fallacy and after having done so we found that those cases, pancreatic and otherwise, which previous to the removal of the lead salts gave a positive reaction, now uniformly yielded negative results. These cases included: (*a*) one case of acute pancreatitis; and (*b*) five cases of "chronic pancreatitis"—that is to say, cases in which the pancreas showed distinct evidence of interstitial overgrowth. All these cases were verified post mortem. Surely were the test dependent on any change in the original constituents of the urine, resulting from disease of the pancreas, removal of the lead salts should in nowise interfere with positive results in such cases. How, then, explain the total absence in the above six verified cases of such results?

2. Moreover, the crystals we obtained were not those of lead chloride, as Dr. Cammidge suggests. They were *only obtained* when *phenylhydrazine* hydrochlorate and sodium acetate in solution were boiled with a solution containing lead salts (e.g., as in "Reaction A"). Presumably they consist of a *compound* that the lead salts form with phenylhydrazine. As we stated, they do not appear when the lead salts (chlorides, &c.) are removed previous to adding the phenylhydrazine, &c.

3. The shape of these crystals is almost identical with those of phenylglucosazone, so much so that when both the lead-compound crystals and the latter were present together (as in applying "Reaction A" to unfermented diabetic urine), the two sets of crystals could *not* be distinguished, though each could, by the appropriate processes, be obtained separately and so be compared with those in the mixture. Again, in spite of his assertion that the lead-compound crystals were "quite *distinct* both in behaviour and appearance" from the crystals of his pancreatic reaction we may mention that we have shown them

to competent observers who have been unable to distinguish them from those of phenylglucosazone as examined microscopically. *Since Dr. Cammidge's crystals, according to his* original statement, also resembled very closely those of phenylglucosazone we presume that the lead-compound crystals and his crystals (if these latter have a separate existence) would also closely resemble each other, so much so as to be indistinguishable. Hence his fallacy in neglecting to remove the lead salts must be considered a fatal objection to the value of the reaction.

4. We would like an expression of opinion as to whether Dr. Cammidge gives sufficient grounds for diagnosing so many cases as ones of pancreatic disease. We notice that only three of the cases could be subjected to a post mortem examination, which in most instances is the only true criterion for the presence of disease in the pancreas. We are, of course, aware that acute pancreatitis can usually be correctly diagnosed on the operating table, but we have grave doubts as to whether more chronic and less obvious changes can be unhesitatingly recognised there even by the most skilful hands. How often in the post-mortem room does it require careful handling and close investigation to decide upon these points, which have often to be left to the final arbitrament of the microscope. Does Dr. Cammidge, then, give the profession sufficient proof that the cases he describes as those of pancreatic disease were really of that nature?—We are, Sirs, yours faithfully,

CHARLES E. HAM, M.B Lond.
J. BURTON CLELAND, M D. Sydney.

The Pathological Institute, London Hospital, May 20th, 1904.

To the Editors of THE LANCET.

SIRS,—The correspondence now taking place under the above heading calls to my mind the case of a patient who came under my notice in the South Devon and East Cornwall Hospital, Plymouth. The case was that of a man, aged 50 years, who was admitted under the care of Mr. W. L Woollcombe on March 9th, 1904. His illness had begun in January, 1902, with "wind and distension" together with the passage of loose light-coloured stools. In January, 1903, a severe attack of jaundice occurred and from that date to the time of his admission he was more or less jaundiced with one acute attack in November, 1903, the abdomen remaining distended. On admission to the South Devon and East Cornwall Hospital he was jaundiced, the liver was enlarged, the stools were loose and yellow, and the abdomen was distended. On March 17th the spleen was noticed to be enlarged. No cardiac murmurs were heard.

On March 15th I was asked to examine the blood. There were 4,800,000 erythrocytes per cubic millimetre, 8314 leucocytes per cubic millimetre, 75 per cent. of hæmoglobin, a blood index of 0·7, and films showed the usual proportion of one variety of leucocyte to others. On April 7th I was asked to examine the urine by the "pancreatic" test for chronic pancreatitis.[1] The urine was dark brown in colour and neutral in reaction; its specific gravity was 1015. A cloud of mucus was present. There was no sugar or albumin present. The centrifuged urine contained no calcium oxalate crystals. Gmelin's test for bile pigments and Pettenkofer's for bile salts both gave positive results and the urobilin spectrum was present. The final interpretation of the test in this case, according to Dr. P. J. Cammidge, was either disease other than pancreatic or damage due to past pancreatitis. Indications apart from the conditions of the pancreas existed for operation and cholecystotomy was performed on May 2nd by Mr. Woollcombe but the patient died during the night.

At the post-mortem examination I found great enlarge- [illegible]

The pancreas weighed with adherent tissue about eight ounces and was hard. The spleen weighed two and a half pounds; there were congestion, fibrosis, and perisplenitis. The kidneys were enlarged; the right weighed eight and a half ounces and the left nine ounces; both were congested. The common hepatic, the cystic, the common bile, and Wirsung's ducts were not obviously dilated. The ampulla of Vater was normal and Wirsung's duct opened separately into it. The gall-bladder was contracted and pulled backwards and upwards by adhesions and contained infected bile. There were early peritonitis present and *inflamed lymphatic glands at the portal fissure.* The mitral valve of the heart was thickened and incompetent. The tissues were generally bile-stained. The pancreas showed much interlobular fibrosis, with slight [illegible]. The [illegible] ormal. [illegible] change in the Malpighian bodies. The lymphatic glands contained micro-organisms. Interlobular fibrosis of the pancreas was present, therefore, with slight signs of recent inflammation. The test, repeated carefully on April 14th, was negative as to the presence of chronic pancreatitis, as stated previously. Presumably the stage of the inflammatory reaction determines the result of the test. Perhaps Dr. Cammidge would give his valuable experience (*a*) on this point; (*b*) on the significance, if any, of the smaller number and size of the yellow crystals obtained by method "B" relatively to method "A"; and (*c*) the nature of certain short yellow acicular crystals occasionally formed in the phenylhydrazin test in the urine in the absence of copper-reducing substances. I am indebted to Mr. Woollicombe for permission to publish the case and to Dr. Weatherhead and Dr. Day, house surgeons, for the notes.

I am, Sirs, yours faithfully,
F. G. BUSHNELL, M.D. Lond.,
Pathologist, South Devon and East Cornwall Hospital, Plymouth.

June 4th, 1904.

"EUGENICS."

To the Editors of THE LANCET.

SIRS,—I think it would be impossible to imagine a subject of greater importance to the community than the one Mr. Galton has brought forward. It would be difficult to name one of which the public is more ignorant. The procedure which he suggests to us is admirable. At the root of every moral and social question lies the problem of heredity. Until a knowledge of the laws of heredity is more widely diffused the public will grope in the dark in its endeavours to solve many pressing difficulties. I venture to offer a few remarks on one or two of the questions raised in Mr. Galton's paper.

How shall we bring about a "wide dessemination of a knowledge of the laws of heredity so far as they are surely known and the promotion of their further study"? The study of heredity requires a good deal of knowledge of a rather abstruse kind; above all it requires very close and exact methods of thought. We shall find neither the necessary knowledge nor the exact methods of thought in the average man of business or pleasure who has been trained in the average British home or the average British school. We shall not be able to reach the public until we are able to influence the education of a body of men whose studies naturally bring them into relation with the subject and who, when *united, are numerous enough and* powerful enough to sway public opinion. Only one such body of men exists—the medical profession When the study of heredity forms as regular part of the medical curriculum as anatomy and physiology, then, and not till then, will the laws of heredity be brought to bear on the solution of social problems. At present a specialist like Mr. Galton has a very limited audience, in effect it is composed of specialists like himself. The difficulty of his subject and the profound ignorance of the public deprive him of a large part of his possible influence for good. Until among medical men a systematic knowledge of heredity is substituted for a bundle of prejudices and close and clear reasoning for wild guess-work, the influence of men of his type, most unhappily, is not likely to extend much beyond the limits of a few learned societies.

The first essential towards a knowledge of the laws of heredity and the first essential towards the application of those laws to social questions is a clear grasp of the distinction which exists between what are known as inborn traits and what are known as acquired traits. Inborn traits are those with which the individual is born, which come to him by nature, which form his natural inheritance from his parents. Acquired traits are alterations produced in inborn traits by influences to which they are exposed during the life of the individual. Thus a man's limbs are inborn traits, but the changes produced in them by exercise, injury, and so forth are acquired traits. All men know that the individual tends to transmit his inborn traits to his offspring. But it is now almost universally denied by students of heredity that he tends to transmit his acquired traits. The real, the burning question among students of heredity is whether changes in an individual caused by the action of the environment on him tend *in any way* to affect the offspring subsequently born to him. Thus, for example, does good health in an individual tend to benefit the offspring subsequently born to him; does his ill health tend to enfeeble them?

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[1] Dr. Cammidge; Arris and Gale lecture, THE LANCET, March 19th, 1904, p. 782.

It is generally assumed that changes in the parents do tend to influence the inborn traits of offspring. Thus we have heard much of the degeneracy which it is alleged is befalling our race owing to the bad hygienic conditions under which it dwells in our great and growing cities. The assumption is made that the race is being so injured by the bad conditions and that the descendant of a race of slum-dwellers, if removed during infancy to the country, would on the average be inferior physically to the decendant of a line of rustics; whereas, contrariwise, the decendant of a line of rustics, if removed during infancy to the slums, would be superior physically to the majority of the children he would meet. I believe the assumption to be a totally unwarrantable one. It is founded on a confusion between inborn and acquired traits. Of course the influences which act on a slum-bred child tend to injure him personally. But there is not an iota of evidence that the descendant of a line of slum-dwellers is on the average inferior to the descendant of a line of rustics whose parents migrated to the slums just after his birth. I believe, in fact, while a life in the slums deteriorates the individual it does not affect *directly* the hereditary tendencies of the race in the least. A vast mass of decisive evidence may be adduced in support of this contention. Slums are not a creation of yesterday. They have existed in many countries from prehistoric times. Races that have been most exposed to a slum life are not inferior physically and mentally to those that have been less or not at all exposed. The Chinese, for example, who have been more exposed and for a longer time to their influences than any other people, are physically and mentally a very fine race and certainly not inferior to the Dyaks of Borneo for example. There is also a mass of collateral evidence. Thus Africans and some other races have been literally soaked in the extremely virulent and abundant poison of malaria for thousands of years. We know how greatly malaria damages the individual. But Africans have not deteriorated. Like the Chinese, physically, at any rate, they are a very fine race. Practically speaking every negro child suffers from malaria and may perish from it. The *sufferings* of the negroes from malaria have produced no effect on the race but the *deaths* of the negroes from malaria have produced an immense effect. The continual weeding out during many generations of the unfittest has rendered the race pre eminently resistant to malaria, so that negroes can now flourish in countries which we, who have suffered very little from malaria, find it impossible to colonise. Similarly the inhabitants of Northern Europe have suffered greatly for thousands of years from consumption, especially in places where the population has been dense, where there have been many cities and towns and therefore slums. They also have not deteriorated; they have merely grown pre eminently strong against consumption. They are able to live, for example, in English cities in which consumption is very rife and which individuals of races which have been less exposed to the disease find as dangerous as Englishmen find the West Coast of Africa. During the last 400 years consumption has spread very widely and now no race is able to live in cities and towns in cold and temperate climates that has not undergone evolution against it. In other words, no race is capable of civilisation that has not undergone evolution against consumption, as well as other diseases and influences, deteriorating to the individual, which civilisation brings in its train. Many biologists and most medical men believe that influences acting on parents tend *directly* to alter the hereditary tendencies of offspring. In technical terms they believe that variations are caused by the action of the environment. How they can contrive to do so in the face of the massive and conclusive evidence afforded by the natural history of human races in relation to disease is beyond my comprehension. How could a race undergo evolution against malaria, for example, if parental disease altered and injured the hereditary tendencies of the offspring? How could natural selection select if all variations were unfavourable? The observations on disease and injury published by Brown-Séquard, Cossar Ewart, and many medical men are capable of an interpretation entirely different from that which they gave.

Mr. Galton speaks as if the causes which brought about "the disappearance of most savage races when brought into contact with high civilisation" were obscure. I can assure him, however, that they had been worked out precisely and statistically by medical observers on the spot. Apart from extermination by war the only savage races which are disappearing are those of the New World and in every instance they are perishing from the enormous mortality caused among them by introduced diseases against which their races have undergone no evolution. He will find these precise statistics in the tables of mortality issued by all the public health departments that exist in America, Polynesia, and Australasia. He will find also many accounts in the journals of travellers. If he will read the records of visits of parties of aborigines from the New World to the cities of Europe he will find that their mortality, especially from consumption, was invariably high. There is nothing more obscure about the disappearance of these races than there is about the disappearance of the dodo and the bison. They are perishing, not because, as Froude poetically put it, they are like caged eagles incapable of domestication. They do not wilt away mysteriously. They perish simply and solely because they are weak against certain species of bacteria which flourish especially well under the conditions of civilised life. If malaria, instead of consumption, were prevalent in cities then the English would be incapable of civilisation, whereas the negroes and the wild tribes about the Amazon and in New Guinea and Borneo would be particularly capable of it. Indeed, it may be taken as a general rule to which there is absolutely no exception that every race throughout the world is resistant to every disease precisely in proportion to its past experience of it and that only those races are capable of civilisation which are resistant to the diseases of dense populations.

Before the voyage of Columbus hardly a zymotic disease, with the exception of malaria, was known in the New World. The inhabitants of the Old World had slowly evolved against their diseases under the gradually worsening conditions caused by the gradual increase of population. They introduced them to the natives of the New World under the worst conditions then known. They built cities and towns, the natural breeding places of all zymotic diseases except those of the malarial type. They gave the natives clothes which are the best vehicles for the transport of microbes. They endeavoured to Christianise and to civilise the natives and so drew them into buildings where they were infected. They forced them to labour on plantations and in mines. In fact, they forced on them every facility for "catching" disease. As a result they exterminated, or are exterminating, them. The natives of the Gilbert Islands lately petitioned our Government not to permit missionaries to settle among them as they feared destruction. They were perfectly right. Clothes and churches and school rooms are fatal to such people. The Tasmanians before they were quite exterminated had a saying that good people—that is, people who went frequently to church—died young; they also were perfectly right. It is a highly significant fact that, whereas every white man's city in Asia or Africa has its native quarter, no white man's city in the New World has its native quarter. To find the pure aborigines of the New World we must go to parts remote from cities and towns. They cannot accomplish in a few generations an evolution which the natives of the Old World accomplished only after hundreds, perhaps thousands, of generations and at the cost of thousands of millions of lives. The negroes who were introduced into America to fill the void created by the disappearing aborigines have persisted; but they have already undergone some evolution against the chief disease of civilisation, consumption, and much evolution against measles and other diseases. Yet the negroes would not have persisted had they not been introduced under special conditions. They were taken to the warmer parts of America at a time when consumption was little rife as compared to its prevalence in the cities of Europe and they were employed mainly in agricultural occupations. They had a special start and were placed under conditions which worsened only slowly. As a result they underwent evolution and are now able to persist in America. But African negroes, as compared to the natives of the densely populated parts of Europe and Asia, have undergone little evolution against consumption. As a consequence no African colony has ever succeeded in Europe or Asia. For instance, the Dutch and English imported about 15,000 negroes into Ceylon a century ago. Within 20 years all, except a mere handful, had perished mainly of consumption and that is a country where the disease is not nearly so prevalent as in Northern Europe or the more settled parts of Northern Asia.

There can be little doubt that the sterility of New World races when brought in contact with civilisation is due mainly to ill health. The sterility of our upper classes, as any medical man will inform Mr. Galton, is mainly voluntary. *It is due to the possession of special knowledge. The growing sterility of the lower orders* is due to the spread of that knowledge; hence the general and continuous fall in the birth-rate. Until we are able to estimate the part played by this knowledge it would be vain to collect statistics of comparative fertility. We have frequently been told that no city family can persist for four generations unless fortified by country blood. That, I believe, is a complete error. Country blood doe t weakens it; for it has been elements. It is true, owing to the great immigration from the country, it is difficult to find a city family which has had no infusion of country blood for four generations. But to suppose on that account that country blood strengthens city blood against the special conditions of city life is to confuse *post hoc* with *propter hoc.* Slum life and the other evil influences of civilisation, including bad and insufficient food, vitiated air, and zymotic diseases, injure the individual. They make him acquire a bad set of traits. But they do not injure the hereditary tendencies of the race. Had they done so, civilisation, which implies a dense population, would have been impossible. On the contrary, by weeding out the unfittest they make the race strong against those influences. If, then, we wish to raise the standard of our race we must do it in two ways. In the first place, we must improve the conditions under which the individual develops and so make him a finer animal. In the second place, we must endeavour to restrict as much as possible the marriage of the physically and mentally unfit. In other words, we must attend both to acquired and inborn characters. By merely improving the conditions under which people live we shall improve the individual but not the race. The same measures will not achieve both objects. Medical men have done a good deal for the improvement of the acquired characters of the individual by improving sanitation. They have done nothing towards the second object, the improvement of the inborn traits of the race. Nor will they do anything until they have acquired a precise knowledge of heredity from biologists. On the other hand, before biologists are able to influence medical men they must bring to bear their exact methods of thought on the great changes produced in various races by the experience during thousands of years of disease. I am sure our knowledge of heredity will gain in precision and breadth by a consideration of these tremendous, long-continued and drastic experiments conducted with such momentous results by nature. No experiments conducted by man can compare with them in magnitude and completeness. As I have already intimated, the precise statistical information on which our conclusions may be based are already collected and tabulated. I am sure it is good neither for medicine nor biology that medical men and biologists should live in separate and closed compartments, each body ignoring the splendid mass of data collected by the other. Much of medicine should be a part of biology and much of biology a part of medicine.

I am, Sirs, yours faithfully,

Southsea, May 30th, 1904. G. ARCHDALL REID.

ABSCESS OF THE FRONTAL SINUS.

To the Editors of THE LANCET.

SIRS,—I read with much interest Mr. Herbert Tilley's article in THE LANCET of May 21st, 1904, p. 1414, on Some Experiences in the Surgical Treatment of Suppurative Lesions of the Nasal Accessory Sinuses; also I had previously read with interest his article in THE LANCET of July 14th, 1900, p. 100, on Empyema of the Frontal Sinus; but I should like to draw his attention to two short but admirable papers by Mr. Charles Higgens on Distension of the Frontal Sinus in the Guy's Hospital Reports for 1880–81 and 1893. In the earlier paper Mr. Higgens describes with admirable lucidity a small round fluctuating swelling which forms when the bone has become absorbed in cases of long-standing distension of the frontal sinus at the inner angle of the orbit and *which resembles a distended lacrymal sac*, but is situated above the tendo oculi instead of below it and which cannot, like the distended sac, be emptied by pressure nor can any of its contents be squeezed through the canaliculi. It also has one marked peculiarity—it varies in size at different times in the day.

I have recently seen a case where this swelling was very noticeable This swelling only occurs in cases where the *bone has become absorbed and the contents of the sinus* project through a hole in the bone beneath the integuments. When present this swelling is of the greatest importance both for diagnosis and treatment. In one of Mr. Higgens's cases "an exploratory incision showed the swelling to be a distended frontal sinus containing white viscid mucus. A probe could be pushed into the cavity a distance of three inches; its breadth appeared to be about one inch."

With regard to treatment, when this swelling is present all that is necessary to do is to make an incision through the swelling and pass a drainage tube into the cavity of the nose. There is obviously in this operation no danger to life, whereas if the trephine is used the freshly cut surface of the diploë is liable to absorb septic material and consequently occur osteomyelitis, meningitis, and death. Mr. Higgens has known all about this small swelling for a quarter of a century, but notwithstanding his two papers in the Guy's Hospital Reports even the greatest nasal specialists seem still to be entirely ignorant as to its nature, nor can I find anything about it in any book.

With regard to the treatment after opening the frontal sinus I fully agree with Mr. Tilley that "from the moment the operation is completed the motto of the surgeon must be, '*Free, unhindered, spontaneous drainage,*' and *if* he secures this he need never fear that any serious harm may come to his patient." I entirely fail, however, to see the desirability of the complete obliteration of the frontal sinus which Mr. Tilley recommends. It is naturally a cavity and, I think should remain so if free drainage is secured.

I am, Sirs, yours faithfully,

Beckenham, May 31st, 1904. ROBERT S. WAINEWRIGHT.

THE INFECTIVITY OF SCARLET FEVER.

To the Editors of THE LANCET.

SIRS,—The above subject having lately been much under discussion, the following, taken from the *Medical World* of Philadelphia for February, 1902, may be of interest:—

"In the spring of 1900 a family of children had scarlet fever and though very severe none of them died. During the desquamation whole casts of fingers and toes came away. ...... The mother collected a quantity of these and placed them in a pasteboard box. Having moved to my neighbourhood they were visited in February, 1901, by a family consisting of father, mother, and boy, three years of age. The conversation turning upon scarlet fever the hostess brought out her box of "relics" and exhibited the contents to her visitors, making a special display for the benefit of the boy. ...... On the fourth day following the child had a chill, developing into a very malignant type of scarlet fever. A sister of the child's mother visited the patient from the second to the fifth day with her three children; also the father's brother visited the boy on the third day with his four-year-old boy. The visiting families lived 15 miles away. ...... No other children in the community were exposed and no others had the disease, while everyone that was exposed had scarlet fever in its worst form and every one of them died." The above was reported by Dr. W. R. Fowler of Pottsville, Texas.

I am, Sirs, yours faithfully,

ARTHUR E. GRESHAM, M.D.

Sierre Madre, California.

EXTRAORDINARY CASE OF SUICIDAL CUT-THROAT.

To the Editors of THE LANCET.

SIRS,—The extraordinary features of a case of suicidal cut-throat perhaps merit my encroaching on your valuable space. On June 2nd at 8.30 A.M. I received an urgent call to a man who had attempted suicide by cutting his throat. On my arrival I found the patient to be a man of good physique, quite conscious but aphonic. He lay on the kitchen sofa with a wound in his throat. This cut was some five inches in length. It had been self-inflicted but had necessitated more than one gash to cause it, judging from the ragged ends. The exceptional feature of the case, however, was that the entire larynx with the hyoid bone was conspicuous by its absence. The trachea had been completely severed but the œsophagus was intact. The patient was very blanched and *in extremis.* His carotid and jugular vessels had escaped. His end came a few minutes after my arrival. The deed had been committed an hour before I saw him in an out-house with a blunt penknife and on going there I found on the floor the entire larynx with the hyoid bone. With the exception of an indentation in the cricoid where the knife had struck it they were all in perfect condition. The intrinsic muscles were intact but those attached to neighbouring parts had been severed with the knife. The dissection of the larynx was very wonderful. What determination the man must have possessed to have undergone the agony and torture of excision of his own larynx! The patient had been drinking heavily for some ten days prior to his death. The homicidal impulse of alcoholism, associated with mutilation, seems to me more potent than that of any other form of mania.

I am, Sirs, yours faithfully,

W. MACALISTER BROWN, M.B., Ch.B. Glasg.

Crewe, June 4th, 1904.

THE OLD HARDSHIP OF LONDON MEDICAL STUDENTS.

To the Editors of THE LANCET.

SIRS,—I the more readily sympathise with your correspondent "Hard Lines" (May 21st) since I have had a very similar experience to his at the London University. Returning to England after some years' practice in the tropics I presented myself (for the first time) at the recent M.B. examination. I was rejected in obstetrics and, like your correspondent, was not marked "weak" in any other subject. The gynæcological questions may interest practitioners. There were two:—1. "What are the varieties of urinary fistulæ? Give their causes, diagnosis, and treatment." 2. "Give an account of tumours originating in the vaginal wall. How would you diagnose and treat them?" Despite the examiners' verdict I confess, since I am writing anonymously, that I still consider myself a fairly competent accoucheur. Abroad my midwifery practice was almost entirely operative, one being rarely called to a normal labour. In the eight months I have been in my present practice my midwifery cases comprise three transverse presentations, one multiple (foot and hand), one high forceps operation for contracted pelvis, one placenta prævia, and one case of post-partum hæmorrhage (rather severe). To most of these (including the last) I was called by midwives. I have had no maternal deaths and two stillbirths in transverse presentations to which I was called long after the membranes had ruptured. As it also happens I have operated on four cases of vesico-vaginal fistulæ due to the effects of prolonged unaided labour. (These cases, of course, are commoner in the remote districts of the world where help cannot be obtained, sometimes through such physiographical causes as flooded rivers, &c.) In three I had a perfectly successful result. I admit my operations were not classical ones; they had to be done with such assistance and material as one can command in places far removed from the great centres of civilisation.—I am, Sirs, yours faithfully,

June 1st, 1904. FAILED M.B.

HEALTH OF CORNWALL.—The sanitary committee of the Cornwall County Council, in its annual report for 1903 states that 7319 births were registered during the year, giving a rate of 22·69 per 1000, as compared with 23·82 per 1000 the average birth-rate for the last five years. The birth-rate for 1903 was the lowest the committee had recorded. There were 4578 deaths registered, giving a general death-rate of 14·21 per 1000, as compared with 16·72 per 1000 recorded in 1902. 832 cases of infectious disease were notified, against 925 in the previous year. 445 deaths occurred from phthisis and 106 from other forms of tuberculosis, compared with 473 and 119 respectively in 1902.

THE FOLKESTONE PUBLIC HEALTH CONGRESS AND THE SANDGATE SCANDAL.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

THE next congress of the Royal Institute of Public Health will meet from July 21st to 27th at Folkestone. Though the date is badly chosen—for it clashes with the meeting of the British Medical Association and of the British Sanitary Institute—it is in one respect fortunate that a congress dealing with public health questions is about to be held at Folkestone. Certainly there is not much of interest from the sanitary point of view at Folkestone except it be that the sewer outfall is badly placed, but a new and most important problem may be studied close at hand. Sandgate is within two miles of Folkestone, public vehicles ply backwards and forwards constantly, and at Sandgate we hav a sanitary grievance involving the widest issues. The chief features of this question have already been described,[1] though there are some fresh developments, and the matter has now been brought to the notice of the Government. It is true that the first appeal has failed to induce the Government to take action, but Governments generally need a great deal of awakening before they move in such matters. For this very reason the congress about to meet at Folkestone might render a great service. In the section devoted to preventive medicine no better subject could be found for discussion than the question of the cost to the community that may be caused when phthisical patients are gathered together and in large numbers, not in hospitals but in private houses, not on an isolated spot but in the centre of a town. This is precisely what is taking place at Sandgate.

The facts should be well known by this time. The population of Sandgate does not exceed 2000 and yet this small community had to receive during the course of last year no less than 897 patients suffering from pulmonary tuberculosis. These patients were not isolated but lived in private houses in the town itself and took their exercise in the streets or on the beach among the ordinary inhabitants. These private houses belonged to the late Mr. J. J. Jones and were organised on a purely speculative basis just as so many hotels or lodging-houses. There were 45 deaths from phthisis last year, of which 43 occurred in Jones's homes. Then there were five deaths from other causes in these homes and 14 deaths among the general population. Of course, the patients only remain a few weeks or at most a few months in the homes at Sandgate. Adding together these numerous short visits it is reckoned that they equal an average number of 180 tuberculous patients present all the year round and there were 45 deaths from phthisis. It is evident that many came when the disease had reached an advanced stage and when the risk of infecting others was greatest. Dr. Ballastre, whose public functions at Nice are somewhat similar to those of an English medical officer of health, bears witness that on the Riviera the prevalence of tuberculosis among the native population has increased since so large a number of tuberculous patients from all parts of the world have wintered at Nice, Mentone, and adjoining health resorts. The population of Sandgate is naturally much concerned to find their streets invaded by phthisical patients. Not only do they fear for their own health but all these sick people alarm the ordinary visitor; consequently the lodging-houses are empty and the tradesmen make but poor receipts.

Nevertheless, the Local Government Board first of all refused to hold an inquiry into the matter. Then when the question was pressed forward in the House of Commons by the local Member, Sir Edward Sassoon, Mr. Long replied that he did not feel satisfied that more extensive powers were required, adding that a consumptive patient was more dangerous to the public when not confined in a home. This reply clearly proves that the points at issue are not yet understood, at least by the head of the Local Government Board. One of the great arguments in favour of sanatoriums for tuberculosis, and the one argument of all others which has met with no contradiction, is exactly what Mr. Long himself brought forward—namely, that a consumptive patient is more dangerous to the public when not confined to a home. The patients at Sandgate are not confined to homes;

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[1] See THE LANCET, August 22nd, 1903, p. 565.

they live in boarding-houses and frequent the public streets. Grave doubts have been expressed as to whether sanatoriums were of much benefit to the patients themselves, but everyone agrees it is a good thing for the public that tuberculous patients should be taken away from their usual surroundings. It has been pointed out that even though after a few weeks or months they return to their private homes and there ultimately die from the disease still their brief sojourn in a sanatorium will prove of use to the public if not to the patients. The reason is obvious; first, while at the sanatorium they are out of harm's way, and secondly, they then learn how to take care of themselves, how to value the open air and open windows, and how to take precautions so as to insure the disinfection and destruction of their sputum, so that altogether, even though they may return to the community without having obtained much benefit from the treatment, they have at all events been taught how to avoid imperilling their neighbours. But it is precisely because this is not done at Sandgate that the grievance arises. In the technical sense—and that is the only sense which bears on the question—there is no home or sanatorium at Sandgate and the patients are not isolated in any such institution. The patients live in ordinary private dwelling houses situated in the main street, their walls touching the walls of other houses. Most of these dwellings have no gardens and no place whatsoever for the inmates to take exercise. Instead of being isolated the patients live in these ordinary houses and in the streets, mingling all day long with the general population and the soldiers from Shorncliffe Camp. Inside these private houses there is no real medical and prophylactic treatment or discipline such as is associated with the idea of a sanatorium. To begin with, it is in no one's interest to impose such a régime. The only object is to run the whole affair at the least, possible trouble and cost, so that there may be the maximum profit made out of the sums paid by or for the patients. If a sanatorium was built in its own ground on an isolated site in the neighbourhood of Sandgate and properly managed by responsible medical men no one would object. The complaint rests in the fact that more than 800 tuberculous patients have been sent to a small town during the course of the year, though there is no institution in the neighbourhood capable of receiving them. Consequently the patients have had to live in ordinary lodging-houses and in the centre of the town just as if they were healthy people.

During the last five years of the last century the annual average number of deaths from pulmonary tuberculosis in England and Wales was 1321·4 per 1,000,000 of the population, or 1·3 per 1000. The census puts the population of Sandgate down at 1995. To this figure two or three hundred may be added to represent the strangers who visit the place for a short time. Thus, for instance, if 800 patients remain at Sandgate for on an average three months each, this would equal an increase of population for the whole year round of 200. Nevertheless, even taking into account the increase of population due to the visitors who remain for a few weeks or months the deaths from pulmonary tuberculosis at Sandgate should not exceed three per annum; as a matter of fact, they amounted for the year 1903 to no less than 45.

Of course, if it could be said that the greater part of these deaths did not occur among the inhabitants of the town but in some large hospital or institution managed by a competent staff of medical men and situated in its own grounds well away from the general population it would not matter. But, on the contrary, these deaths all occurred in the main streets of the town, in various houses, and where there is no staff of medical attendants who can be held responsible for the patients. A medical man in the service of the Jones family does once a day look in at these various private houses where the patients are lodged but he lives at a considerable distance and it is difficult to find him when an emergency occurs. Considering that something like 1000 consumptive patients may go to Sandgate during the course of the year (there were 897 in 1903) there should be a sanatorium to receive them and a fully-qualified physician living on the premises armed with ample power in the management and treatment of this large number of patients. But then a properly constructed sanatorium would probably cost at least £200 per bed and from 25*s*. to 30*s*. per week per patient. A sanatorium of 100 beds would cost £20,000 to build. A private speculator like the late Mr. Jones could scarcely expect to get this money for less than 5 per cent., so he would have to allow £1000 a year for interest on capital. Actually the charge for board and what little treatment is given ranges from £1 1*s*. to £2 5*s*. per week per patient, according to the class or category to which they belong. If everything is done properly this sum would barely do more than cover the working expenses. Even if there was a slight profit it would certainly not suffice to pay the interest on the capital. But then no one has ever pretended that sanatoriums of this description could be made paying concerns and the mere fact that these Jones's homes are run for profit is in itself a sufficient proof that they cannot be properly conducted. Homes for wealthy patients who can afford to pay from £3 3*s*. per week and upwards, not to mention many extras, may yield a profit. The Jones's homes at Sandgate take in paupers for £1 1*s*. per week; second-class paying patients at 25*s*. or 33*s*. if a private bedroom is required; and first-class patients at 35*s*. and 45*s*. if they have a private room. Mr. Jones said that he had 126 beds reserved exclusively for phthisical patients. The popular sanatorium recently built at Borgoumont for the poor of the province of Liège, which contains 114 beds, cost £52,000. Will anyone credit the late Mr. Jones with having spent anything like that sum over the 126 beds he provided for tuberculous patients at Sandgate? If not, why not, and in what consists the difference? and why should such a large expenditure be judged necessary in Belgium for identically the same class of people who in England are entrusted to the tender mercies of the Jones family? The English were thought to be far and away ahead in all matters of sanitation, but here things have been allowed to drift into unqualified hands who have only seen that the outdoor treatment of tuberculosis afforded a means of securing lodgers and of making money out of them.

Poor-law boards of guardians have been circularised and so also have private practitioners. They have been led to infer that there were sanatoriums at Sandgate where tuberculous patients could receive outdoor treatment for a very moderate charge. So it was said that the Jones's homes supplied a want and of course there is always a demand for cheapness. Consequently, and as an easy way of getting rid of troublesome cases, some boards of guardians have been reckless enough to send their tuberculous paupers to these homes. The whole question of sanatoriums and the outdoor treatment of consumption has been studied with the greatest care and many millions of private and public money have been spent in making scientific experiments that extend over hundreds of thousands of cases in Germany, France, Switzerland, and other parts of the continent. At Sandgate, however, this most serious question became a matter of very ordinary speculation. If, nevertheless, this is not serious enough to attract the attention of the Local Government Board perhaps the War Office will be more interested in the matter. Grosvenor House with its 46 beds for pauper patients and Farleigh House and Lymington House with their 49 beds for paying patients face the sea front promenade. The windows overlook the main road that goes from Folkestone to Hythe. The dust blows out from these three houses, which are almost side by side and which hold 95 tuberculous patients, on to the people that pass underneath on this the most frequented thoroughfare of the neighbourhood. Among all these people there are a considerable number of soldiers. Immediately behind *these houses* commences the ascent up to Shorncliffe Camp. The beginning of the camp grounds is about 500 feet away and the first barracks about 1000 feet [illegible]

[illegible] people die in Grosvenor House, there is better accommodation for laying out the corpses, besides there are only paupers at Grosvenor House and presumedly it does not matter about disturbing them. But Farleigh House holds the first-class paying patients. On the other hand, if a patient pays the first-class tariff is it not a breach of contract to disturb him in his last moments and drag him out into the street so that he may be taken to die among the paupers of Grosvenor House? The people who are endeavouring to keep lodging-houses side by side with these so-called homes were shocked by the ghastly sight when dying patients were thus carried from one house to the other. This occurred towards the end of last February. Not far from here there is a public-house frequented by soldiers and it used also to be [illegible] by women from one of Jones's homes. It is said that these women were able to return late at night to the home till an officer wrote from the camp and complained and then a better watch was kept. If the President of the Local Government Board has no objection to so large a number of tuberculous patients being dumped down in the midst of a civil population, perhaps the Secretary of State for War may not relish the idea that in the course of a year the soldiers from Shorncliffe Camp are brought into close contact with from 800 to 1000 different cases of pulmonary tuberculosis. Mr. Long said in the House that it is better for such patients to be in a home than at large. But at Sandgate they are at large—they are in the streets all day long; and all day long there are soldiers from the camp in the same streets, shops, on the beach, or in the public-houses, standing or passing close by, or talking to the patients from Jones's so-called homes. These patients are supposed to have outdoor treatment and therefore they are sent out into the streets as often as possible.

The contrast that this state of affairs presents with what has been done on the continent is most discreditable to a country like England. The matter of sanatoriums for tuberculosis was discussed at great length so recently as the International Congress of Hygiene which met at Brussels last year. Being so close to Sandgate it is obvious that the visitors to the forthcoming Folkestone Public Health Congress must also discuss the matter and examine the grievance for themselves. They will thus be able to render a great and practical service. To facilitate this task it may be useful to set forth some of the principal facts and arguments which were brought forward at Brussels by men who in different countries of the world had made a special study of the subject.

(*To be continued.*)

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Sleeping Sickness: the Liverpool Expedition to the Congo.

THE expedition despatched to the Congo Free State in the autumn of 1903 under the auspices of the Liverpool School of Tropical Medicine for the purpose of studying trypanosomiasis and the cause of sleeping sickness is doing a most useful work. The expedition consisted of Dr. J. E. Dutton, Dr. J. L. Todd, and Dr. C. Christy, the last named of whom was a member of the Royal Society's Commission sent to Uganda to investigate the cause of sleeping sickness. The expedition stayed at Boma until the end of the year. At Boma the Belgian authorities attached a State medical officer to the expedition, Dr. Heiberg, a former student of the Liverpool School of Tropical Medicine. After a stay of six weeks at Boma the expedition proceeded to Matadi, where it remained for a few days. Dr. Dutton and Dr. Christy then went through the cataract region, their tour lasting three weeks, when they joined Dr. Todd and Dr. Heiberg, who had preceded them, at Leopoldsville. A stay of four months was made there, the Government placing a spacious bungalow at the disposal of the expedition and subsequently building a hospital for the special study of cases of sleeping sickness. The members were thereby enabled to make careful observations of sleeping sickness under the most favourable conditions possible and to work without encountering the obstacles so frequently met with by expeditions in similar climes who have not had the opportunity of remaining for a sufficient length of time in a suitable district in such favourable circumstances. As the cases of the sickness were very numerous a great amount of material was available and the expedition was able to study closely the different types of the disease. The expedition speaks in the highest terms of the unfailing courtesy and ready assistance it has received everywhere from the Belgian officials of every grade. Dr. Christy left for Rome on May 1st, the other members, Dr. Todd and Dr. Dutton, proceeding up the Congo river, where the expedition will continue its researches in the little known regions of the interior. Dr. Christy brought to Southampton by the s.s. *Anverville* four natives suffering from sleeping sickness who were sent on in a special invalid coach to Liverpool, one of whom unfortunately died on the day following his arrival at Liverpool; the others are now in the Royal Infirmary. The *Anversville* also brought home a number of rabbits, monkeys, and rats sent out by the school which have been inoculated with the disease. These were sent on to Liverpool for investigation.

Mosquitoes and Malaria.

At the invitation of Major Ross, C.B., F.R.S., professor of tropical medicine at the University of Liverpool, a meeting of the Lancashire and Cheshire Entomological Society was held in the Johnston Laboratory of the University on May 23rd. A tour of the extensive laboratory with its attendant menagerie was made, after which Major Ross and the staff of the Liverpool School of Tropical Medicine gave demonstrations on mosquitoes and other flies in connexion with tropical diseases. Among the many interesting exhibits described were preparations of serum for protection against diseases, tubes of various bacteria, models of an Indian village and a larger district to show the natural distribution of the typical breeding grounds of malarial mosquitoes, a microscopic exhibition of malaria germs in various stages of growth, live trypanosomes of the sleeping sickness and tsetse-fly diseases, specimens of the tsetse-fly (glossina morsitans), &c.; also a series of microscopic preparations showing the characteristic differences in appearance and structure existing between the malarial and harmless gnats. An adjournment was afterwards made to the lecture theatre where Major Ross gave an instructive and interesting lecture on the connexion between malaria and mosquitoes, copiously illustrated by lantern slides.

The Linnæan Society.

At the annual meeting of the Linnæan Society held on May 24th Professor William A. Herdman, F.R.S., F.L.S., professor of natural history at the University of Liverpool, was elected president for the ensuing two years.

The New Professor of Physical Chemistry at the University of Liverpool.

Mr. F. J. Donnan, Ph.D., M.A., who was recently appointed to the chair of physical chemistry lately founded by Sir John Brunner, Bart., is a graduate of the Royal University of Ireland and was trained in the laboratories of Leipsic and Berlin. He was afterwards associated with Sir William Ramsay of University College, London, for about three years, first as his assistant in the department of chemistry and then as assistant professor. Dr. Donnan was subsequently elected to a junior fellowship at the Royal University of Ireland and is now lecturer at the Royal College of Science, Dublin. As an original investigator he takes a high place. The development of chemistry on the physical side has been so rapid and so important in its practical applications that Sir John Brunner was prompted to establish the chair at the University of Liverpool.

The Royal Infirmary: the John Lawrence Memorial.

At an influential and representative meeting held in the town hall on May 27th, the Lord Mayor presiding, it was resolved to provide a memorial of the many services rendered to the city by the late Alderman John Lawrence, the memorial to take the form of the endowment of a bed in the Royal Infirmary, with which charity he had been closely identified for 22 years. It is hoped to raise £1200, as the annual maintenance of the bed would cost about £54.

St. Helen's Sanatorium.

The new extensions to the St. Helen's corporation sanatorium at Peasley Cross were formally opened on May 26th by the Mayoress of St. Helen's. The enlargement consists of two pavilions, a discharging ward, a new mortuary, and 16 additional bedrooms, the total area now covered being upwards of five acres. The total amount expended by the corporation since the opening has been £23,600. The number of patients admitted last year was 516, but the hospital is capable of dealing in times of emergency with 130 patients. The whole of the extensions have been erected in accordance with the requirements of the Local Government Board and in the most up-to date manner. The institution is now completed with the exception of further laundry accommodation and the possible extension of the administrative block.

June 7th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Death of Lord Powerscourt.

Viscount Powerscourt who died at his London residence on June 5th had filled many positions of public honour and usefulness, and among others the post of chairman of the board of superintendence of the Dublin hospitals.

Rotunda Hospital, Dublin.

Mr. Francis T. Heuston, senior surgeon, Adelaide Hospital, has been appointed by the board of governors of the Rotunda Hospital as consulting surgeon in succession to the late Sir Philip Crampton Smyly.

Jervis-street Hospital, Dublin.

At a special meeting of the governors and guardians of Jervis-street Hospital held on May 31st Mr. Denis Kennedy, surgeon to the Children's Hospital, Temple-street, was elected unanimously to the position of visiting surgeon to the institution.

Dublin Sanitary Association.

The annual report of the Dublin Sanitary Association appeared on May 18th and deals with the insanitary condition of a number of the national schools both in Dublin and in several parts of the country. It calls attention to the fact that it is useless to expect that the very best domestic management in the houses of the working classes will safeguard health in the south of the city so long as the children are compelled to attend [illegible] the sanitary arrangements a [illegible] and objectionable character. [illegible]rt of the equivalent grant for [illegible]ge be allocated to the improvem[illegible] of the national schools throughout Ireland. The report goes on to call attention to the abnormal infant mortality as evidenced by the fact that during the 13 weeks ending January, 1904, out of a total of 108 deaths registered of persons the cause of whose death was uncertified 69 were children under five years of age.

Health of Belfast.

At the city of Belfast corporation meeting on June 1st it was reported that in the four weeks ended May 14th 51 cases of scarlet fever, 39 of typhoid fever, 31 of erysipelas, 20 of simple continued fever, 29 of diphtheria, five of typhus fever, four of small-pox, and three each of puerperal fever and membranous croup had been notified. The average annual death-rate was 21·6 and while a large number of cases of infectious disease was notified the deaths were but few. Small pox still continues and there are at present 12 cases in hospital, and 25 persons who were more or less in contact with the disease are under observation at the reception house at the Twin Islands. Four of these new cases were due to concealment. The public health committee urges revaccination and [illegible]ld, where suspicious cases of [illegible] at once with the health departm[illegible]

The Belfast Workhouse.

Mr. Agnew, Local Government Board inspector, has recently reported on the condition of the Belfast workhouse for the past half year. He refers especially to the overcrowding of the wards which prevents the medical officers making a better classification of diseases in the infirmary.

Visit of the Lord Lieutenant of Ireland to Belfast.

During the recent stay of the Lord Lieutenant of Ireland in Belfast he visited on June 3rd the Royal Victoria Hospital, where the following members of the medical staff were presented to him: Mr. J. W. Browne, Sir W. Whitla, Professor J. W. Byers, Dr. H. L. McKisack, Dr. W. Calwell, Mr. A. Fullerton, and Dr. W. Rankin. His Excellency also visited the Mater Infirmorum Hospital, where Dr. A. Dempsey, Dr. P. O'Connell, Dr. J. B. Moore, Dr. J. W. Killen, Dr. W. J. Maguire, Mr. P. J. H. Mulholland, and Mr. W. McLorinan, members of the visiting medical staff, were presented to him. In both institutions he made a careful inspection and expressed himself as much pleased with all that he saw.

The Belfast Medical School.

There are 111 students attending hospital this summer as against 118 in the last summer session, while during the past winter (1903-04) there were 149 as against 139 in the previous session, so that practically the numbers are, taking summer and winter together, almost the same in both years. Mr. J. A. Lowry has been awarded the Coulter exhibition and Mr. R. Chambers (first) and Mr. W. A. Magill (second) the Malam exhibition.

June 7th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Carbon Dioxide Baths.

AT the meeting of the Academy of Medicine held on May 24th M. Laussedat discoursed upon the effects of the carbon dioxide bath—that is to say, a bath taken in water highly charged with the gas in question. Myriads of small bubbles are given off which excite the skin and produce a marked reaction which can be utilised with great advantage as a therapeutic method. The Nauheim baths owe their reputation to this disengagement of gas but the value of the said baths has been much questioned. In a general way they excite the nervous system and have a marked effect in raising the blood pressure. But although treatment by these baths has met with numerous successes in cases where the blood pressure was too low, such as neurasthenia, anæmia, and certain cases of cardiac valvular disease, yet, on the other hand, they have been found to be harmful in cases where they were prescribed without due consideration for patients in whom the arterial tension was high, for in such the gravest symptoms have arisen. M. Huchard and M. Albert Robin have many times inveighed against the disastrous tendency of sending all and sundry cases of cardiac disease to Nauheim, a practice which is responsible for many deaths every year, either at Nauheim itself or on the patient's return. M. [illegible] bath does not raise th[illegible] a certain manner; th[illegible]ry quickly at a low temperature or at a fairly high one and the bath must only be given for a short time. If, on the other hand, the bath be given at a temperature of 34° C. and for a long time, with the water stationary and not running, there is no *rise in the blood pressure* but a lowering thereof, so that in this way the baths may be given to patients with arterial sclerosis or aortic disease who cannot be treated at Nauheim.

The Radiography of Foreign Bodies.

At the same meeting of the Academy M. Terrier, for M. Contremoulins, read a paper dealing with the location of foreign bodies in the organism by means of the x rays. M. Contremoulins stated that since the publication of his first radiographic method in March, 1897, he had examined 83 patients and in 77 of these foreign bodies were extracted. The foreign body was left in the remaining six cases but not on account of any reason connected with failure of the radioscopy. The new method is claimed to be of special use in military surgery, for the operations of localisation and of extraction being completely separate the one from the other localisation can be carried out at any point on the field of battle and extraction at any other point. Thus the two operations can be carried on without the two departments concerned having to arrange the work between themselves. The new method brings about a great saving of time, for five minutes suffice to localise the foreign body and ten minutes at the most to map out the exact field of operation.

Facilities for Factory Workers Suckling their Infants.

I have often referred in the pages of THE LANCET to the movement which is taking place in France for the encouragement of breast-feeding of infants and a corresponding disuse of artificial feeding. M. Budin, president of the Association for the Protection of Infant Life (Lique contre la Mortalité Infantile), is naturally an active promoter of this movement. Up to the present time one of the principal obstacles to the breast-feeding of infants has been the fact that so many women are engaged in various industrial occupations. Some large employers of labour already give special facilities to such of their workwomen as happen to be nursing. They leave off work in rotation at certain hours and a room is provided where their infants are brought to them from the crèche for the requisite time. Bonuses are also granted to the mothers of the finest infants. The State, moreover, is disposed to follow this example in the factories connected with the various Ministries. M. Budin has obtained a definite promise that workwomen in the national factories will be permitted and encouraged to suckle their infants and arrangements are about to be made giving them all the necessary facilities.

Treatment of Epitheliomata by the X Rays.

At a meeting of the Société de l'Internat des Hôpitaux de

Paris M. Leredde showed two patients, one male and one female, suffering from epithelioma of the face which he had treated by means of the x rays. The male patient had a tumour larger than a mandarin orange which was destroyed in five sittings, two having a duration of one hour and three of 45 minutes. It was possible that the cure might be complete; there was no projecting part and there was copious formation of epidermis on the margins. The woman had for years been under treatment without success, principally by the method of Cerny-Trunecek. The epithelioma occupied the entire root of the nose from one eye to the other and even encroached on the right conjunctiva. After six sittings of 20 minutes each the ulceration diminished by a half, the pain disappeared entirely, and a complete cure was expected at an early date. These cases were interesting on account of the difficulty which extirpation of the diseased parts would have presented, particularly in the second case, in which extensive removal of the bones of the face could not have been avoided. X ray treatment was applicable to extensive epitheliomata and was often preferable to extirpation.

Operative Procedures in Certain Forms af Infantile Paralysis.

At the same meeting of the Société de l'Internat des Hôpitaux de Paris M. Péraire showed two patients on whom he had operated for conditions due to infantile paralysis. The first patient was a young girl in the doubled-up position known as "cul-de-jatte," which was corrected by the following operations: (1) lengthening, freeing, and suture of the tendo Achillis; (2) resection of the knee; and (3) cuneiform tarsectomy with complete removal of the astragalus. The second patient was a boy suffering from club-foot (talipes equino-valgus and equino-varus) and was treated by (1) suture of the tibialis anticus to the extensor proprius pollicis; (2) suture of the tendons of the lateral peronei to the tendo Achillis; (3) suture of the extensor communis digitorum to the tibialis anticus and to the extensor proprius pollicis; and (4) removal of all the bones of the tarsus.

Obituary.

Dr. Gilles de la Tourette, professor in the Paris Faculty, head of the medical service of the exhibition held in 1900, died at Lausanne on May 24th, aged 47 years. His health had been failing for four years. A pupil of Charcot, he was for a long time at the Salpêtrière Hospital and published a number of admirable researches on hypnotism and neuropathology. He was an officer of the Legion of Honour.

June 7th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Sleeping Sickness in German West Africa.

Dr. K. Hintze, Government medical officer at Togo, German West Africa, has published in the *Deutsche Medicinische Wochenschrift* a report on sleeping sickness which has lately become somewhat prevalent in that colony. He has learned from the natives that the disease appeared in the country about 30 years ago but in course of time became extinct. In 1895 sporadic cases reappeared, the first death occurring as early as 1896. Since that time about two cases happened every year till 1902 when there was a sudden increase. Since 1896 there have been 48 deaths from sleeping sickness. At present the disease seems to be decreasing, as Dr. Hintze only found ten patients in the districts which he visited. He describes headache as being the principal symptom in the beginning of the disease; it may be present either for some months or for a longer period and may be the only indication of what is impending. At a later stage the face becomes somewhat swollen and the mental state of the patients shows remarkable alteration, they neglect their work, avoid the society of their friends, and suffer from drowsiness, they speak very slowly and softly, and may even lose the power of speech for several weeks. Some exhibit mental aberration and according to a native missionary maniacal excitement is of occasional occurrence. Tremulousness of the trunk and extremities comes on at a somewhat early stage and generally continues till death. The patellar reflexes are sometimes increased, sometimes normal, and sometimes absent. The pulse-rate is by no means constant; rates varying from 59 to 140 per minute have been recorded. The appetite is said to be good but emaciation nevertheless soon sets in and the skin becomes of a pale grey colour. Swelling of the glands at the angle of the jaw and a vesicular or pustular exanthema are also observed. In the final stage there are contractures of the arms and legs, the head is retroflexed, the patients are unable to move, are somnolent, and must be artificially fed. Death is attended by deep coma with incontinence of urine and fæces. Recovery has never been observed; the time from the beginning of the first symptoms till death varies from four months to three years. All ages and both sexes are liable to the disease but the most usual age of the patients is from puberty to the fiftieth year. In some places sleeping sickness is believed to be contagious, in others not; it is remarkable that the disease has an obvious tendency to occur in certain families. Dr. Hintze has not been able to form a distinct opinion on this question; he draws attention to the fact that as cooking vessels, clothes, pipes, and similar articles are constantly used by the natives in common there is ample opportunity for infection. Circumstances rendered systematic pathological or bacteriological work impossible but he made some blood preparations and collected some samples of cerebro-spinal fluid in none of which did he find either bacteria or trypanosoma; the only remarkable feature observed in the blood was a relatively great number of eosinophile cells. In one case where a partial post-mortem examination was made the naked-eye appearances of the brain and spinal cord were normal.

The "Dispensaire Antituberculeux."

The so-called "Dispensaire Antituberculeux," which takes a prominent place among the measures adopted for the prevention of tuberculosis in France, is becoming more and more popular in Germany also. It will be remembered that at the "dispensaire," which is an invention of M. Calmette of Lille, tuberculous patients are instructed in the details of personal hygiene most necessary for them to know; their dwellings are disinfected by officials of the "dispensaire"; and when circumstances make it desirable they are supplied with clothing, bed-linen, spittoons, and other requisites. Moreover, they are informed which sanatoriums and convalescent houses are available for them. It is a principle of the institution that medical examinations and medical prescriptions are strictly excluded, so that the work of the patient's medical adviser is not interfered with. On the contrary, medical men are requested to send their patients to the "dispensaire" for information. In Berlin the first "dispensaire" was opened a year ago in connexion with the Royal University Polyclinic for Tuberculosis; the second was opened by the "Free Choice Association," and in course of time sick clubs and other associations followed that example. The movement is a very reasonable one. Although a "dispensaire" is not in a position to publish impressive statistical results in the way that a sanatorium does it undoubtedly serves a useful purpose and can be carried on at a moderate expense.

Female Students at the University of Berlin.

During the present summer semester at the University of Berlin 368 women are on the books as compared with 562 during the preceding winter semester, and 293 during the summer semester of 1903. Of these 107 are foreigners, among whom 60 Russians form the majority. The numbers attending the various faculties and classes are as follows: philology, philosophy, history, and general science, 256; natural science, 33; medicine, 26; political economy, 22; theology, 15; dentistry, 11; mathematics, 3; and law, 2. 38 of the ladies are married.

Public Health in Prussia.

The annual public health report for the kingdom of Prussia dealing with the events of the year 1902 has lately been issued by the Government medical department. The report states that the death-rate in 1902 was lower than in any preceding year since 1875; the principal cause of this satisfactory condition was that owing to the cool weather of the summer months there was a reduction in the infant mortality. The number of births was less by 6178 than in 1901, and it is remarked that since 1876 the number of births has permanently decreased, and especially in Berlin. On the other hand, the death-rate of the capital was smaller than that of the other districts, being 15·90 per 1000, whilst the province of Silesia, where the mortality was highest of all, had a death-rate of 23·35 per 1000. The measures taken for the

prevention of infectious diseases have contributed to diminish the mortality. This i
in the case of enteric fever, as
enabled the medical officers of he
in an early stage and to isolate patients promptly. The report directs attention to the work of the local sanitary authorities in the towns and rural districts with regard to disinfecting arrangements, water-supply, drainage, &c. The hygiene of dwellings was said to be showing decided, although *slow, progress.* Great improvements have been made in school hygiene. The hygiene of factories and the inspection of food were not found to be everywhere in a satisfactory condition.

June 6th.

Medical News.

THE LEAGUE OF MERCY.—On June 8th the Prince and Princess of Wales, Grand President and Lady Grand President of the League of Mercy, gave a garden
to which a large number of
and members of the League of
I. a meeting of presidents and
lady presidents of the league was held in the saloon when a report of the work of the league during the past year was read by Mr. J. Harrison, M.V.O., one of the honorary secretaries, and a list of the names of those to whom the order of the league had been awarded by the King was announced by the registrar, Colonel Knollys. The Prince of Wales cordially thanked the presidents and other workers of the league for the services they had rendered through it to the London hospitals and expressed his pleasure at having an *opportunity* of personally meeting those who had striven to make, and had succeeded in making, the organisation of the League of Mercy so successful. Their Royal Highnesses, at the conclusion of the proceedings, adjourned to the garden, where about 1000 guests had assembled. After making a tour of the grounds the Royal party presented the decorations of the order to those to whom the award had been sanctioned by the King. Lord Wolverton presented the recipients, some 39 ladies and gentlemen, to the Prince, who decorated them with the order and afterwards shook hands with them. Refreshments were served during the afternoon in a buffet in the grounds and the band of the Royal Marine Light Infantry played selections of music at intervals. The names of those who have this year been awarded the order of the league for distinguished personal service are as follows: H.R.H. Princess Alexander of Teck (lady president, Epsom—Esher), H.H. Princess Victoria of Schleswig-Holstein (lady president, Berkshire), the Countess of Dartmouth (lady president, Lewisham), the Lady Harris (lady president, Faversham), the Lady Florence Pelham-Clinton (representing H.R.H the Duchess of Albany, lady president, Deptford—Brockley), Mrs. Charles Wightman (lady president, Hampstead), Colonel Sir Edwin Hughes (president, Woolwich), Mr. Montagu Sharpe, D.L., J.P. (president, Brentford), Mrs. Bentall (lady vice-president, Maldon), Mrs. Pritchard Binnie (lady vice-president, South Paddington), Mrs. Bishop (*lady vice-president*, Woolwich), Mrs. Gerald Buxton (lady vice president, Epping), Mrs. Castle (lady vice-president, Kingston—Surbiton), Miss Cayley (lady vice-president, Fulham), Mrs. Chancellor (lady vice-president, Richmond), Mrs. N. Cox (lady vice-president, Fulham). Mrs. Dawson, lady vice-president, Woolwich), Mrs. Norfolk (lady vice-president, Deptford—Brockley), Miss Swindells (lady vice-president, Lambeth—Norwood), Mrs. Wilkinson (lady vice-president, North St. Pancras), Sir Theodore Martin, K.C.B., K.C.V.O (vice-president, Guildford), Mr. Wenman Blake (vice-president, Fulham), Captain T. W. Gunton (vice-president, North St. Pancras), Mr. R G. Edwal Locke (vice-president, Faversham), Mr. Randall Mercer (vice-president, Medway), Dr. H. G. Thompson (vice-president, Croydon), Mr. Frank Turner (vice-president, West Marylebone), the Marchioness Cassar de Sain (member, St. George Hanover-square), Miss Katie Browne (member, Fulham), Miss Dennistoun (member, Westminster), Mrs. Walter Farquhar (member, Westminster), Miss O. M. Gibbs (member, North Hackney), Miss Mildred Hope (member, Westminster), Mrs. Macnab (member, South Paddington), Mrs. Payne (member, Colchester), Mrs. Skinner (member, Epping), Mrs. R. Thorne Waite (member, North St. Pancras), Mr. G. W. Boorman (member, Medway), and Mr. J. Smewing (member, North St. Pancras). According to the charter under which the League of Mercy was founded in 1899, its object it to further the interests and to promote the adequate maintenance of hospitals and other institutions for the relief of sickness and suffering, and this was to be done especially by encouraging personal service on the part of large numbers of persons. The League of Mercy has, in the four years during which it has been in operation, contributed £32,000 to the King Edward's Hospital Fund and this part of its work appears to be now established on a firm basis with progressively increasing results. Moreover, the additional £100,000 or £150,000 per annum which the King's Fund was initiated *to secure for the hospitals seems* to be now within measurable distance of being attained.

NEW ST. MARY'S HOSPITAL, MANCHESTER.—On May 30th the old St. Mary's Hospital in Quay-street, Manchester, was finally closed and the patients were removed to the new building in Whitworth street, just across the street from the Oxford-road station. The hospital has done good work in Quay-street for more than 100 years but more space was required and the new hospital can accommodate 100 patients. The police ambulances were used for the removal of the patients, which was *carried out without any difficulty.* The new hospital is arranged with due regard to the views of modern science but its situation is not ideal. It is low, very subject to fog, extremely noisy from the enormous amount of traffic in the adjoining streets and from the railway station close by, and in dry weather the dust from the streets will be a great nuisance. The best that can be said for the situation is that it is in the midst of a poor population.

AMBIDEXTRAL CULTURE SOCIETY.—At the meeting of this society held on June 1st Miss Werner of King's *College delivered a lecture on* Ambidexterity among the Zulus and other African Tribes. She said that unfortunately she had very little direct evidence on the subject. In general, so far as her information went, the right hand was the one used by preference for actions which required one hand only or chiefly. There were, however, indications that the proportion of left-handed or ambidextrous persons was larger in Central Africa than in Europe, but sufficient facts were not at hand to say precisely what that proportion was. The linguistic evidence, drawn from the expressions used in various Bantu languages for the right and left hand respectively, went indirectly to show *that* a preference was on the whole given to the right hand, which was known as the "eating" or the "throwing," sometimes as the "great" or the "male," hand. The left was sometimes called the "female" hand, but in some languages it was denoted by a *word of* which it was not easy to discover the meaning and which might not denote inferiority. It was worth noting that, according the Rev. H. Barnes of the Universities' Mission to Central Africa, the Chinyanja words set down in his vocabulary for "right" and "left" hand respectively were really used for the more and less used hands whichever these might happen to be. This implied a certain prevalence of left-handedness but not of ambidexterity.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The annual meeting of the Fellows was held on June 4th, Sir Lambert H. Ormsby, the President, being in the chair. The report of the council was submitted and adopted. It was explained by the President that the receipts were with two exceptions the best for the past ten years. The College had recently expended over £1200 in painting and so on; this was paid off and at the date of the report the College was entirely free from debt and had a *bank credit of* nearly £1400. The investment account stood at £10,407 7*s*. 11*d*. and the trust fund £4917 2*s*. 3*d*., making a total of £15,324 10*s*. 2*d*. During the year ten candidates having passed the examination were admitted Fellows, 55 received the Diplomas in Surgery and Midwifery, 24 the Conjoint Diploma in Public Health, 8 the Licence in Dental Surgery, and 43 passed the preliminary entrance examination. There are at present living 435 Fellows, 2834 Licentiates, 181 Diplomates in Public Health, and 515 Licentiates in Dental Surgery.—At a meeting of the Fellows held on June 6th the following were *elected* office-bearers :—President : Mr. Arthur Chance. Vice-President: Mr. Henry R. Swanzy. Secretary of the College: Sir Charles A. Cameron, C.B. Council: Dr. Edward Hallaran Bennett, Mr. William Stoker, Sir Charles Cameron, Mr. John B. Story, Sir

William Thomson, C.B., Sir Charles B. Ball, Sir Thomas Myles, Mr. John Lentaigne, Dr. Richard D. Purefoy, Sir Lambert H. Ormsby, Mr. Henry G. Sherlock, Dr. R. Bolton McCausland, Mr. John S. McArdle, Mr. Robert H. Woods, Dr. Thomas Donnelly, Mr. William Taylor, Dr. Edward H. Taylor, Mr. G. Jameson Johnston, and Mr. R. Charles Maunsell.

ISOLATION HOSPITAL FOR TEIGNMOUTH.—A Local Government Board inquiry was held at Teignmouth (Devon) on June 2nd into the application of the urban district council for sanction to borrow £7100. £2471 are required for the erection of an isolation hospital and the remaining sum for the purchase of a recreation ground and other improvements.

UNIVERSITY OF OXFORD.—Dr. Joseph Frank Payne has been re-elected a representative of the University upon the General Medical Council.—Sir Arthur V. Macan has been appointed an examiner in midwifery, Dr. William Williams has been appointed an examiner in preventive medicine, and Dr. Marcus Seymour Pembrey has been appointed to examine in physiology in the first B.M. examination *pro hac vice*.

ROYAL INSTITUTION.—At a general monthly meeting of the members of the Royal Institution held on June 6th the sincere thanks of the members were returned to Mr. Andrew Carnegie for his donation of £1200 to enable Professor Dewar and Mr. R. A. Hadfield to prosecute their joint investigation on the physical properties of steel and other alloys at low temperatures, and to Dr. Frank McClean for his donation of £100 to the research fund of the Royal Institution.

UNIVERSITY OF CAMBRIDGE.—The degree of Master of Surgery has been conferred on Professor Howard Marsh, M.A.—The following have been appointed examiners for the final M.B. examinations in the next academical year: —Medicine: Dr. L. Humphry, Dr. S. West, Dr. W. Hale White, and Dr. J. Rose Bradford. Midwifery: Dr. M. Handfield-Jones and Dr. G. E Herman. Surgery: Mr. C. T. Dent, Mr. E. Owen, Mr. C. W. Mansell Moullin, and Sir Hector C. Cameron.—Dr. Ole Bull of Christiania has presented to the University two valuable portfolios of drawings illustrating the diseases of the eye and of the ear. Professor T. Clifford Allbutt has received permission to exhibit the drawings at Oxford during the approaching meeting of the British Medical Association.

LITERARY INTELLIGENCE.—Messrs. J. and A. Churchill will shortly publish a new work by Dr. J. C. Thresh entitled "The Examination of Waters and Water Supplies." The author says in his preface: "The microscopical and biological examination of matters suspended in drinking water has never received in this country the attention it deserves. Very often such an examination reveals more quickly and certainly the character of a water and some defects in its source than either a chemical or bacteriological analysis. In several instances such an examination has led, in my practice, to the discovery of sources of pollution which had been overlooked at a careful inspection. I have endeavoured therefore in this book to give it the importance it deserves." The importance of the systematic inspection of all sources of water supply is now fully recognised by the Local Government Board, so much so that the Commission on Sewage Disposal has expressed the opinion that Rivers Boards should be formed throughout the country.

EDINBURGH ROYAL INFIRMARY: A QUARTER'S DEFICIT.—The quarterly statement of the ordinary income and expenditure of the Edinburgh Royal Infirmary shows a deficit of £5295 The statement is drawn up by Mr. Patrick Blair, W.S., the convener of the house committee, who is a master of finance. During the quarter the daily average number of people under the roof of the infirmary was 1157, of whom 821 were patients. Compared with the corresponding quarter of the previous year the average daily number of patients was 69 more. There had been a marked diminution in the sums received from various sources. Taking all the sources together, both of ordinary and extraordinary revenue, the infirmary had received £7226, while for the corresponding period last year £8905 had been received. The expenditure for the period under review was £12,521. The increase in the cost of maintenance was only £264, although the increase in the daily average number of patients had increased above stated. It is probable that the deficit is not quite bad as it looks, for the works department expenses give item of £2485 for the quarter which might be include under extraordinary expenditure. The convener evident preferred to place it under ordinary expenditure and on t basis of the large deficit to point out to the board and to t public that £1000 a week is the rough sum required to r this important institution.

DEATH OF A CENTENARIAN.—There has just die at Flax Bourton workhouse, near Bristol, an inmate name Robert Lock who had reached his 104th year.

WATER-SUPPLY OF LYNTON AND LYNMOUTH.—Sir George Newnes formally opened the new water-supp for Lynton and Lynmouth on May 28th. The water brought from West Lyn, about one and a half miles fro Lynton. The polarite system of filtration is used. The co of the undertaking has been about £2500.

DONATIONS AND BEQUESTS.—Under the will Miss Esther Steel the Western Ophthalmic Hospita Marylebone-road, London, W., has been bequeathed the su of £1000.—Mrs. E. A. Williams has by her will bequeathe £500 to the Cancer Hospital, Fulham-road, S.W; £2 each to the London Hospital and the *Poplar Hospital f* Accidents; and £100 to the Victoria Cottage Hospital Romford.

INCORPORATED MEDICAL PRACTITIONERS' ASSOCIATION.—The thirteenth annual general meeting of th association was held at the Holborn Restaurant June 2nd, the retiring President, Mr. G. H. Broadbent (Manchester), being in the chair. On the proposition of M Joseph Smith, seconded by Mr. George Brown, Mr. Robe Ambrose, B.A., M.P., was unanimously elected President f the ensuing 12 months. Mr. F. Greaves and Mr. G. Brow were re-elected honorary treasurer and hononary secreta respectively. At the conclusion of the meeting the membe and their friends, to the number of about 40, dine together, the newly elected president, Mr. Ambrose, being the chair. In responding to the toast, "Prosperity to t Association and to the *General Practitioner*" (the offic journal of the association), proposed by Mr. Broadbent, M Ambrose said that since the society was established in 189 it had been a great success and had done much to uphol the status of the profession. The main object of t association was to safeguard the interests of the medic profession, especially those of the general practitioner, an this he claimed they had done more efficiently than an other society. One of their aims was to protect general practitioners from unfounded charges and the association had bee so prosperous during the past year that he hoped they woul shortly be able to establish a scheme of medical defence f the members at a cost much below the subscription charge by any other existing society. Their association, moreove provided a bond of mutual goodwill and fraternity betwee the members to promote which was an important part their good work. The influence of the association had bee shown by the fact that chiefly through their efforts, as h claimed, two of their members, general practitioners, ha been elected as Direct Representatives for England an Wales on the General Medical Council in place of two consultants who occupied the seats when the association wa first established. He thanked those present for their heart reception of the toast and he trusted that his year of offic would, as regarded the association, be one of increase prosperity and usefulness.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Medical Inspection of Schools.

THE Secretary for Scotland has received a memorial from the Roy College of Physicians of Edinburgh on the subject of the Scotch Education Bill and its bearing on the health of school children. Whil approving of the provisions dealing with medical inspection an physical training the memorialists point out that medical inspection o schools to be effective implies the power of the medical inspector t examine into the health of children and their capacity for mental an physical education as well as into the school hygiene in a broa sense. In many of the city schools it is contended that physica education is urgently needed and that it should be placed on scientific basis. Another point urged is that school boards should have the power to insure suitable feeding for the poorer classes of school children who cannot otherwise obtain proper nourishment. It will be recollected that Mr. Claude Hay brought this latter matter before the House of Commons with much force some time ago.

HOUSE OF COMMONS.

WEDNESDAY, JUNE 1ST.

Shop Hours Bill.

The Bill introduced by the Government to deal with the ques-
econd time after a debate of
et Sir CHARLES DILKE moved
pinion of this House the pro-
of shops is unduly hampered
r the regulation of the hours of
ms of the unanimous resolution
pinion the Bill was a very mild
and he much regretted that the
tle and scope as to make it possible to introduce amendments to meet the cases of common occurrence where shop assistants were compulsorily employed either before the opening or after the closing of the shops. He did not think that any measure would be really effective which did not couple with the power of compulsorily closing the shop itself some provision by which shops assistants would not be employed, unless for a short interval, after the hour of closing. A freer hand
sho
thorities and a simplification
of
While thus critical on points
of
second reading.—It was also

inadequate to meet what he called the great social evil of the hours of shop assistants.—In the Government reply on the debate Mr. COCHRANE pointed out that the whole question had been fully argued in reports of committees and commissions. It was found from the evidence given in 1901 that the hours ranged from 80 to 90 a week
g away goods, and
urs in ill-ventilated
s to health. High
on. The Bill would,
the liberty of shop-
as a boon.—At the
was defeated by 130
ime and sent to the

THURSDAY, JUNE 2ND.

Care of Pauper Children.

the place was certified for or of leaving some children in the workhouses. Provided there was no serious overcrowding Mr. Long considered that the former alternative was infinitely preferable. With regard to the abandonment of the practice of insisting on a probationary period for the children the department disapproved of the change of policy, but the managers had strong views on the subject and in this experiment they had behind them the opinion of their medical officer. In no single case could it be shown in his belief that the department had sanctioned an extension of the large barrack school system except such an extension as was necessary for the improvement of the existing accommodation.

Hospitals for Consumptives.

In the course of the same debate Mr. LONG made a passing reference to hospitals for consumptives. He stated that he believed the hospital at Skipton and the hospital provided by the joint unions of Liverpool had done very good work. The department would be glad to do anything it could to help the guardians in work of this character.

Adulteration of Milk.

Mr. KEARLEY dealt with the adulteration of milk when the Local Government Board vote was before the House. He asserted that the percentage of the adulteration of milk at the present time was 11 6 The percentage for the 25 towns which came next in order of size to London was 10 3,
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time ago a depart
of preservatives or
offence under the
that no steps have
recommendations o
behalf of the depart
continually visited
question of adultera
London of which 1314 were found to be adulterated. In 1903 8468 samples were taken of which 1275 were adulterated. These were not really out of proportion to the rest of the country. As for the report of the Committee on Preservatives legislation would be required but he did not give any promise that it would be introduced.

The Supply of Lymph.

to an arrangement whereby the
lertake to supply lymph for the
He said it would be difficult for
rtake such a task and, morever, he saw no necessity for it, because there was no reason whatever to doubt that the present supply of commercial lymph was of admirable quality.

MONDAY, JUNE 6TH.

Committee on Poor-law Medical Relief.

Mr. TEN
recommen
mittee on
Board had
system of
it would
Secretary
Local Gov
Committee on
led: The Local
report of the
ef with a view
(1) to have effect given to such of the recommendations as appear advisable and do not require legislation; and (2) to propose legislation in so far as that may be necessary.

The Efficacy of Antityphoid Inoculation.

Mr. EUGENE WASON asked the Secretary of State for War whether the committee appointed by the Royal College of Physicians of London to investigate and to report upon the efficacy of antityphoid inoculation had completed its inquiries and made its report.—Mr. ARNOLD-FORSTER replied: The committee appointed by the College to consider and to report on the safety and prophylactic value of Dr. A. E. Wright's antityphoid inoculation has made its report. The whole question of antityphoid inoculation is being considered by a body of experts.

Nurses in Military Stations.

made and what
replied: Letters
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for the wives an
not provided. The replies have not yet been received from all the officers concerned.

TUESDAY, JUNE 7TH.

Hospital Accommodation in Ross and Cromarty.

Mr. WEIR asked the Secretary for Scotland whether, in view of the statement contained in the last report of the medical officer of health
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to the Board, possibly on account of the requisite funds not being available, as pointed out by the county medical officer in his report.

BOOKS, ETC., RECEIVED.

AMERICAN CLIMATOLOGICAL ASSOCIATION (Secretary, Dr. Guy Hinsdale, Hot Springs, Va.).

Transactions of the American Climatological Association for the Year 1903. Volume XIX. (Copies may be had of the Secretary.) Price not stated.

AMERICAN PEDIATRIC SOCIETY (Editor, Dr. W. L. Carr, 68, West Fifty-first-street, New York).

Transactions of the American Pediatric Society, fifteenth session, held at Washington, D.C., May 12, 13, and 14, 1903. Edited by Walter Lester Carr, M.D (Reprinted from Archives of Pediatrics, 1903.) Price not stated.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent-garden, W.C.

Cleft Palate and Hare-lip: the Earlier Operation on the Palate. By Edmund Owen, M.B., F.R.C.S., Surgeon-in-Chief to the French Hospital. (Medical Monograph Series, No. 10) Price 2s. 6d. net.

Fischer, Gustav, Jena.

Handbuch der Anatomie und Mechanik der Gelenke unter Beruck- [illegible] Muskeln. Von Rudolf Fick, a.o. [illegible] Anatomie, Leipzig. Erster Teil: [illegible] M.16 ; gebunden, M.18.

Zur Lehre von den Blutgefassen der Normalen und Kranken Gebarmutter. Von Dr. med. Richard Freund, Privatdozent an der Universität Halle a./S. Price M.18.

Physiologie des Menschen. Von Dr. Luigi Luciani, Professor der Physiologie und Direktor des physiologischen Instituts der k. Universitat von Rom. Ins Deutsche ubertragen und bearbeitet von Dr. Silvestro Baglioni und Dr. Hans Winterstein. Mit einer Einführung von Dr. Max Verworn. Erste Lieferung. Price M.4.

Die mannlichen Geschlechtsorgane. Von Prof. Dr. C. J. Eberth, in Halle a.S. Price M.10.

Für die Turkei. Selbstgelebtes und Gewolltes von Dr. Robert Rieder Pascha, a.o. Professor der Chirurgie an der Universitat Bonn z.Z., Generalinspektor der Kaiserl. ottom. Medicinschulen und Direktor des Krankenhauses Gulhane in Konstantinopel. Bd. II. Price M.14.

Isbister and Co., 15 and 16, Tavistock-street, Covent-garden, W.C.

National Physical Training. An Open Debate. Edited by J. B. Atkins. Price 2*s*. 6*d*.

Marshall, Percival, and Co., 26–29, Poppins-court, Fleet-street, E.C.

Radium and other Radio-Active Elements. A popular Account treated experimentally by Leonard A. Levy (First in First-class Honours in Physics at London Int.B.Sc., Neill Arnott Exhibitioner and Medalist) and Herbert G. Willis. Price 2*s*. 6*d*. net.

Murray, John, 50a, Albemarle-street, W.

The Treatment of Some Acute Visceral Inflammations and Other Papers. By David B. Lees, M.A., M.D. Cantab., F.R.C.P. Lond., formerly scholar of Trinity College, Cambridge, Senior Physician to the Hospital for Sick Children, Great Ormond-street; Physician to St. Mary's Hospital. Price 6*s*. net.

Rebman, Limited, 129, Shaftesbury-avenue, Cambridge-circus, W.C.

An Atlas of Human Anatomy for Students and Physicians. By Carl Toldt, M.D., Professor of Anatomy in the University of Vienna, assisted by Professor Alois Dalla Rosa, M D. Translated from the Third German Edition and adapted to English and American and International Terminology, by M. Eden Paul, M.D. Brux , M.R.C S., L.R.C.P. Fourth Section. E. Splanchnology. Price 9*s*. 6*d*. net.

Scientific Press, Limited, 28 and 29, Southampton-street, Strand, W.C.

Medical Tuberculosis, its Rational and Natural Cure, its Several Stages, and Relationship to Cancer. By R. B. Searle, L.R.C.P., M.R.C.S., L.S.A., Mayor of Dartmouth. Price 1*s*. net.

Swan Sonnenschein and Co., Limited, Paternoster-square, E.C.

The Oxford and Cambridge Yearbook. Part II., Cambridge. Edited by A. W. Holland, sometime scholar of St. John's College, Oxford. Price 3*s*. 6*d*. net.

"The Electrician" Printing and Publishing Company, Limited, Salisbury-court, Fleet-street, E.C.

Radio-Activity: an Elementary Treatise from the Standpoint of the Disintegration Theory. By Frederick Soddy, M.A., Lecturer on Physical Chemistry and Radio-Activity in the University of Glasgow. Copyright. Price 6*s*. 6*d*. net.

University Press of Liverpool.

The University of Liverpool Calendar 1903-1904. Price not stated.

Vigot Frères, 23, Place de l'Ecole-de-Médecine, Paris.

Notions de Traitement Manuel. Leçons de Massothérapie et de Kinésithérapie faites dans le Service de M. le Professeur Gilbert à l'Hôpital Broussais (1903). Par le Dr. de Frumerie de la Faculté de Medecine de Paris. Price fr. 2.

Cours de Massage Accessoire des Soins d'Accouchements à donner aux Femmes Enceintes et Parturientes aux Nourrices et Nourrissons. Par le Dr. de Frumerie de la Faculté de Médecine de Paris. Price fr. 2.

Les Rayons X et l'Extraction des Projectiles, Expériences et Observations Cliniques sur l'Emploi d'un Nouvel Appareil. Par Ch. Remy, Professeur agrégé à la Faculté de Médecine de Paris, et P. Peugniez, Professeur de Clinique Chirurgicale à l'Ecole de Médecine d'Amiens. Price fr. 3.50.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Adeney, G. C., M.R.C.S., L.R.C.P. Lond., has been appointed Resident House Physician to St. Thomas's Hospital.

Bennett, H. S., M.R.C S., L.R C.P. Lond., has been appointed House Surgeon to Out-patients at St. Thomas's Hospital.

Birks, G. T., M.B., B.C. Cantab , has been appointed House Surgeon to Out-patients at St. Thomas's Hospital.

Birt, A. C., M.R.C.S., L.R C.P. Lond., has been appointed House Surgeon to Out-patients at St. Thomas's Hospital.

Carver, N. C., B.C. Cantab., has been appointed House Surgeon to Out-patients at St. Thomas's Hospital.

Crichton, Harry, M.D.. B.S. Durh., has been appointed Assistant Surgeon to the Infirmary, South Shields.

Davies, H. E., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory Act for the Lutterworth District of the county of Leicester.

Evans, R. D., M.R.C.P. Edin., L.S.A., J.P., has been appointed Medical Officer to the Blaenau Festiniog Postal District.

Guthrie, T., M.B., B.C Cantab., M.R.C.S., L.R.C.P. Lond., has been appointed Resident House Surgeon to St. Thomas's Hospital.

Feldman, W. M., M.R.C.S., L R.C.P., has been appointed Surgeon to ss. *Merion* (American Line).

Harnett, W. L., M.B., B.C. Cantab., has been appointed Resident House Surgeon to St. Thomas's Hospital.

Haward, W., M.B., B.S. Durh., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician to Out-patients at St. Thomas's Hospital.

Hedley, J. P., M.B., B.C. Cantab., has been appointment Junior Obstetric House Physician at St. Thomas's Hospital.

Higham, B., M.R C.S., L.R.C.P. Lond., has been appointed House Physician to Out-patients at St. Thomas's Hospital.

Hunter, James H., M.D., B.S., B.Hy. Durh., has been appointed Assistant Surgeon to the Infirmary, South Shields.

Ibbotson, W., M.R.C.S., L.R.C.P. Lond., has been appointed House Officer to the Throat and Ear Departments at St. Thomas's Hospital.

Latham, O. H., M.R.C.S., L.R.C.P. Lond., has been appointed Resident House Physician to St. Thomas's Hospital.

Lecky, H. O., M.B., B.Ch. Oxon., has been appointed Resident House Physician to St. Thomas's Hospital.

Lindsey, Eric C , M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the General Hospital, Hereford.

Macdonald, John, M.B., C.M. Edin., has been appointed Assistant Surgeon to the Infirmary, South Shields.

Pinches, H. I., M.B., B.C. Cantab., has been appointed Resident House Surgeon to St. Thomas's Hospital.

Rickett, G. R., B.C. Cantab., has been appointed House Officer to the Throat and Skin Departments at St. Thomas's Hospital.

Ross, E. A., M.B., B.C. Cantab., has been appointed Resident House Physician to St. Thomas's Hospital.

Sears, C. N., M.B., B.S. Lond., has been appointed Senior Obstetric House Physician at St. Thomas's Hospital.

Smyth, J., M.B., C.M. Glasg , has been appointed Clinical Assistant to the Chelsea Hospital for Women.

Thorne, J. M., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

Wigram, L. E., M.B., B.C. Cantab., has been appointed Resident House Surgeon to St. Thomas's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Army Medical Servi[illegible] not less than 30 Commissions in [illegible]

Birmingham and Mid[illegible] rgeon. Salary £75 per annum, with board and lodging.

Birmingham General Hospital.—Honorary Physician.

Birmingham, University of.—Second Demonstratorship in Anatomy. Stipend £150 per annum.

Birmingham Workhouse Infirmary.—Assistant Resident Medical Officer. Salary £104 per annum, with apartments, board, &c.

Cancer Hospital, Fulham-road, S.W.—Assistant Anæsthetist. Honorarium 25 guineas per annum.

Carmarthenshire Infirmary.—Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, board, attendance, &c.

Darenth, Dartford, Kent.—Metropolitan Asylums Board Asylum.—Two Male Assistant Medical Officers, unmarried. Salary at rate of £150 per annum, rising to £170, with rations, lodging, attendance, and washing.

Dumfries and Galloway Royal Infirmary.—House Surgeon. Salary £50 per annum, with board and washing.

Evelina Hospital for Sick Children, Southwark, S.E.—Eight Clinical Assistants in the out-patient department.

Garlands, Carlisle, Cumberland and Westmorland Asylum.—Junior Assistant Medical Officer. Salary £130 a year, rising to £150, with board, lodging, and washing.

Great Northern Central Hospital, Holloway, N.—Second and Third House Surgeons and Junior House Physician for six months. Salaries at rate of £30 per annum, with board, lodging, and washing.

Hartshill, Stoke-upon-Trent, North Staffordshire Infirmary and Eye Hospital.—Assistant House Surgeon for six months Honorarium of £25, with board, lodging, and washing.

Hemel Hempstead, West Herts Infirmary.—House Surgeon, unmarried. Salary £100 per annum, with rooms, board, attendance, and washing.

Hospital for Consumption and Diseases of the Chest, Brompton.—Resident House Physicians for six months. Honorarium of £25.

Hospital for Sick Children, Great Ormond-street, London, W.C.—House Physician, unmarried, for six months. Salary £40, with board and residence. Also Ophthalmic Surgeon.

Isle of Man General Hospital and Dispensary, Douglas.—Resident House Surgeon, unmarried. Salary £82 per annum, with board and washing.

Kent and Canterbury Hospital.—House Physician, unmarried. Salary £90 a year, with board and lodging.

Liverpool, David Lewis Northern Hospital.—Junior House Surgeon for six months. Salary at rate of £70 per annum, with residence and board. Also Second Honorary Anæsthetist.

Liverpool Dispensaries.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

LIVERPOOL [illegible] ary £100 per annu [illegible]

LIVERPOOL [illegible]

LONDON LOC [illegible], Soho.—Registrar.

MANCHESTER, VICTORIA UNIVERSITY.—Professor of Pathology nd Pathological Anatomy.

ST. GILES, CAMBERWELL, INFIRMARY AND WORKHOUSE.—Junior Assistant Medical Officer. Salary £80 per annum, with apartments, [illegible]

[illegible], W.—Lecturer on [illegible]

[illegible] oyal Victoria and [illegible] per annum, with [illegible]

[illegible] Visiting Surgeon, unmarried, for six months, renewable. Salary at rate of £70 per annum, with residence, board, and washing.

STAMFORD, RUTLAND, AND GENERAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

[illegible] lic Vac- [illegible]

[illegible] Clapham [illegible] s, Salary [illegible] ng.

[illegible] ry Oph- [illegible]

[illegible] SYSTEM, [illegible] n, W.— [illegible]

[illegible] Assistant [illegible] £75 per annum, with board, lodging, and washing.

TH [illegible] notice of [illegible] Romsey, [illegible] county of [illegible] Brighton, [illegible] county of Kincardine.

Births, Marriages, and Deaths.

BIRTHS.

[illegible] wife of B. Hosford, M.A., M.D., of a son.

MACKINTOSH.—On Friday, May 27th, at Corner House, Platt's-lane, Hampstead, N.W., the wife of J. S. Mackintosh, M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

SPILSBURY.—*On June 2nd, at Hogsthorpe, Lincolnshire, the wife of* Francis James Spilsbury, L.R.C.P., &c., of a daughter.

WIGGLESWORTH.—On June 3rd, at Kirkham, Lancashire, the wife of Sidney Wigglesworth, L.R.C.P., M.R.C.S., of a daughter.

MARRIAGES.

COLQUHOUN—FAIRLEY.—At Durban, Natal, on June 7th, 1904, James S. Colquhoun, L.R.C.P. & S. Edin., to, Margaret, third daughter of James Fairley, mining engineer, Shafto House, near Chester-le-Street.

[illegible] aughter of H. W. [illegible]

[illegible] at Holy Trinity [illegible]

[illegible] rch, *Darlington*, [illegible] ine, daughter of [illegible]

[illegible], Charles Visger, [illegible] ie, only daughter [illegible] Alexander Ewen [illegible]

DEATH

ANDERSON.—*On* March 12th, 1904, at his *residence*, Hamilton House, Church Walk, Ulverston, John Anderson, M.D., aged 71 years; born at Hamilton, Lanarkshire, N.B.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

MINERS' PHTHISIS.

IN THE LANCET of May 21st, p. 1444, we referred to the exceptional prevalence of miners' phthisis among the men engaged in rock drilling. A leading article in the *Mining Journal* of May 28th discusses the same subject and calls for the issue of further regulations for the protection of the men employed in this particular work. In support of this contention the editor quotes a variety of statistics from the report of the Transvaal Commission which appeared last August and also from a paper very recently read before the Institution of Mining and Metallurgy by Dr. John S. Haldane and Mr. R. Arthur Thomas, manager of Dolcoath mine in Cornwall. Our contemporary concludes as follows:—

> The facts recorded by Dr. Haldane and his coadjutors show that [illegible] *Cornwall and South* [illegible] ner mining employ- [illegible] ed risk of occupation disease may be almost entirely eliminated by the use of water and that in quantities so slight as probably to cause but little danger of fostering ankylostomiasis, while in any case the use of salt should avoid this danger. It seems therefore imperative that in the case of South Africa, even more than in this country, the Government should *take steps to formulate rules forthwith to* protect the rock driller against his now declared enemy. Experience everywhere shows that it is futile to trust in any way to the sense of the men themselves, even where there is no pressure put upon them to hasten their work.

RICHARD COBDEN AND THOMAS WAKLEY.

To the Editors of THE LANCET.

SIRS,—In political circles the name of Richard Cobden has been in the ascendant for some time past and just now the minds of certain Englishmen are much set on celebrating the centenary of his birth. The moment appears opportune to recall a fact of some medical interest which is brought out in a letter written by Cobden in 1864—viz., that when hard work told upon him, to recuperate his health he was wont to act upon (in part at any rate) a wholesome hint which he had gained from his Parliamentary colleague and friend, Thomas Wakley. Writing to Mr. Henry Ashworth under date July 6th, 1864, Cobden says:—

> "It would have given me great enjoyment to have visited you at your Highland box, but I go quietly among my children at Dunford during the fine weather, for I always feel under the liability of being induced to leave home for a southern clime in the winter. During the Session I see little of my young people, and I really think it is as healthful as it is pleasant to relax after the turmoil of the House and the clubs among the minds of children. I remember hearing Wakley say in the House when O'Connell first showed symptoms of giving way that if he would withdraw from politics and live with his grandchildren he might last for 10 years. But he died in a twelvemonth."—Morley's "Life of Richard Cobden," vol. ii., p. 454 (London: Chapman and Hall, 1881).

In less than nine months after writing the letter from which the above is extracted Richard Cobden died. Thomas Wakley had predeceas [illegible] O'Connell had "gone over to the [illegible] Pre-eminent in their several spheres [illegible] or the common weal, unselfishly jeopardising health and strength, and probably length of days, for, to O'Connell only was it given to live out the "allotted span." Wakley took no holidays until his health was permanently ruined, although he did consent to cease from Parliamentary duties a few years before the end.

I am, Sirs, yours faithfully,
W. R.

June 1st, 1904.

CONSULTANTS AND LIFE ASSURANCE.

To the Editors of THE LANCET.

SIRS,—A. and B. were in partnership. The partnership has been dissolved. A. becomes a consultant in medicine and surgery. B. continues in general practice. Is A. as a consultant prevented from conducting examinations for life assurance?—I am, Sirs, yours faithfully,
C. D.

June 8th, 1904.

⁂ No.—ED. L.

NEW VIEWS ON CELLULAR PHYSIOLOGY.

A CORRESPONDENT has forwarded to us a circular which he received from a lady who has recently started an establishment for giving light baths to ladies only. The advertiser states that she has procured a bath which is "an exact copy of the one supplied to H.M. King Edward VII. at Buckingham Palace and Windsor Castle" and her knowledge of the effects of electricity upon the body may be gathered from the following delightful paragraph. "For obesity I give the *combined light treatment* (using Arc Lights as well as Incandescent) from two to four times a week for about 20 minutes. The rays of the *Arc Light* bring about the necessary transformation of superfluous fat into muscular substance by reason of the increased oxidation." Again we read: "Owing to the penetrating power of light rays much more is accomplished; the deeper tissues of the skin are excited to activity, the heat-making process, by which fat may be consumed, are (*sic*) stimulated to an unusual degree as shown by the increased elimination of carbon-dioxide." We have said enough to show that the advertiser is grossly ignorant of what she is talking about and we think that it is quite time that the uncontrolled use of such powerful forms of energy as electrically generated light and heat should be taken into consideration by the Government, so that legislation might be formulated to put a stop to what we cannot but stigmatise as dangerous quackery.

FEMALE NURSES AND MALE PATIENTS.

To the Editors of THE LANCET.

SIRS,—I should be glad of an expression of your opinion on the following facts. We have in this district (as in most other poor parts of London) nurses belonging to the Queen Victoria Jubilee Nursing Association placed here by that association under the direction of a local committee who pay all expenses. It is usual for the local medical men to requisition the services of these nurses for operations and in accordance with this custom I notified them on Sunday, June 5th, that I should require two nurses to attend for an operation at a patient's house at 1 P.M. on Monday. One nurse attended at said house early on Monday morning to prepare the patient and then discovered that the operation was for phimosis in a man about 23 years of age. At the time fixed for the operation the same nurse accompanied by her senior appeared, and before entering the room the latter requested to see me. I complied with her request, and to my astonishment I was asked by her in a most impertinent manner: "What operation is this you are about to perform?" I told her. She then in the same tone continued, "I am most surprised that you should ask us to attend for an operation of this nature in *a man*; you have no right to ask us to do such a thing, and it is no part of our duty to do so." I merely told them to leave the house and I would manage without them, which considering that I had to administer an anæsthetic and to operate unassisted was no easy task. What makes the situation still more absurd is the fact that a few weeks before these very same nurses were with me at an operation for fistula in ano in a man of 45 years, and dressed the case daily afterwards. They are middle-aged women engaged daily in the ordinary routine of their work in administering enemata and all other nurses' duties to males of all ages and are both certificated midwives. They have to-day told a member of the local committee that in no hospital in London would a nurse be allowed to be present at an operation on the sexual organs of a male. Will you kindly express your opinion on the matter, since in an experience of a quarter of a century I have never heard that a hospital trained nurse was not allowed or expected to be present or assist at operations of this nature or undertake the daily dressing of such cases.

I am, Sirs, yours faithfully,

Silvertown, E., June 6th, 1904. JAMES MACDONAGH.

⁂ A hospital nurse attends such cases as she is instructed to attend, regardless of such points as are alluded to in our correspondent's letter.—ED. L.

A CASE FOR DIAGNOSIS.

To the Editors of THE LANCET.

SIRS,—I send you a copy of the contents of a letter received from a country patient yesterday. I had to make a diagnosis and formulate treatment upon the facts therein contained. Perhaps it may serve to exercise the ingenuity of those younger practitioners who pride themselves upon making correct diagnosis by intuition. The letter is as follows:—

May 8th, 1904.

MR. ——,—Come from my bellie till in my head and I cant speak and my ears are swell. (Signature) ——.

Perhaps, Sirs, you will be good enough to favour me with your view of the case. I diagnosed quinsy.

I am, Sirs, yours faithfully,

Knysna, Cape Colony, May 9th, 1904. WALTER H. HAW.

TETANUS AFTER THE APPLICATION OF A SPIDER'S WEB.

SOME days ago in Dgitomir, Russia, a boy cut his leg with a piece of glass and in order to stop the bleeding a spider's web was applied, taken from a corner in a shed. About ten days afterwards when the lad appeared to be all right he was suddenly taken with spasms. On being seen by a medical man tetanus was diagnosed. His condition was declared hopeless and in the course of a few hours he died.

THE DECAY OF ILLUSTRATING.

To the Editors of THE LANCET.

SIRS,—Many of the diagrams to be found in our modern medical books and periodicals leave much to be desired. If they are compared with those of earlier treatises it will be readily conceded that want of care and precision are prominent features of latter-day diagrammatic representation. A bad photograph is sometimes excusable, but it is difficult to tolerate faulty pen-and-ink work. So often do we see now a quill-sketched diagram with shading in the wrong place, furrows for ridges or *vice versâ*, and other unacceptable anomalies. There are few more perfect diagrams than those in Wilson's Anatomy published about 35 years ago, but this only represents a type of illustration common at that time. There can be no method more graphic than drawing in simple outline and it is a matter for regret that this style is not more frequently had recourse to by amateurs who often aim too high. No criticism is inferred in respect of professional artistic work, which usually effects all that can be desired.

I am, Sirs, yours faithfully,

May 30th, 1904. H. P. P.

PHOTOGRAPHS OF RIFLE SHOTS.

Messrs. Thomas Christy and Co. of 4, 10, and 12, Old Swan lane, Upper Thames-street, E.C., have sent us a reproduction from a photograph of a rifle shot travelling at the rate of 30,000 feet per second, which is a very remarkable illustration of the high pitch of efficiency to which instantaneous photography has reached. The reproduction shows clearly the manner in which the bullet rends the air asunder into waves in its exceedingly rapid progress. The air waves vary in shape according to the shape of the bullet. The photograph was taken on a Dr. Schleussner's "special rapid observatory plate" and the exposure was one-millionth part of a second by means of the electric spark. Specially rapid plates are also made for rapid orthochromatic work, without a screen, for observatory work, stellar photography, and micro-photography.

◆

J. H. J.—There is no certain deterrent of mosquitoes and the like pests applicable for daily and general use. An ointment containing turpentine has been used with success, as also the essential oil of pennyroyal—not mentha pulegium but hedeoma pulegioides.

W. R.—We cannot give an answer to our correspondent solely on the facts before us. Appointments are not necessarily transferable with a practice and C. may justifiably have sought to gain the appointments for himself.

H. R. H.—Our attention has already been drawn to the handbill in question and we expressed our opinion in THE LANCET of June 4th that the name of the practitioner should not have been inserted.

J. A. G.—The conditions mentioned would support a diagnosis of drunkenness.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M., St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9 30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.).

WEDNESDAY (15th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9 30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (16th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (18th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (14th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Paper:—Dr. A Newsholme; Protracted and Recrudescent Infection in Diphtheria and Scarlet Fever.

MEDICO LEGAL SOCIETY (20, Hanover-square, W.).—8.15 P.M. Papers:—Mr. R. H. Wellington: "Suicide whilst Temporarily Insane" a Fallacy.—Dr. W. McCallin: A Note on Legal Procedure in Lunacy.—Earl Russell: The Limitations of Medical Evidence.

W.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (13th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. J. M. H. Macleod: Clinique. (Skin.) 5.15 P.M. Dr. C. T. Williams: The Relation of Fibrosis to Tubercle.

POST GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—5 P.M. Dr. Saunders: The Summer Diarrhœa of Children and its Treatment.

TUESDAY (14th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON (Pall Mall East).—5 P.M. Dr. J. R. Bradford: Bright's Disease and its Varieties. (Croonian Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. C. O. Hawthorne: Clinique. (Medical.) 5.15 P.M. Dr. F. J. McCann: Diseases and Injuries of the Female Bladder

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30 P.M.

POLY-
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eatre).

—5 P.M. Dr.
Brain—Lectur
HOSPITAL FOR (

tion, its Causes and

E (Tottenham Hos-
ious Types of Eczema

SICIANS OF LONDON
Bright's Disease and

C (22, Chenies street,
(Surgical.) 5.15 P.M.
Principles of Local Treatment

don Hospital, Hammersmith-
Surgery.
Murray: Demonstration

N AND DISEASES OF THE
... Dr. F. Price: Aortic
Graduate Course.)
Gt. Ormond street, W.C.).—
s in Children.
N (Marylebone-road, N.W.).—
Ovarian Tumours

Fl.
COLLEGE AND POLYCLINIC
Mr. R. Lake: Clinique.
(Ear.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Lloyd: The Administration of Anæsthetics.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. R. Russell: Syringomyelia.

SATURDAY (18th).—ST. PETER'S HOSPITAL (Henrietta-street, Covent Garden).—2.30 P.M. Mr. J. W. Thomson-Walker: Diagnosis in Urinary Disease.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

Will Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them! Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

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The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 9th, 1904.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp	Wet Bulb	Dry Bulb.	Remarks at 8.30 A.M.
June 3	30 21	N E.	...	112	65	50	50	53	Fine
" 4	30 28	N.E.	...	117	69	46	51	54	Fine
" 5	30 29	N.E.	...	121	71	49	50	56	Fine
" 6	30 16	N E.	...	122	73	49	62	66	Fine
" 7	30 15	E.	...	115	67	50	50	55	Cloudy
" 8	30 03	N E.	...	107	63	49	49	52	Cloudy
" 9	29 83	E.	...	96	69	49	48	54	Cloudy

During the week marked copies of the following newspapers have been received:—*Western Daily Press, Evening Leader (Newcastle) Reading Mercury, Herts Advertiser, Aberdeen Weekly Free Press, Westminster Gazette, Dublin Daily Independent, Dublin Express, Hertfordshire Mercury, Exeter Express, Dublin Evening Telegraph, Bradford Observer, Daily Express, Globe, Windsor and Eton Express, Westmeath Independent, Rangoon Gazette, Reading Standard, Macclesfield Courier, &c.*

Communications, Letters, &c., have been received from—

A.—Mr. Frank Argles, Lond.; Affiliated Benefit Nursing Associations and Cottage Nurses' Registry, Lond., Secretary of; A. P. L. Lond.; A. M. R.; A. J. D.; Dr. J. Johnston Abraham, Lond.; Messrs. Arnold and Sons, Lond.; Messrs. Adlard and Sons, Lond.; Mr. G. R. Anderson, Southport; Mr. L. P. Anderson, Ulverston; Messrs. Allen and Hanburys, Lond.

B.—Mr. C. Birchall, Liverpool; Rev. Canon Rhodes Bristow, Lond.; Messrs. Birchalls, Lond.; Dr. Charles Buttar, Lond.; Mr. Harold L. Barnard, Lond.; Mr. A. Grainger Bisset, Glasgow; Dr. H. Bayon, Wurzburg; Mr. A. M. Baum, Lond.; Birmingham General Hospital, Secretary of; Dr. B. Barnett, Hong Kong; Mr. S. H. Benson, Lond.; Dr. Fletcher Beach, Kingston Hill; Mr. C. L. Bedford, Lond.

C.—Dr. A. K. Chalmers, Glasgow; Chelsea Clinical Society, Lond.; Commons and Footpaths Preservation Society, Lond., Secretary of; C. B.; Mr. E. M. Corner, Lond.; Mr. L. P. Colat, Bordeaux; Messrs. A. H. Cox and Co., Brighton; City of London, Medical Officer of Health of; Messrs. Thomas Christy and Co., Lond.; Mr. W. Watson Cheyne, Lond.; Dr. A. E. Carver, Torquay; Messrs. Cook and Co., Lond.; Coal Smoke Abatement Society, Lond., Secretary of; Hon. Stephen Coleridge, Lond.; Dr. Harry Campbell, Lond.

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The Milroy Lectures

ON

DEATHS IN CHILDBED: A PREVENTABLE MORTALITY.

Delivered before the Royal College of Physicians of London on Feb. 25th and March 1st and 3rd, 1904,

By W. WILLIAMS, M.A., M.D., D.P.H. Oxon.,
MEDICAL OFFICER OF HEALTH TO THE GLAMORGAN COUNTY COUNCIL.

LECTURE I.

Delivered on Feb. 25th.

Mr. President and Gentlemen,—My first duty is to thank the Council of the College for having conferred upon me the honour of electing me to deliver the Milroy lectures for the year.

In my capacity as medical officer of health, at first in an agricultural area and afterwards in a mining and industrial county, it has been my duty to investigate on several occasions the epidemic prevalence of puerperal fever. As some of the conclusions arrived at during the earlier years of my investigation seemed startling I have been led to extend it and to include the causes of death that are incidental to childbirth. By studying the circumstances which are injurious or fatal to parturient women one may justly hope to contribute to some extent to removal of the evils which shorten their lives and to the improvement of the race generally. I have selected as my subject "Deaths in Childbed: a Preventable Mortality," for the following amongst other reasons: 1. It is a dark, deep, and continuous stream of mortality which has been running through our statistics since the commencement of registration—indeed, from the most remote periods—without showing any signs of abatement and occasionally overflowing its banks, producing epidemics with most disastrous results. 2. It is a mortality which is to a great extent preventable, as evidenced in the enormous improvement which has of late years marked the records of lying-in institutions generally and under conditions where precautionary measures are strictly observed. *Then, if preventable, why not prevented?* 3. It is a mortality which has been exceptionally high among the women of Wales, in whose health and safety I am greatly interested, and with the mode of life, social relations, and conditions of the existence of whom I am fairly well acquainted. 4. It is high time that some serious attempt should be made by the legislature, the medical profession, and all concerned to put an end to such a painful sacrifice of mothers which stealthily but surely takes place annually. 5. It is a subject closely associated with preventive medicine and which equally concerns the general practitioner and the medical officer of health. I have marshalled at some trouble a formidable array of figures and facts which cannot fail to convince the most callous that it is our duty to use all endeavours to protect the valuable lives of the mothers of England and Wales, over 4000 of whom die annually in childbirth, about half of that number falling a prey to the ravages of puerperal fever which is, to a very great extent at least, a preventable disease. I wish I could designate it as an absolutely preventable disease. Some have done so, yet occasionally a few cases do occur which are difficult to trace to any definite source of infection.

What are the causes of death in childbed? These have been classified by the Registrar-General and others into two groups—(1) puerperal septic diseases and (2) accidents of childbirth—and I propose to adhere to this method. The terms "metria" and "puerperal fever," formerly employed to designate cases of death belonging to the first group, are no longer to be used. Phlegmasia alba dolens, an obviously infectious disease, was up to 1900 included in the tables with diseases of parturition. In the new tables issued by the Local Government Board and the schedules of the causes of death issued in 1901 by the Incorporated Society of Medical Officers of Health the term "puerperal fever" is to include pyæmia, septicæmia, sapræmia, pelvic peritonitis, and peri- and endo-metritis occurring in the puerperium. Under "accidents of childbirth" are included: abortion, miscarriage, puerperal mania, puerperal convulsions (including puerperal nephritis and puerperal uræmia), placenta prævia, flooding and accidental hæmorrhage, and other accidents of pregnancy and childbirth (to include puerperal thrombosis and embolism, sudden death, extra-uterine pregnancies, obstetrical operations, and retained placenta). It is with these causes of death in childbirth that I am mostly concerned. There are reasons to doubt, however, whether the returns with respect to deaths incidental to parturition are yet complete.

Childbirth and childbed.—Whenever parturition or miscarriage has occurred within one month before the death of the patient the Registrar General requires that the fact shall be certified even though childbirth may not have contributed to the fatal issue. By childbed is meant that period of a woman's life during and immediately following the act of parturition and during which women are especially liable to various diseases peculiar or incidental to childbirth. Its length varies in different cases from a few weeks to a few months or longer and is determined in ordinary circumstances by (1) the physical condition and health of the parturient woman; and (2) the care, skill, and attention extended to her during labour. There are many other diseases known which terminate fatally or are accelerated by childbirth and these may be divided into pre-existing diseases and acute diseases. The most common pre-existing diseases of long standing that terminate fatally in childbed are (according to the Registrar-General), in the order of their fatality: chronic Bright's disease, phthisis, syncope (weak heart), bronchitis, valvular disease, and anæmia. The most common acute diseases ending fatally in childbed are pneumonia, acute nephritis, influenza, acute bronchitis, scarlet fever, diphtheria, enteric fever, &c. I do not propose on this occasion to deal with these, except in so far as scarlet fever, diphtheria, and enteric fever sometimes complicate the process of childbirth. I propose to deal with the subject under the following subheadings: 1. The causes of deaths in childbirth. 2. The incidence of mortality in childbirth in (*a*) England and Wales 1847-91 (55 years) and from 1881 to 1900 (20 years); (*b*) the registration counties of England and Wales from 1848 to 1891 (54 years), and from 1881 to 1900 (20 years); (*c*) the registration counties of Wales, especially Glamorgan, Monmouth, and Salop; and (*d*) some large towns, industrial and mining centres. 3. The analysis of the causes of this mortality. 4. The mortality statistics of some maternity hospitals. 5. The etiology of puerperal fever. 6. The prevalence of epidemics of puerperal fever personally investigated and recorded by others. 7. The way in which women, especially of the poorer classes, are attended during labour. 8. The movement for insuring better training, registration, &c., of midwives. 9. The Midwives Act, 1902: (*a*) an epitome of it; (*b*) Central Midwives Board, its establishment, *personnel*, duties, regulations and suggestions just issued; and (*c*) the administration of the Act and other preventive measures. In other words, I propose to deal with the subject in its statistical, etiological, and preventive aspects. I also intend to endeavour to prove by means of statistics fairly handled and extending over considerable periods and having reference to a large number of births that the mortality in childbirth has remained undiminished, that puerperal septic diseases are to a very great extent preventable, that deaths from "accidents of childbirth" are controllable or to a considerable extent preventable, and to point out the means whereby these ends may be secured.

Puerperal septic diseases.—In the earlier reports the term "metria" is made use of up to 1850 and for many years after that date. The term "puerperal fever" was made use of for the first time in 1850 and it is often continued up to the present, but in a circular letter to medical practitioners by Dr. John Tatham they are advised to abandon it altogether. The separate forms of septic infection given in the "new list of causes of deaths as used in the annual reports of the Registrar-General of England and Wales" are puerperal septicæmia, puerperal septic intoxication, puerperal pyæmia, phlegmasia alba dolens, puerperal fever (not otherwise defined), or puerperal septic diseases. Although the exact nature of the morbid conditions thus designated is even now a subject of controversy, yet the fever with symptoms of acute and general blood poisoning to which women in childbirth are peculiarly liable has symptoms of a sufficiently definite character, such as high temperature, quick pulse, furred tongue, fœtid or suppressed lochia and milk, &c., to admit of its classification under this heading and clear differentiation from any other causes of death in childbirth.

Accidents of childbirth.—Under this heading are contained deaths from "the various mishaps of childbirth," some of which will always be inevitable but a considerable proportion of which prove fatal in the absence of proper obstetric assistance and skill.

Table I. gives statistical information in regard to the mortality in childbirth in England and Wales for a period of 55 years (1847 to 1901) and contains the latest obtainable figures. The death-rates are based on the proportion of deaths to registered births and not on the population, as in corresponding rates for other diseases. We have in this method a more accurate gauge of the amount of the mortality, which if not absolutely correct is more nearly so than any calculation based upon an always variable population. Of course, miscarriages and stillbirths are not included, as the law does not compel the registration of these births known as stillbirths, so that the mortality in childbirth following such births is not included. Dr. J. R. Kaye in a paper entitled "Certification and Registration of Deaths—the Urgent Need for Improvement," which appeared in the *Journal of State Medicine* for June, 1902, wrote:—

> *Stillbirths.*—One of the most glaring and most dangerous defects of our Registration Acts, and the most loudly calling for reform, is the omission to compel the registration of those officially known as stillbirths. Can anything be more extraordinary than that, in this educated twentieth century, any woman, no matter her character, if she elects to call herself a midwife, is at liberty to issue a certificate for the burial of children who are born still or otherwise on her undefined certificate? Why should our maternal mortality records (imperfect though they be), upon which so much time and labour has been expended, be impaired, and why should the *compulsory contribution* (the death certificate) of the registered medical practitioner be further degraded by the acceptance of worthless information from unqualified sources?

What do Tables I. and II. prove? They do not prove very much. They show that the mortality from puerperal septic diseases reached its maximum point during registration times in 1874 when it was 3·63 per 1000; the year 1893 comes next with 3 30 per 1000 From 1874 and 1875 to 1881 the mortality was again much the same as it was before 1874. In 1881, 1882, and 1883 the mortality rate increased considerably, and this increase has continued to the present time, and was particularly high in 1892, 1893, and 1894. As far as accidents of childbirth are concerned, the mortality-rate varied from the highest in 1847 (4·5 per 1000) to the lowest in 1886, 1887, and 1889 (1·9 per 1000). Indeed, since 1874 (3·30 per 1000) there has been little or no decrease in the death-rate. It will be remembered that the year 1893 was exceptionally dry and that the mortality from enteric fever and diarrhœa was higher than in any previous year since 1884 Immediately before 1874 the death-rate from puerperal septic diseases was not particularly high, but from 1881 to 1900—a period of 20 years—there has been a higher sustained mortality than in any previous and corresponding period. During the years in question it was highest in 1893 (3·30 per 1000), the year immediately preceding the most severe outbreaks of influenza. It was lowest in 1898 (1·84 per 1000). It was not until the Public Health Act of 1872 (decreeing the appointment of medical officers of health) became generally adopted that certification of the causes of deaths by medical men was turned to scientific account, but the Registrar-General has issued most valuable reports since 1839 and it is to these reports that we are indebted for the "sheet-anchor of the public health service," the Public Health Act of 1875.

In 1874 the Registration Act was placed upon the statute book which made it incumbent on medical men to furnish certificates of the causes of deaths of all patients who died whilst attended by them. The Registrar-General in his thirty-eighth annual report for the year 1875 writes:—

> The mortality of the mothers of England and Wales, notwithstanding the progress of the obstetrical art, was higher in 1874–75 than it has been since 1847.

It was about 1874, in consequence of the Public Health Act of 1872, that it became incumbent upon local authorities in all parts of England and Wales outside the metropolis to appoint medical officers of health and it was then for the first time that the greater number of rural districts at least came under medical supervision.

The rise in the mortality from puerperal septic diseases which began after 1881 may be partly explained by the fact that it was in 1881 that the Registrar-General for the first time (with a view of making the returns of deaths in childbirth more complete in cases where the certificates of deaths

TABLE I.—*Mortality in Childbirth in England and Wales, 1847–1901 (a period of 55 years).*

Year.	Registered births of children born alive.	Deaths.			Death-rate to 1000 children born alive, from		
		Puerperal septic diseases and accidents of childbirth.	Puerperal septic diseases.	Accidents of childbirth.	Puerperal septic diseases and accidents of childbirth.	Puerperal septic diseases.	Accidents of childbirth.
1847	539,965	3226	784	2442	5·97	1·45	4 52
1848	563,059	3445	1365	2080	6·12	2·42	3 70
1849	578,159	3339	1165	2174	5·78	2 02	3 76
1850	593,422	3252	1113	2139	5 48	1·88	3 60
1851	615,865	3290	1009	2281	5·34	1·64	3 70
1852	624,012	3247	972	2275	5·20	1 56	3 64
1853	612,391	3060	792	2268	5 00	1·30	3·70
1854	634,405	3009	954	2055	4·74	1·50	3 24
1855	635,043	2979	1079	1900	4·69	1·70	2 99
1856	657,453	2888	1067	1821	4·39	1·62	2·77
1857	663,071	2787	836	1951	4·20	1 26	2 94
1858	655,481	3131	1068	2063	4·78	1·63	3·15
1859	689,881	3496	1238	2258	5 07	1·79	3 28
1860	684,048	3173	987	2186	4 64	1·44	3 20
1861	696,406	2995	886	2109	4·30	1·27	3 03
1862	712,684	3077	940	2237	4·32	1·32	3 00
1863	727,417	3588	1155	2433	4·93	1·59	3·34
1864	740,275	4016	1484	2532	5 43	2·00	3·43
1865	748,069	3823	1333	2490	5·11	1·78	3·33
1866	753,870	3682	1197	2485	4·88	1·59	3·29
1867	768,349	3412	1066	2346	4;44	1·39	3 05
1868	786,858	3503	1196	2307	4·45	1·52	2·91
1869	773,381	3283	1181	2102	4·24	1·53	2·71
1870	792,787	3875	1492	2383	4·89	1 88	3 01
1871	797,428	3935	1464	2471	4·93	1·81	3 09
1872	825,907	3803	1400	2403	4·60	1·70	2 90
1873	829,778	4115	1740	2375	4·96	2·10	2·86
1874	854,956	5927	3108	2819	6 93	3 63	3·30
1875	850 607	5064	2504	2560	5 95	2 94	3 01
1876	887,968	4142	1746	2396	4·66	1·97	2 69
1877	888,200	3443	1444	1999	3·88	1 63	2·25
1878	891,906	3300	1415	1885	3·70	1 59	2·11
1879	880,359	3340	1464	1876	3·79	1 66	2 13
1880	881,643	3492	1659	1833	3 94	1·88	2 08
1881	883,642	4227	2287	1940	4 78	2 58	2 20
1882	889,014	4524	2564	1960	5·09	2·89	2 20
1883	890,722	4508	2616	1892	5·06	2 94	2 12
1884	906,750	4647	2468	1879	4·79	2·72	2 07
1885	874,970	4449	2420	2029	4·98	2 71	2 27
1886	903,866	3877	2078	1799	4·72	2·39	1·99
1887	886,331	4160	2450	1710	4·69	2 8	1 9
1888	879,868	4160	2386	1774	4·73	2 49	2·01
1889	885,944	3585	1852	1733	4 05	2·09	1·95
1890	869,937	4255	1956	2299	4·89	2·24	2 62
1891	914,157	4787	1973	2814	5 24	2·15	3·06
1892	897 957	5194	2356	2838	5·78	2 62	3·16
1893	914,542	5950	3023	2927	6 51	3·30	3 19
1894	890,289	4775	2167	2608	5·36	2 43	2·92
1895	922,291	4219	1849	2370	4·57	2 00	2·56
1896	915,309	4561	2053	2508	4·98	2·24	2 74
1697	921,693	4250	1836	2414	4 61	1·99	2 62
1898	923,265	4074	1707	2367	4·41	1 84	2 56
1899	928,646	4326	1908	2418	4·66	2 05	2 63
1900	927,062	4454	1941	2514	4·81	2·09	2·71
1901	927,807	4394	2079	2315	4·73	2 24	2·49

TABLE II.—*The Important Features of the Foregoing Table.*

England and Wales.			Death-rate per 1000 births.		
			Total deaths in childbirth.	Deaths from puerperal septic diseases.	Deaths from accidents of childbirth.
Average of 5	years from	1851-1855	4·9	1·5	3·4
„ 5	„	1856-1860	4·6	1·5	3·0
„ 5	„	1861-1865	4·8	1·6	3·2
„ 5	„	1866-1870	4·6	1·5	3·1
„ 5	„	1871-1875	5·4	2·4	3·0
„ 5	„	1876-1880	3·9	1·7	2·2
„ 5	„	1881-1885	4·9	2·8	2·1
„ 5	„	1886-1890	4·5	2·4	2·1
„ 5	„	1891-1895	5·4	2·5	2·9
„ 5	„	1896-1900	4·6	2·0	2·6
„ 1 year		1901	4·7	2·2	2·4

were not satisfactorily filled up) commenced the practice of sending out letters of inquiries to all practitioners who had used the terms "peritonitis," "pyæmia," "septicæmia," &c., in registering the deaths of women of the child-bearing age. It is certain that such a practice (which has been continued up to the present time) has led to the inclusion under the heading of "puerperal fever" of a number of deaths that would otherwise not have been classified as such, and doubtless the increased mortality *from* this cause is more apparent than real. I am perfectly willing to make full allowance for this and to concede that the sustained increase of the mortality in childbirth, especially puerperal fever (puerperal septic diseases) during the last 20 years may be at least partly accounted for in this way. When this is granted we are still face to face with the fact that the childbirth mortality has not at all diminished in the past 20 years; on the contrary it will be noticed in glancing over the above tables that this mortality for the years 1892, 1893, *and* 1894 *was* 5·78, 6·51, *and* 5·36 *per* 1000 *respectively*, and that 6·51 per 1000, the rate for 1893, is the highest on record since the commencement of a system of registration. Moreover, the mortality rates per 1000 from puerperal fever and accidents of childbirth for these years are correspondingly high, viz. :—

	1892.	1893.	1894.
Mortality in childbirth	5·78	6·51	5·36
Puerperal fever	2·62	3·30	2·43
Accidents, &c.	3·16	3·19	2·92

Therefore it will be seen that the mortality in both groups has remained undiminished up to the present. How can this anomaly be explained in view of the enormous advances made in surgery, of the adoption of aseptic and antiseptic precautions in normal midwifery practice, of the reduction of mortality in childbirth that has occurred in the case of lying-in hospitals and under other conditions, and of the improvements in sanitary conditions generally that have taken place during this period? There is only one way of possibly explaining this increase and if we are justified in answering (though on this point I have no information) that some of the amended death certificates sent in response to the circulars of the Registrar-General would otherwise have altogether escaped registration under the heading of childbirth, we are also justified in believing that the general death-rate of childbed mortality, apparently stationary, or very nearly so, for the last 40 years, has in reality declined somewhat and "that in spite of what I fear must be admitted—viz., that the advance of civilisation does not at all tend to decrease the perils incidental to the physiological function of childbirth." There is, however, no getting away from the [illegible] years, when a more accurate [illegible] upwards of 40 per cent. of the [illegible] been caused by septic diseases. *It will further be seen that this undiminished mortality has* been sustained for a period of 20 years and that the sources of fallacy are not confined to one or to a few years. It will be noticed also that this period (1881-1900) of undiminished mortality in childbirth coincides with a period in which enormous strides have been made in all matters pertaining to sanitation generally and with a period of improved certification of the causes of death in connexion with childbirth. It is highly probable, therefore, that this undiminished mortality is the direct result of the improved certification and that it is more apparent than real. It has been proved without a doubt that during recent years the mortality in lying-in institutions generally—both in their internal and external departments—has also decreased to the vanishing point, so that we are forced to the conclusion that this undiminished and sustained mortality takes place outside *maternity hospitals—i.e., in general practice*—and that the conditions under which women are confined outside of these institutions have not shared to an equal degree the improvements effected in their internal and external departments.

TABLE III.—*Mean Mortality Rates per 1000 for a Period of 54 Years (1848-1901) in each Registration County.*

Division and registration county.	Puerperal septic diseases.	Accidents of childbirth.
I. London—		
London	2·1	2·3
II. South Eastern—		
Surrey	1·9	2·6
Kent	1·6	2·3
Sussex	1·3	2·6
Hants	1·7	2·6
Berks	1·7	2·8
III. and IV. South Midland—		
Middlesex	1·9	2·6
Herts	1·7	2·7
Bucks	1·5	2·9
Oxfordshire	1·6	2·7
Northants	1·9	2·5
Hunts	1·3	2·3
Bedfordshire	1·7	2·7
Cambridgeshire	1·5	2·4
V. East—		
Essex	1·5	2·3
Suffolk	1·4	2·4
Norfolk	1·9	2·7
VI. South-Western—		
Wilts	1·7	3·1
Dorset	1·3	2·8
Devon	1·6	2·6
Cornwall	1·2	3·1
Somerset	1·6	2·7
VII. West Midland—		
Gloucestershire	1·8	2·7
Herefordshire	1·8	3·3
Salop	2·0	3·1
Staffordshire	2·0	2·6
Worcestershire	1·9	2·6
Warwickshire	1·7	2·4
VIII. North Midland—		
Leicestershire	1·7	2·4
Rutlandshire	1·3	1·9
Lincolnshire	1·5	2·7
Notts	1·9	2·6
Derbyshire	2·1	3·1
IX. North-Western—		
Cheshire	2·2	3·2
Lancashire	2·3	3·1
X. Yorkshire—		
West Riding	2·1	2·9
East Riding	1·7	2·5
North Riding	1·8	3·0
XI. Northern—		
Durham	2·1	2·9
Northumberland	2·2	2·9
Cumberland	2·1	2·9
Westmorland	1·8	2·6
XII. Welsh—		
Monmouthshire	2·0	3·6
South Wales	2·2	3·7
North Wales	2·1	2·2

Before proceeding to investigate the causes at work in sustaining this persistently high mortality it would be useful to consider its geographical distribution. The various registration counties in England and Wales present marked differences in reference to death-rate from childbed mortality and I have therefore decided to consider each registration county on its own merits (Table III.); on a former occasion I have worked out the statistics from 1848 to 1894, and for the purposes of these lectures I have done so up to 1901.

The foregoing figures show that the death-rate from puerperal septic diseases (per 1000 registered births) ranges from 2·3 to 1·2 in the various counties thus:—

TABLE IV.—*Death-rate from Puerperal Septic Diseases in Registration Counties.*

Lancashire	2·3	Surrey	1·9	Oxfordshire... ...	1·6
Cheshire	2·2	Middlesex		Devon	
Northumberland		Northants		Somerset	
South Wales ...		Norfolk		Kent	
London	2·1	Worcestershire ...		Bucks	1·5
Derbyshire		Notts		Cambridgeshire...	
West Riding ...		Gloucestershire ...	1·8	Essex	
Durham		Herefordshire ...		Lincolnshire ...	
Cumberland ...		North Riding ...		Suffolk	1·4
North Wales ...		Westmorland ...		Sussex	1·3
Salop	2·0	Hants	1·7	Hunts	
Staffordshire ...		Berks		Dorset	
Monmouthshire		Herts		Rutland	
		Bedfordshire ...		Cornwall	1·2
		Wilts			
		Warwickshire ...			
		Leicestershire ...			
		East Riding... ...			

The mean death-rate per 1000 for England and Wales is 1·8. Lancashire heads the list with 2·3 and is closely followed by Cheshire, Northumberland, and South Wales with 2·2; London, Derbyshire, West Riding, Cumberland, and North Wales with 2·1; Salop, Staffordshire, and Monmouthshire, with 2·0; Surrey, Middlesex, Northants, Norfolk, Worcestershire, and Notts with 1·9, all of which are above the mean for England and Wales (1·8). Cornwall has the lowest rate—1·2 per 1000—and Sussex, Hunts, Dorset, and Rutland come next with 1·3; Suffolk has 1·4; Bucks, Cambridgeshire, and Essex have 1·5; Kent, Oxfordshire, Devon, and Somerset, 1·6; and Hants, Berks, Herts, Bedfordshire, Wilts, Warwickshire, Leicestershire, and East Riding, 1·7.

That there is a marked difference in the various rates is obvious, but we are not justified at this stage in drawing any conclusion from the figures before us, for even the circumstances which obtain in various localities only a few miles apart in the same county are vastly different, as I hope to prove later. However, as a general rule it would seem that the rate was highest in the western counties, especially in the hilly districts, or roughly in those counties west of a line drawn from the mouth of the Severn to that of the Tees.

The death-rate from accidents of childbirth ranges from 3·7 to 1·9 per 1000 registered births, thus:—

TABLE V.—*Death rate from Accidents of Childbirth in Registration Counties*

South Wales ...	3·7	Berks	2·8	Northants	2 5
Monmouthshire...	3·6	Dorset		East Riding... ...	
Herefordshire ...	3·3	Herts	2·7	Cambridgeshire...	2·4
Cheshire	3·2	Oxfordshire... ...		Suffolk	
Lancashire	3·1	Bedfordshire ...		Warwickshire ...	
Wilts	3·1	Somerset		Leicestershire ...	
Cornwall		Gloucestershire...		London...	2·3
Salop		Lincolnshire ...		Kent	
Derbyshire		Norfolk...		Hunts	
North Riding ...	3·0	Sussex	2 6	Essex	
Bucks	2·9	Surrey		North Wales ...	2·2
West Riding ...		Hants		Rutland	1·9
Durham		Middlesex			
Northumberland		Devon			
Cumberland ...		Staffordshire ...			
		Worcestershire ...			
		Notts			
		Westmorland ...			

In these statistics a much wider difference between the two extremes is observed and the death-rate is above the mean for England and Wales (2·7 per 1000) in Berks, Bucks, Wilts, Dorset, Cornwall, Herefordshire, Salop, Derbyshire, Cheshire, Lancashire, West Riding, North Riding, Durham, Northumberland, Cumberland, Monmouthshire, and South Wales. It is below the average in London, Surrey, Kent, Sussex, Hants, Middlesex, Northants, Cambridgeshire, Norfolk, Hunts, Essex, Suffolk, Devon, Staffordshire, Worcestershire, Warwickshire, Leicestershire, Rutland, Notts, East Riding, Westmorland, and North Wales. It will be observed also on examining the figures of the various registration counties that they vary to a considerable extent and thus suggest that the extent and intensity of the causes at work are different at different times and that the accidents of childbirth are, at least to a certain extent, controllable. So far the figures do not prove much but they do show that the mortality from puerperal septic diseases is more evenly distributed than is the mortality from accidents of childbirth and that no diminution has occurred in either case. Both rates are similar in that they are highest in the Welsh and North-Western counties.

Having failed to arrive at any definite conclusion (except that the mortality under each subheading has remained undiminished) by studying the mortality in childbirth during a period of 54 years I now propose to confine my attention to the period of 20 years from 1881 to 1900. This period coincides with the time that has elapsed since the introduction of antiseptics into surgical work, with a period during which great advances have been made in sanitary matters, and with the more reliable certification of the causes of death. (Fig. 1.)

Before 1881 (when the circular letter to medical men already referred to was sent out by the Registrar-General for the first time) it is probable that many deaths in childbirth, especially from the puerperal septic diseases, escaped registration as such. In support of this statement I quote the words of the Registrar-General in his forty-seventh annual report:—

> Out of 453 cases of married women whose deaths were returned in 1884 simply as due to peritonitis or septicæmia, it was found on inquiry that no less than 156 were cases of a puerperal character.

So we may rightly assume that the figures given after 1881 are nearer the truth than are any that appeared before. During this period of 20 years I propose to deal with the mortality in childbirth in the various registration counties of England and Wales, in some large towns, industrial and mining centres, and in some country districts, and to examine more in detail the statistics for Wales, Monmouthshire, Herefordshire, and Salop, and still more in detail the statistics of the various registration divisions of the county of Glamorgan during the same period; for it appears more reasonable to endeavour to arrive at the truth by the method of reasoning from the general to the particular rather than the reverse.

An examination of the figures given below shows that the death-rate per 1000 registered births from puerperal septic diseases range from 3·0 to 1·4 in the various counties.

TABLE VI.—*Mortality from Puerperal Septic Diseases in Registration Counties, 1881–1900 (20 years).*

Lancashire	3 0	Surrey	2·2	Bucks	1·8
North Wales ...		Warwickshire ...		Bedfordshire ...	
South Wales ...		North Riding ...		Essex	
Cheshire	2·8	London...	2·1	Suffolk	
Westmorland ...		Berks		Cornwall	1 7
Monmouthshire...		Middlesex		Herts	1·6
West Riding ...	2·6	Cumberland ...		Dorset	1·5
Notts	2·5	Devon	2 0	Hunts	1·4
Derbyshire		East Riding... ...		Rutland	
Northumberland		Durham			
Norfolk...	2·4	Kent	1·9		
Herefordshire ...		Sussex			
Northants	2·3	Hants			
Gloucestershire...		Oxfordshire... ...			
Salop		Cambridgeshire...			
Staffordshire ...		Wilts			
Worcestershire ...		Somerset			
		Leicestershire ...			
		Lincolnshire ...			

FIG. 1.

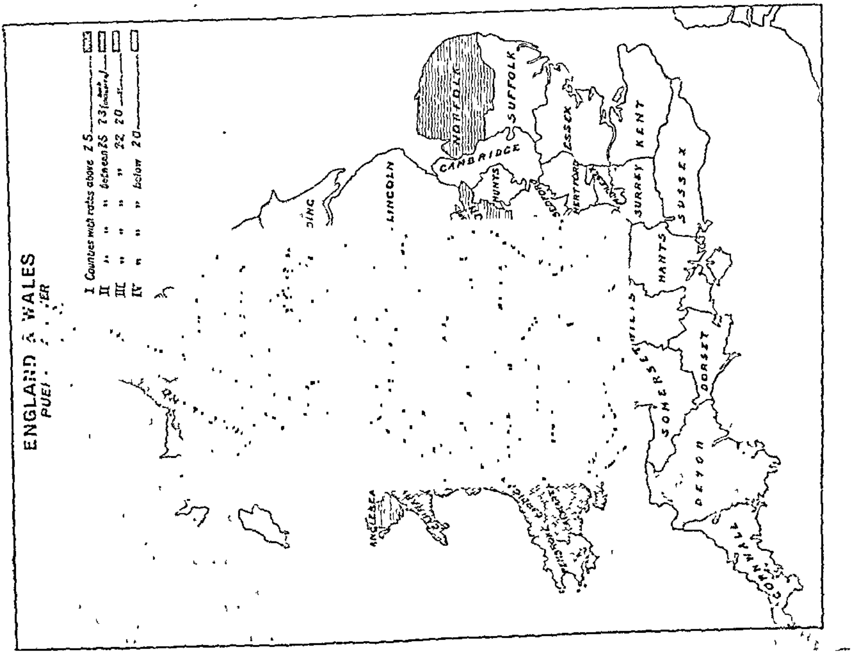
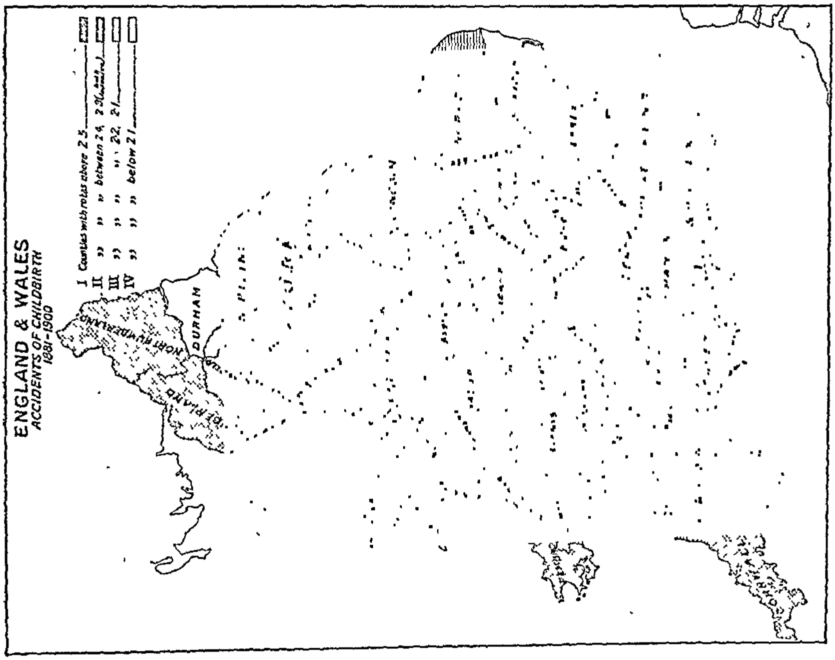

ENGLAND & WALES
I Counties with rates above 25
II „ „ „ between 25 & 23 (both inclusive)
III „ „ „ „ 22 20
IV „ „ „ below 20
NORFOLK
SUFFOLK
ESSEX
KENT
CAMBRIDGE
HUNTS
HERTFORD
SURREY
SUSSEX
HANTS
WILTS
SOMERSET
DORSET
DEVON
CORNWALL
LINCOLN
ANGLESEA

FIG. 2.


ENGLAND & WALES
ACCIDENTS OF CHILDBIRTH
1881-1900
I Counties with rates above 25
II „ „ „ between 24 & 23 (both inclusive)
III „ „ „ „ 22 21
IV „ „ „ below 21
NORTHUMBERLAND
DURHAM
CUMBERLAND

The figures in Table VI show that the death-rate was highest in the Welsh, North-Western, Northern, and Yorkshire (West Riding) counties to the west of a line drawn from the mouth of the Tees to the estuary of the Severn. In the first 20 counties in the list the rates were above the average (2·1 per 1000) for England and Wales; in the next four counties they were the same as the mean rate; while in the remainder they were below that rate.

The death rate from accidents of childbirth ranges from 3·3 to 1·7 per 1000 registered births, as may be seen from Table V. (Fig. 2.)

TABLE VII.—*Mortality from Accidents of Childbirth in Registration Counties, 1881–1900 (20 years).*

County	Rate
South Wales ...	3·3
North Wales ...	
Cornwall	3·0
Monmouthshire...	
Cheshire	2·9
Cumberland ...	
Dorset	2·6
Herefordshire ...	
Salop	
Derbyshire	
Lancashire	
West Riding ...	
Northumberland	
Wilts	
Staffordshire ...	2·5
Lincolnshire ...	
Oxfordshire ...	2·4
Devon	
Gloucestershire...	
Notts	
Surrey	2·3
Berks	
Herts	
Bucks	
Cambridgeshire...	
Norfolk	
Somerset	
Mean for England and Wales ...	2·4
Sussex	2·2
Bedfordshire ...	
Worcestershire ...	
Warwickshire ...	
Leicestershire ...	
Rutlandshire ...	
East Riding... ...	
Westmorland ...	
Northants	2·1
Kent	2·0
Hants	
Suffolk	
North Riding ...	
Hunts	1·9
Durham	
Middlesex	1·8
Essex	
London	1·7

The above figures tend to show that the rate is highest in the Welsh division, in Cornwall, and in all probability in the more agricultural districts of these counties, whereas the rates are lowest in London and in the counties immediately surrounding it.

I now come to consider the statistics of the Welsh counties together with Monmouthshire. I include the latter because one would naturally expect to have very similar figures for this county as for Glamorgan, for the physical and industrial conditions of its western valleys and in the more agricultural portions of the eastern part of it are almost identical with the conditions which obtain in the mining valleys and the agricultural Vale of Glamorgan respectively. I also include the county of Salop of which I have a fair personal knowledge, and although it may be considered as entirely an agricultural county and in this respect similar to several of the Welsh counties, yet its physical features are entirely different. The absence of any high mountains renders it entirely different from most of the agricultural counties of Wales, especially those that border upon it.

WALES, MONMOUTHSHIRE, AND SALOP.

Although the mortality-rates from both puerperal fever and accidents of childbirth seem to be excessively high in the North Wales and South Wales groups of counties yet it is quite possible that these rates are not high throughout the 12 constituent counties, and in order to arrive at the truth it is essential to give figures for each of these counties for the period 1881–1900, the same as has been done for each of the English counties, and unless this is done comparison is impossible. Indeed, it has always puzzled me to make out why it is tha[illegible] -General has never given the [illegible] promin[illegible] e Welsh counties in his valuable [illegible] orts as ha[illegible] to far less important and smaller [illegible] glish coun[illegible] [illegible] a f[illegible] of the general and local features [illegible] ch of th[illegible] together with Monmouthshire Salop, I [illegible] the figures for each of these [illegible] ies and [illegible] in [illegible] the various regis [illegible] district[illegible] of Glamorgan [illegible] view o[illegible] le on the con- of fema[illegible] ces which deter- [illegible] dif[illegible] pical example of [illegible] w[illegible] of its to-day [illegible] 30 to 40 years [illegible] th[illegible] and sparsely [illegible] un[illegible]

WALES.

The position of North Wales and South Wales as compared with England and Wales, from 1848–1900 and from 1890–1900, will be learnt from the following tables:—

TABLE VIII.—*Mortality in Wales compared with England and Wales.*

—	Deaths per 1000 for 53 years (1848–1900).			Deaths per 1000 for 20 years (1881–1900)		
	Puerperal septic diseases.	Accidents of childbirth.	Childbed (all causes).	Puerperal septic diseases.	Accidents of childbirth.	Childbed (all causes).
North Wales... ...	2·1	2·2	4·3	2·9	3·5	6·4
South Wales... ...	2·2	3·7	5·9	2·8	3·6	6·4
England and Wales	1·8	2·7	4·5	2·1	2·4	4·5

TABLE IX.—*The Comparative Number of Mothers Dying in Childbed for periods of 53 Years and 20 Years respectively.*

—	53 years (1848–1900).			20 years (1881–1900).		
	Puerperal septic diseases.	Accidents of childbirth.	Childbed (all causes).	Puerperal septic diseases.	Accidents of childbirth.	Childbed (all causes).
North Wales	1 in 476	1 in 454	1 in 232	1 in 344	1 in 285	1 in 156
South Wales	1 in 454	1 in 270	1 in 169	1 in 357	1 in 277	1 in 156
England and Wales	1 in 555	1 in 370	1 in 222	1 in 476	1 in 416	1 in 222

That is to say, there died annually from puerperal fever for the period of 53 years one out of 555 mothers confined in England and Wales as compared with one mother in every 476 in North Wales, and one in 454 in South Wales, whilst during the same period there died in England and Wales from the accidents of childbirth one in 370, as compared with one in 454 in North Wales and one in 270 in South Wales during the same period. Again, during 20 years 1881–1900 in England and Wales there died from puerperal fever one in every 476 women confined as compared with one in 344 in North Wales and one in 357 in South Wales, whilst during the same period there died in England and Wales from the accidents of childbirth one in 416, as compared with one in 285 in North Wales and one in 277 in South Wales. It will be further noticed that the mortality from puerperal septic diseases for both these periods is very much the same in the North Wales and the South Wales groups of counties, whereas the mortality from accidents of childbirth for the 53 years (1848–1900) is considerably higher in South Wales than in North Wales, or as 1·7 is to 1. Again, during the period of 20 years (1881–1900) the mortality from puerperal septic diseases is much the same in North Wales and South Wales, whereas the mortality from accidents of childbirth is only slightly higher in South Wales than in North Wales. Moreover, it will be seen that the mortality-rates from puerperal septic diseases and accidents of childbirth are respectively 1·8 and 2·7 for the 53 years and are 2·1 and 2·4 for the 20 years' period, so that the mortality-rate from puerperal septic diseases has increased from 1·8 to 2·1 per 1000 and the mortality rate from accidents of childbirth has diminished from 2·7 to 2·4 per 1000, thus making the total mortality-rate of 4·5 per 1000 the same for both periods.

The following table (Table X.) gives statistical information for each Welsh county for a period of 20 years (1881–1900).

The death-rate from puerperal septic diseases is excessively high in Merionethshire and Cardiganshire, two typical instances of purely agricultural and mountainous districts containing old-fashioned market towns, some fashionable seaside resorts, and the quarry districts of Festiniog and neighbourhood. Denbighshire, Glamorgan, Carnarvon, and Carmarthenshire come next; these may be described as scattered mining and hilly agricultural districts, the most typical mining county being Glamorgan. Brecknockshire,

TABLE X.—*Showing the Annual Death-rate per 1000 from Puerperal Septic Diseases and Accidents of Childbirth in the Welsh Counties during the Period 1881–1900 (20 years).*

Year.	North Wales.											
	Montgomeryshire.		Flintshire.		Denbighshire.		Merionethshire.		Carnarvonshire.		Anglesea.	
	A.	B.	A.	B.	A.	B.	A.	B.	A.	B.	A.	B.
1881 ...	1·7	4·1	1·4	2·8	1·7	3·4	2·3	5·1	4·0	4·3	1·1	3·2
1882 ...	6·9	4·6	5·6	4·9	2·0	4·0	2·4	4·8	2·5	2·8	4·0	4·0
1883 ...	2·9	1·9	3·0	2·3	3·2	6·2	2·5	6·0	3·9	2·2	4·4	1·1
1884 ...	4·8	2·8	3·7	1·4	2·4	2·1	2·0	3·1	4·0	3·4	4·1	*Nil*
1885 ...	4·5	3·0	1·1	0·6	5·0	3·6	5·9	0·5	4·8	5·1	2·1	4·2
1886 ...	0·5	3·5	4·2	2·5	2·7	3·6	3·7	4·2	1·8	3·6	2·1	1·0
1887 ...	1·0	2·6	1·6	0·8	2·1	3·4	6·3	1·6	4·3	1·8	3·2	2·1
1888 ...	3·1	2·6	3·3	4·1	8·0	3·0	6·1	2·8	3·6	1·8	0·0	2·3
1889 ...	1·0	2·1	2·5	1·7	2·5	4·1	2·2	4·4	1·9	2·9	0·0	2·2
1890 ...	1·7	5·3	1·7	2·6	3·6	7·0	2·9	5·2	3·9	6·9	3·7	2·5
1891 ...	1·1	2·2	2·4	4·8	2·0	6·0	4·3	6·7	3·1	4·0	3·3	6·6
1892 ...	1·8	5·9	0·8	5·7	2·6	5·3	4·2	5·4	1·9	4·2	3·5	3·5
1893 ...	2·7	3·2	4·7	0·7	3·2	4·6	4·0	4·5	3·4	3·4	3·2	2·1
1894 ...	4·9	4·9	3·1	3·9	3·9	6·2	5·3	4·7	4·9	4·0	2·4	1·2
1895 ...	1·8	4·2	3·0	2·3	4·1	5·3	4·0	4·6	1·8	4·5	1·0	4·3
1896 ...	3·0	1·8	2·5	3·3	3·2	4·8	2·8	3·4	4·9	4·6	0·0	2·3
1897 ...	4·0	2·0	0·8	2·6	2·4	4·6	8·2	4·7	2·1	5·4	2·3	2·3
1898 ...	1·2	4·8	0·8	4·2	2·6	4·5	2·7	4·3	1·7	3·8	3·3	3·3
1899 ...	1·8	4·8	4·2	5·0	3·5	4·1	3·5	5·2	1·1	4·4	3·3	0·0
1900 ...	1·2	3·7	3·3	3·3	1·8	6·5	3·5	4·7	1·4	3·7	1·1	1·1
Mean for 20 years	2·5	3·5	2·6	2·9	3·1	4·6	3·9	4·2	3·0	3·8	2·4	2·4

A. = Puerperal septic diseases. B. = Accidents of childbirth.

Year.	South Wales.											
	Glamorganshire.		Carmarthenshire.		shire.		Cardiganshire.		Brecknockshire.		Radnorshire.	
	A.	B.	A.	B.	A.	B.	A.	B.	A.	B.	A.	B.
1881 ...	4·1	3·0	2·1	2·9	2·7	2·3	2·7	7·1	3·7	5·5	1·7	5·2
1882 ...	3·1	2·5	3·2	3·8	1·9	3·5	3·5	3·5	4·1	2·3	1·9	1·9
1883 ...	2·5	2·9	2·7	2·7	1·5	3·9	5·0	3·3	6·4	2·4	—	3·9
1884 ...	3·0	2·4	2·8	1·7	2·7	2·3	4·2	3·3	0·6	1·2	2·0	6·0
1885 ...	3·2	3·5	1·9	4·4	1·5	4·5	3·4	2·9	2·4	3·0	1·9	3·8
1886 ...	3·5	2·8	3·5	2·1	3·5	2·0	4·3	3·9	1·2	1·2	3·8	1·9
1887 ...	3·3	2·4	4·3	3·4	3·3	2·6	6·6	1·3	5·6	3·7	9·8	0·0
1888 ...	3·8	2·4	3·9	1·9	0·8	1·6	2·6	1·3	4·4	5·1	1·9	3·8
1889 ...	2·1	3·1	3·1	2·9	1·2	2·1	4·9	2·2	1·3	2·6	2·1	2·1
1890 ...	3·1	3·4	3·1	2·5	0·8	3·0	1·4	5·3	3·2	3·9	0·0	6·6
1891 ...	4·1	3·9	1·9	1·3	3·0	3·4	2·9	7·9	1·9	6·3	0·0	0·0
1892 ...	3·3	4·3	3·3	2·4	1·7	3·9	3·3	3·3	3·9	4·5	4·6	4·6
1893 ...	4·8	3·9	5·9	4·3	5·0	2·5	8·9	4·6	1·2	3·6	0·0	10·5
1894 ...	2·3	3·7	3·8	2·7	0·9	3·1	4·4	3·4	2·6	4·6	0·0	6·9
1895 ...	2·2	3·3	2·6	4·2	2·2	4·5	2·0	5·1	2·5	5·0	5·9	11·9
1896 ...	2·7	3·6	2·9	2·6	1·8	3·6	3·6	6·1	3·2	3·9	6·0	5·1
1897 ...	2·4	3·5	1·1	2·7	2·2	6·7	2·0	3·1	1·2	2·5	1·7	0·0
1898 ...	3·2	3·4	1·9	5·9	2·2	4·5	4·0	7·1	1·9	3·1	1·6	0·0
1899 ...	2	3·5	3·1	3·9	0·9	2·7	2·0	4·6	0·6	5·3	0·0	1·7
1900 ...	3·1	3·6	3·6	6·5	1·4	5·7	3·9	4·5	3·9	6·6	1·7	5·3
Mean for 20 years.	3·1	3·2	3·0	3·1	2·0	3·4	3·7	4·1	2·7	3·8	2·3	4·0

A. = Puerperal septic diseases. B. = Accidents of childbirth.

Arranging the counties in the order of their death-rates, those with the highest coming first, we get the following results:—

TABLE XI.—*Counties arranged in Order of Death-rates.*

Puerperal septic diseases.		Accidents of childbirth.	
Merioneth	3·9	Denbigh	4·6
Cardigan	3·7	Merioneth	4·2
Denbigh	3·1	Cardigan	4·1
Glamorgan	3·1	Radnor	4·0
Carnarvon	3·0	Carnarvon	3·8
Carmarthen	3·0	Brecknock	3·8
Brecknock	2·7	Montgomery	3·5
Flint	2·6	Pembroke	3·4
Montgomery	2·5	Glamorgan	3·2
Anglesea	2·4	Carmarthen	3·1
Radnor	2·3	Flint	2·9
Pembroke	2·0	Anglesea	2·4
Mean for Wales	2·8	Mean for Wales	3·5
Mean for England and Wales	2·1	Mean for England and Wales	2·4

Flintshire, Montgomeryshire, and Anglesea follow and these may be described as mostly agricultural and flat counties. The death-rate is lowest in Radnorshire and Pembrokeshire, two typical agricultural and somewhat flat counties. The rate for all except Pembrokeshire is above the average for England and Wales. The death-rate from accidents of childbirth is highest in Denbighshire, Merionethshire, Cardiganshire, and Radnorshire; then come Carnarvonshire, Brecknockshire, and Montgomeryshire; followed by Pembrokeshire, Glamorgan, Carmarthenshire, Flintshire, and Anglesea. The rate is above that for England and Wales in all the counties except Anglesea, the rate for which county coincides with the general rate.

In the following table the Welsh counties are arranged according to density of population:—

TABLE XII.—*Welsh Counties in order of Density of Population and Death-rates.*

—	Density of population. (Acres to a person.)	Comparative increase or decrease per cent.
Glamorganshire	0·6	+25·1
Flintshire	2·0	+ 5·7
Carnarvonshire	2·9	+ 7·3
Denbighshire	3·4	+10·2
Anglesea	3·4	+ 0·9
Carmarthenshire	4·4	+ 3·6
Pembrokeshire	4·4	− 0·4
Cardiganshire	7·1	− 3·9
Merionethshire	8·7	− 0·1
Montgomeryshire	9·0	− 5·3
Brecknockshire	8·1	+ 5·0
Radnorshire	13·3	+ 6·7
England and Wales	1·2	+12·1

It follows, therefore, that the death-rate from puerperal septic diseases is above the mean (2·1 per 1000) for England and Wales in all the Welsh counties except Pembrokeshire. With respect to accidents of childbirth the death-rate is above the mean except in Anglesea. Glamorgan is the only county that may be termed "densely populated"—i.e., with less than one acre to a person—while the remainder may be termed "sparsely populated."

From a consideration of the above figures it does not seem that the density of population is a factor of much importance in determining puerperal mortality; on the contrary, the mortality from puerperal fever and from accidents of childbirth show a marked tendency to prevail in those counties where the only features in common between them are that they are mountainous, hilly, and sparsely populated, and that consequently locomotion is tedious and medical assistance is difficult to obtain in time. On the other hand, the mortality seems to be generally lowest in the flatter counties.

I now give the figures for the counties of Monmouth, Salop, and Hereford.

TABLE XIII.—*Showing the Annual Death-rate per 1000 from Puerperal Septic Diseases and Accidents of Childbirth in the Counties of Monmouth, Salop, and Hereford during the Period 1881–1900 (20 years).*

Year.	Monmouthshire.		Salop.		Herefordshire.	
	A.	B.	A.	B.	A.	B.
1881	3·5	2·5	2·0	2·5	2·7	2·7
1882	2·3	2·3	2·4	3·2	4·3	3·3
1883	1·5	2·1	4·2	2·4	2·4	1·9
1884	3·2	2·5	2·1	3·3	3·5	2·8
1885	4·7	2·8	3·6	3·7	3·7	0·9
1886	2·7	0·9	3·9	2·4	0·9	1·5
1887	3·7	1·9	3·1	1·5	3·1	2·3
1888	2·4	2·4	3·3	1·4	2·2	2·5
1889	2·2	2·6	2·0	2·7	0·9	1·0
1890	2·2	3·9	2·5	2·3	1·4	2·9
1891	2·2	4·0	1·4	3·9	0·0	3·6
1892	2·5	3·3	2·0	2·9	3·1	3·4
1893	5·2	4·1	1·5	3·8	4·4	5·1
1894	3·2	3·6	2·3	3·2	1·7	3·0
1895	2·2	3·4	0·8	2·5	2·2	2·2
1896	2·9	4·1	2·5	3·5	2·9	3·6
1897	2·6	3·7	2·1	3·6	3·7	3·0
1898	1·5	3·4	1·8	2·4	1·7	4·2
1899	1·8	3·4	1·9	2·0	3·2	2·4
1900	4·1	4·5	1·6	1·6	1·9	1·9
Mean for 20 years	2·8	3·0	2·3	2·7	2·4	2·7
Mean for England and Wales	2·1	2·4	2·1	2·4	2·1	2·4
Glamorganshire ...	3·1	3·2	3·1	3·2	3·1	3·2

A. = Puerperal septic disease. B. = Accidents of childbirth.

The above figures are what was expected. Those for Monmouthshire as nearly as possible correspond with those for Glamorgan and the physical and industrial conditions of the two counties are almost identical. Again, the figures for Salop and Herefordshire are practically the same and practically also the same as those for the flat and agricultural counties of Wales such as Anglesea, Flintshire, and others. These figures tend to bear out the truth of my former remarks.

THE REGISTRATION COUNTY OF GLAMORGAN.

This registration county had according to the census enumeration of 1901 a population of 866.250, considerably over one half of the population of Wales. It covers 576 537 statute acres. The increase in its population has been phenomenal, as the following figures will show:—

Year.	Population.
1801	70,879
1811	85,069
1821	120,073
1831	126,612
1841	171,188
1851	231,849
1861	317,752
1871	397,157
1881	511,433
1891	687,218
1901	866,250

The county is divided by nature into a northern hilly country, "the Hills," cold, wet, and sterile; and a southern low-lying country, "the Vale of Glamorgan," or the "Garden of Wales," milder in climate and more fertile. The former is severed from the latter by steep slopes where the coal measures crop out in the south of the mineral basin. The hills are mining districts, while the lower grounds, or the Vale of Glamorgan and Gower, are purely agricultural and sparsely populated. The surface of the coalfields may be looked upon as a great plateau with an elevation of from 600 to 1200 or more feet above the sea level and intersected by a series of more or less parallel valleys excavated to a depth of from 500 to 800 feet below its general level and at the bottom of which run rapid streams. The valleys in the eastern region—the Rhymney, the Taff, and their tributaries the Rhonddas and the Cynon—trend, as a general rule, towards the south-east; those of the middle—the Ely, the Ogmore, the Garw, and the Llynvi—to the south; while those of the western region—the Avon, the Neath, the Tawe, and the Loughor—trend towards the south-west. They are generally narrow and deep, opening upon the "Vale" or the Bristol Channel, and they offer great facilities for mining and the carrying away of minerals along the railroads and canals which are constructed along most of them. All the coal-miners are in the hills and their valleys where I shall show that puerperal mortality is exceptionally high.

On analysis Table XIV. shows that the mortality rate from puerperal fever for 1881–1900 exceeds the average for England and Wales very considerably except in the registration districts of Pontardawe, Cardiff, and Gower. (Fig. 3.) The mortality rate from accidents of childbirth exceeds that for England and Wales in all the registration districts and very considerably so in five of these eight districts. (Fig. 4.) The highest death-rate from puerperal septic diseases occurred in the Pontypridd and Merthyr district and the highest death-rate from accidents of childbirth in Pontardawe and Pontypridd. The figures also for the various years show considerable variations and it is noteworthy that no deaths from puerperal septic diseases occurred in Pontardawe, during 1884, 1887, 1889, 1895, and 1896, or in Gower during 1881 and ten consecutive years from 1890. There were no deaths from accidents of childbirth in Pontardawe in 1882 and in Gower during 1883, 1888, 1889, 1890, 1893, 1895, and 1900. Although some 140,000 of the population live in what are termed rural districts it is not more than from 20,000 to

FIG. 3.

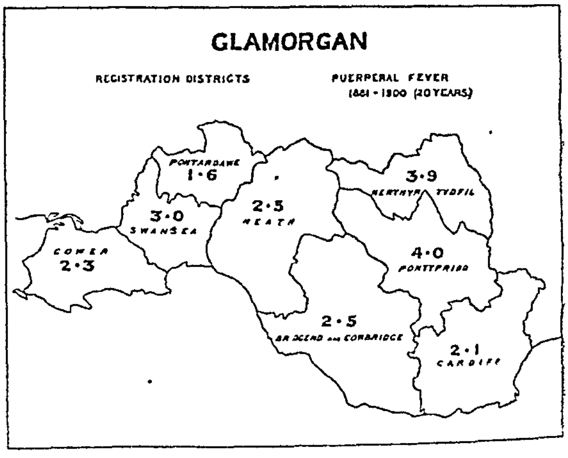
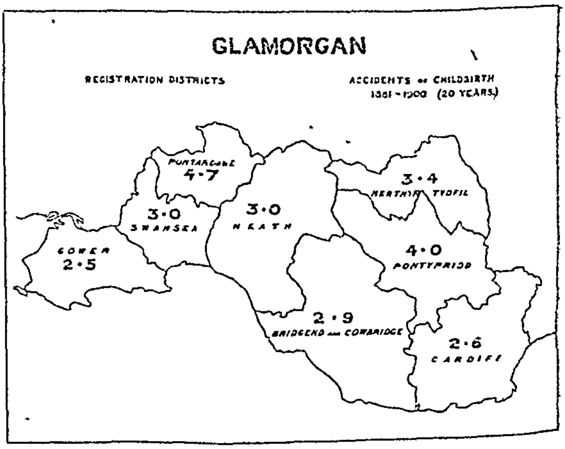


FIG. 4.



Registration districts of Glamorgan.

TABLE XIV.—SHOWING THE ANNUAL DEATH-RATE PER 1000 FROM PUERPERAL SEPTIC DISEASES AND ACCIDENTS OF CHILDBIRTH IN THE COUNTY OF GLAMORGAN DURING THE PERIOD 1881-1900 (20 YEARS).

Year.	Registration districts.															
	Cardiff.		Pontypridd.		Merthyr Tydfil.		Bridgend.		Neath.		Pontardawe.		Swansea.		Gower.	
	A.	B.	A.	B.	A.	B.	A.	B.	A.	B.	A.	B.	A.	B.	A.	B.
1881 ...	3·2	3·2	6·5	3·6	6·1	3·0	2·2	1·5	2·0	2·0	2·6	6·5	2·9	2·6	0·0	3·0
1882 ...	1·4	2·6	5·7	3·5	2·8	1·9	2·3	3·8	2·4	2·4	1·4	0·0	3·4	2·1	2·7	2·7
1883 ...	1·8	2·0	3·6	3·8	2·5	3·4	0·7	0·0	2·1	2·1	1·4	5·6	3·4	3·7	3·1	0·0
1884 ...	1·2	1·8	4·9	4·0	4·8	3·2	2·1	2·1	2·0	1·0	0·0	2·9	2·6	1·3	3·2	6·4
1885 ...	1·9	4·0	4·4	3·7	4·7	3·1	2·6	3·3	1·6	5·2	2·8	2·8	2·5	2·5	3·2	3·2
1886 ...	2·2	3·3	4·1	3·1	5·9	3·0	2·7	0·7	3·5	2·5	1·4	1·4	2·5	2·2	9·6	3·2
1887 ...	1·8	2·2	5·0	3·9	4·6	1·6	0·7	4·1	3·9	0·5	0·0	1·4	1·0	2·0	6·3	3·1
1888 ...	2·3	1·4	4·6	2·7	5·4	3·5	8·8	3·3	0·5	2·1	2·9	4·3	4·0	2·4	7·4	0·0
1889 ...	1·6	3·0	2·0	3·3	2·7	2·9	3·2	2·0	1·1	2·1	0·0	4·5	2·9	3·6	3·1	0·0
1890 ...	1·7	3·0	4·1	3·8	1·7	4·6	5·4	3·0	3·1	3·6	2·6	2·6	3·9	2·8	8·9	0·0
1891 ...	1·8	3·3	5·1	5·4	6·4	4·3	4·3	4·9	4·6	2·9	1·3	4·1	3·7	2·9	0·0	3·2
1892 ...	2·7	4·1	3·5	5·4	4·7	4·8	8·0	3·1	4·2	2·9	2·4	7·2	4·0	3·9	0·0	3·1
1893 ...	3·3	3·2	5·0	6·2	7·7	2·9	6·5	2·0	5·6	5·6	2·2	12·2	3·3	2·6	0·0	0·0
1894 ...	1·6	2·4	3·3	4·2	4·1	4·3	3·3	2·7	0·0	5·1	1·1	4·6	2·5	3·8	0·0	7·5
1895 ...	1·2	2·6	3·8	3·7	1·6	4·8	1·4	4·2	3·3	3·8	0·0	1·1	2·4	2·1	0·0	0·0
1896 ...	1·7	1·9	4·5	4·2	2·9	4·6	2·4	2·8	2·9	2·1	0·0	4·6	2·3	6·6	0·0	3·3
1897 ...	2·7	2·4	2·0	5·0	2·0	2·7	3·3	4·7	1·2	2·4	3·2	6·6	3·2	2·6	0·0	6·5
1898 ...	3·8	1·6	2·3	3·7	3·8	4·4	3·2	1·8	1·2	3·6	4·2	8·4	4·5	5·0	0·0	3·2
1899 ...	1·8	1·8	2·9	4·3	2·4	4·3	2·4	4·4	3·3	3·3	1·1	5·6	1·3	4·1	0·0	3·1
1900 ...	2·7	3·2	3·5	4·0	2·7	2·0	4·7	5·1	1·6	5·7	3·2	8·5	4·4	3·0	0·0	0·0
—	2·1	2·6	4·0	4·0	3·9	3·4	3·5	2·9	2·5	3·0	1·6	4·7	3·0	3·0	2·3	2·5

A. = puerperal septic diseases. B. = accidents of childbirth.

30,000 that live under true rural circumstances and these are the people of Gower, Vale of Glamorgan, and of the Neath and Pontardawe districts partly. I have no separate figures for the Vale of Glamorgan, which includes portions of several sanitary districts, mixed industrial and agricultural.

The Cardiff registration district has an acreage of 77,655 (0·3 acre to a person) and includes the county borough of Cardiff (estimated population 176,313), Penarth (14,228), and Barry (27,030) urban districts, together with the very extensive rural district of Llandaff and Dinas Powis, which is a scattered industrial and agricultural district with a population of 20,047. Its sanitary condition may be described as satisfactory and confinements are attended generally by medical men and midwives. Trained midwives can be had when required and there is no difficulty whatever, in securing medical assistance if and when required except in the more rural portions of it. It has been estimated that over half the confinements of Cardiff have been attended by midwives but no reliable figures can be given, whereas in residential towns within the area, such as Llandaff, Penarth, and Llanishen, nearly all confinements are attended by medical men and trained midwives. In Cardiff there are about 60 or more women who hold themselves out as midwives and practise for gain and the number of midwives for the whole registration district—viz., Cardiff, 60; Barry, 22; Penarth, 6; and Llandaff and Dinas Powis, 9—making a total of about 97. It may be further stated that the district is flat but somewhat undulating and that locomotion is easy. Here the mortality from puerperal septic diseases coincides with that for England and Wales, whilst that from "accidents of childbirth" is somewhat higher.

The Pontypridd registration district has an acreage of 50,457 (0·3 acre to a person) and includes the important urban districts of Pontypridd (population 32,319), Rhondda (122,310), and the rural district of Llantrisant and Llantwit Vardre (11,844). The first and second districts are situated on both sides of the River Taff in its long, narrow, deep, and tortuous valley, bounded on either side by high mountainous ridges. The river now contains but little sewage but a considerable amount of coal-dust, giving it an inky appearance. The water-supply, which is surface-collected and brought from a distance, is satisfactory although occasionally in dry seasons it is short. In both districts there are a few congested localities and in the latter some cellar dwellings. In both cases there is a considerable amount of overcrowding of persons in houses resulting from the habit of taking in lodgers. By far the most insanitary conditions in these districts which have been allowed to remain are the presence along the banks of the river near public roads and dwellings of enormous deposits of decomposing house refuse, and although the authorities concerned have been for many years discussing the advisability of erecting various refuse destructors and other remedies still these exist and continue to emit malodorous and unquestionably dangerous gases. I cannot prove definitely that typhoid or puerperal fever cases can be traced directly to these but I strongly suspect that they act as foci of infectious disease and that those who have the misfortune of living in their vicinity are rendered more susceptible to these diseases. These two districts may be described as essentially mining districts. There is yet another district making up this registration district—viz., Llantrisant and Llantwit Vardre. This contains a few and very old dilapidated villages and a few typical mining localities. Indeed, it may be described as a scattered mining and agricultural area. The water-supplies are satisfactory, the roads are good, and the means of locomotion are sufficient and available. There is no difficulty in obtaining medical aid in a short time. Throughout the registration district by far the majority of confinements are attended by untrained and ignorant midwives and comparatively few are attended by the medical men who are in charge of the various colliery practices. On referring to Table XIV. it will be seen that the average death-rate from puerperal fever and accidents of childbirth are exceedingly high.

The Merthyr Tydfil registration district has an acreage of 65,805 (0·4 acre to a person) and includes the urban districts of Merthyr Tydfil (population 69,228), Aberdare (43,357), Mountain Ash (31,093), and the so-called rural district of Gelligaer and Rhigos (18,169). The district comprises portions of three important mining valleys—viz., the Rhymney, the Taff, and the Cynon, and along each of them runs a river bearing the same name and containing but very little sewage matter. The district of Merthyr Tydfil may be described as containing a large number of congested areas and many very dilapidated back-to-back, back-to-earth, and cellar dwellings, without through ventilation and overcrowded. The outlying localities are in a more satisfactory sanitary condition. The water-supply, which is surface-collected from the Old Red Sandstone, is both good and plentiful. Most of the houses are drained and connected with the public sewer constructed over 30 years ago. Aberdare is in a fairly good sanitary condition, but here again there are a few congested areas along the river banks and here and there throughout the district will be found some back-to-earth and cellar dwellings without through ventilation. The water-supply is good and plentiful, being surface-collected and obtained from the Old Red Sandstone. Mountain Ash is a typical mining district situated in the same valley as Aberdare. The majority of the houses are of recent construction but there are several insanitary spots where the drains and sewers are defective and neglected. The water-supply, which is surface-collected, is good and plentiful.

Gelligaer and Rhigos district is situated in the Rhymney Valley on one side of the river and contains several typical mining villages, some of which are old. All the centres are sewered or being sewered. The water-supply is short during dry weather. Throughout the whole of this registration district there is no difficulty whatever in summoning medical aid. By far the majority of confinements are attended by unskilled and untrained midwives. On referring to Table XIV. it will be seen that the death-rates from puerperal fever and the accidents of childbirth are excessively high.

The Bridgend registration district has an acreage of 110,571 (1·6 acres to each person) and is situated partly in the Vale of Glamorgan and partly in mining valleys of Mid-Glamorgan. It includes the old market town of Bridgend (population 6063), Cowbridge (1202), a small seaside resort called Porthcawl (1872), an extensive agricultural area, together with the mining districts of Maesteg (15,012) and Ogmore and Garw (19,907). These mining centres are situated in narrow valleys, especially the Garw, where some few years ago puerperal fever was epidemic. In these valleys there occurred an epidemic of this malady in 1892–93. To this I shall refer presently. Bridgend and the valleys above it are now being sewered but the river up to the present has been the sewer of the locality and its condition in all probability was associated with the perennial prevalence of typhoid fever at Bridgend. The water-supply for all these places is fairly satisfactory. The majority of confinements are attended by untrained and unskilled midwives and few only, except in the older towns, by medical men. There is but little difficulty in obtaining skilled medical assistance at short notice. On reference to Table XIV. it will be seen that the mortality from "puerperal septic diseases" is excessively high, while that from "accidents of childbirth" is above the average.

The Neath registration district has an acreage of 87,811 (1·2 acres to a person) and includes the old towns of Neath (population 13,732), Briton Ferry (6961), Aberavon (7553), Margam (9014), Glyncorwg (6450), and Neath rural district (27,343), the last named being mostly rural in character but also containing several mining villages of recent growth. The sanitary condition of Aberavon, Briton Ferry, and Neath is unsatisfactory and there are a large number of courts, alleys, and areas in the two latter which are liable to become flooded and where the houses are overcrowded upon area and with persons. The water-supply is inadequate. The majority of confinements here are attended by unskilled and untrained midwives and there is no difficulty except in the outlying farmhouses in procuring skilled medical assistance at short notice.

Pontardawe registration district has an acreage of 34,000 (1·6 acres per person) and is conterminous with the Pontardawe rural district. It is much smaller in extent and population than the other registration districts, consequently the figures given, although extending over 20 years, are not quite so reliable. It includes several important industrial and mining centres and there are practically in it no congested areas. The water-supply is good and abundant and in nearly all instances the sewage is not stored in cesspools but taken away on land or disposed of otherwise. The death-rate from puerperal fever is below the mean for England and Wales, but that from accidents of childbirth is by far the highest in the county. Indeed, for one year, 1893, it amounted to 12 2 per 1000, in 1900 to 8 5, and in 1898 to 9·4, figures which almost approach those recorded in lying-in hospitals about 100 years ago. I have no explanation to offer for this, for there is no difficulty in procuring skilled medical assistance at short notice. I may mention, however, that many young women are employed at the tinplate works.

The Swansea registration district has an acreage of 36,056 (0 2 acre per person) and comprises the county borough of Swansea (population 95,133) and the scattered mining and agricultural district of Llangyfelach (29,989). The sanitary condition of the rural portion is far from being satisfactory and none of the populous mining centres are sewered. The water-supply is inadequate and unsatisfactory. There are no congested centres and but little overcrowding of persons. The majority of confinements are attended by unskilled and untrained midwives. The death-rates from puerperal fever and accidents of childbirth are considerably above the average.

The Gower registration district has an acreage of 41,110 (3·6 acres to a person) and includes the purely agricultural area of Gower (population 7266) and the small seaside resort of Oystermouth. There are no congested areas and the whole peninsula is a flat but undulating country. There is no difficulty in getting skilled medical assistance at short notice. Midwives attend the majority of confinements.

Below are given similar figures for the county boroughs of Cardiff and Swansea and the urban districts of Merthyr Tydfil and Rhondda, all situated in Glamorganshire in four different registration districts. The figures given extend over ten years.

TABLE XV.—*Showing the Annual Death-rate per 1000 from Puerperal Septic Diseases and Accidents of Childbirth for the County Boroughs of Cardiff and Swansea and the Urban Districts of Rhondda and Merthyr Tydfil during the period 1891–1900 (ten years).*

Year.	Cardiff.		Swansea.		Rhondda.		Merthyr Tydfil.	
	A.	B.	A.	B.	A.	B.	A	B.
1891	0 06	4·7	3 3	3·0	6 0	Not known.	2 5	5 9
1892	0·0	4 6	1·8	3·1	3 8		3 4	7 2
1893	0 5	3·8	3 6	3 0	4 8		9 3	4 4
1894	0 6	2 1	1·6	5·1	4 5		3 4	3 9
1895	0·18	1·6	1·8	2·4	2·8		3 5	3 9
1896	0 5	2·5	1·9	4·3	4·8		1·2	2·5
1897	0 9	2 0	2 0	2·3	2 4		2 4	2 4
1898	1·6	2 8	2·3	3·4	0·9		1·6	6 0
1899	0 9	2·0	0 3	3·4	3 9		1·6	4·2
1900	0·7	4·7	4·2	2·1	2 0		2·2	3 0
Mean	0 59	3·0	2·2	3·2	3 5		3·1	4·4

A. = puerperal septic diseases. B. = accidents of childbirth.

(*To be continued.*)

THE LYMPHATICS OF THE LARYNX AND THEIR RELATION TO MALIGNANT DISEASE OF THAT ORGAN.

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Anatomy of the laryngeal lymphatics.—In nearly all textbooks on laryngology but scant and imperfect notice is taken of the lymphatics of the larynx and of the subject of their involvement in malignant disease of that organ, yet the matter is one of considerable importance, not only from a pathological point of view but clinically with regard to prognosis, especially prognosis depending on operative treatment. A considerable amount of work has, however, of late been accomplished by anatomists in this field and it is the object of this paper to give an account of the most recent work on the lymphatics of the larynx and to discuss the anatomical facts in their relation to the spread of malignant disease of the larynx to the lymphatic glands. Apparently the first really accurate description of the laryngeal lymphatics was given by Teichmann who particularly drew attention to the distribution of the terminal vessels in the mucous membrane of the larynx. Sappey's (1874) well-known researches on the lymphatics completed the description of these vessels and described the general arrangement of the laryngeal lymphatic radicles, their continuation in the lymphatic channels, and final distribution to the glands. In 1887 Poirier[1] investigated the distribution of these lymphatics and pointed out that whilst most anatomists were agreed as to the presence of two regions in the larynx essentially different as regards the number and importance of the lymphatic vessels, the one supraglottic in the mucous membrane of which there is a rich network of lymphatics, and the other subglottic in which the lymphatics are particularly small and the meshes few, this condition becoming more accentuated as one follows them down towards the trachea, yet the intervening region, that practically of the true vocal cords, had not been adequately investigated.

The results of Poirier's injections of the lymphatics of the larynx may be summed up as follows. 1. As the lymphatic network in a subglottic injection is traced upwards it appears to end abruptly about one millimetre from the free border of the inferior or true vocal cords. 2. In a supraglottic injection the lymphatic system as it invades the superior vocal cords is found also to become altered; though lymphatic radicles traverse the superior cords, still they are found to become more and more attenuated as they reach their free border. 3. The lymphatics of the true vocal cords, although difficult to inject, are found to be present but only in small numbers and of small size. Poirier also found injections of the subglottic region difficult and increasingly difficult the greater the age of the patient. Most of his successful injections were made in larynges taken from children from one to seven years of age. On the rare occasions in which he was able to inject the lymphatics in old people he found the mucous membrane of the larynx much less thick than in children and adults and he concluded that there was a progressive atrophy normally of the lymphatic system in the larynges of old people and that this attenuation and atrophy not only applied to the laryngeal mucous membrane but also to the lymphatic ducts that go to the neighbouring glands. Most (1899) applied in the study of the laryngeal lymphatics the method of Gerota and recently Cunéo[2] has published an article giving his results, his conclusions being based on the results he obtained by injecting several larynges in the same manner as Most and confirming Most's results. I have personally also made some injections of the laryngeal lymphatics by Gerota's method and find that the results substantially agree with those of Poirier, Most, and Cunéo. Gerota's method of injection is as follows. Two grammes of Prussian blue to which three grammes of pure spirit of turpentine have been added are rubbed down in a mortar; 15 grammes of sulphuric ether are added and the whole filtered through a double layer of linen. The solution must be used at once for injection. The injection should be made with a syringe holding from 10 to 20 cubic centimetres. To the end of the syringe is fixed a small adjustment which receives the glass needle for puncturing the tissues. The larger end of the glass needle is wrapped round with a waxed thread to prevent leakage. The point is drawn out in the flame; it must not be too fine or yet too thick. The mixture is injected into the tissues under low pressure only. By this method a much better knowledge of the lymphatics of certain parts of the body unsuitable for injection by mercury has been obtained.

Cunéo's account of the lymphatics of the larynx; the lymphatic radicles.—The lymphatics of the larynx originate in a network that covers the whole of the internal surface of the larynx and is densest where the mucous membrane is thickest. It is divisible into two areas, a superior and inferior. The superior area in which the terminal meshwork is very dense and easy to inject includes all the portion of the laryngeal mucous membrane above the glottis, epiglottis, aryteno-epiglottidean folds, inter-arytenoid region, and superior vocal cords. (In my injections I found an alteration in the number and size of the lymphatic radicles in the superior vocal cords—they became less in number and smaller in size as they approached the free border of the superior cords; these results agree with those of Poirier.) The inferior area includes the mucous membrane of the larynx below the glottis. At this level the network is less dense and in all cases more difficult to inject than that of the superior area. These two areas are relatively independent of one another. They are, as a matter of fact, separated by an intermediary zone formed by the inferior true vocal cords, at which level the lymphatic radicles are even more rare and attenuated, although not entirely absent. At the level of the posterior wall of the larynx the two areas extend without any very clear line of demarcation. If an injection at the level of the inferior true vocal cord be pushed the material injected enters the vessels of the superior network. The lymphatics of one-half of the larynx do not communicate with those of the opposite side along the anterior median line but along the posterior median line the intercommunications are very numerous. The infraglottic meshwork is directly continuous with the tracheal network; there is no line of demarcation at all. Similarly the supraglottic meshwork is directly continuous with the network covering the mucous membrane of the pharynx and base of the tongue. The middle group of post lingual vessels receive vessels that come from the anterior surface of the epiglottis itself. All these facts are of importance from the point of view of the local spread of laryngeal carcinoma.

Distribution of the lymphatic channels arising from the lymphatic meshwork.—Each of the two areas has a distinct set of efferent vessels. The trunks arising from the supraglottic network run towards the lateral parts of the epiglottis and ary-epiglottic folds and then pierce the thyro-hyoid membrane at the point of entry of the superior laryngeal artery. After piercing the thyro-hyoid membrane these collecting trunks divide into three sets: an ascending group of one or two in number which cross the hypoglossal nerve and end in a gland situated just below the posterior belly of the digastric muscle; a horizontal group which empties into the glands placed on the internal jugular vein at the level of the bifurcation of the common carotid; and a descending group ending in glands of the same chain at a lower level—namely, the middle part of the lateral lobes of the thyroid gland. Sometimes one or two small glands are found on the thyro-hyoid membrane itself, but they do not apparently receive lymphatics from the larynx itself—their afferent vessels come from the lateral aspects of the pharyngo-larynx.

The efferent vessels of the infraglottic region are divisible into two groups—one anterior, the other posterior. The anterior group (supracricoid) consists of from three to four trunks which pierce the crico-thyroid membrane near the mid-line. Some of these trunks end, according to Poirier, in the prelaryngeal glands, others in a pretracheal gland, and still others in one of the glands of the middle or inferior sterno-mastoid chain (Most). The prelaryngeal and pretracheal glands form part of a chain described as the deep anterior cervical chain (Poirier). This chain consists of three distinct groups or masses of glands. 1. A prelaryngeal lot first noticed by Engel the existence of which has been confirmed by the work of Poirier who found the group present 49 times out of 100. Usually only one gland is present, which in the adult is of about the size of a pea and tends to atrophy in old age. It is found generally in the middle of the V-shaped space formed by the two crico-thyroid muscles, though occasionally it is overlapped by the inner border of one of these muscles. In one out of six cases a second gland of about the size of a pin's head has been found at the level of the top of the V-shaped space. Occasionally a gland is found on the upper edge of the isthmus of the thyroid gland (Mascagni, Most, Roubaud), and rarely a gland in front of the thyroid cartilage close to its anterior border. 2. A prethyroidean mass situated in front of the isthmus of the thyroid; this group is but rarely present. 3 A pretracheal mass usually consisting of one gland of the size of a small pea and situated about one and a quarter centimetres above the sternal notch. There may, however, be more than one pretracheal gland.

The afferent vessels of the prelaryngeal glands are some of the lymphatics of the middle lymphatic pedicle of the larynx and those of the pretracheal come partly from the thyroid body and partly from the prelaryngeal glands. The efferent vessels from the prelaryngeal, prethyroidean, and pretracheal glands empty themselves into the lowermost glands of the sterno-mastoid chain.

The posterior or infracricoid group consists of from three to five trunks which pass over the crico-tracheal fascia at the junction of the lateral and posterior aspects of the trachea. These trunks end in from two to five glands running parallel with the recurrent laryngeal nerve. These glands collect vessels from the thyroid body, the lymphatics of the inferior pedicle of the larynx, and the vessels from the cervical portion of the trachea and œsophagus. Their efferent vessels end in the lowermost glands of the sterno-mastoid chain and supraclavicular glands and not in the mediastinal glands.

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[1] Bulletins de la Société Anatomique, 1887, 15e serie.

[2] Gazette des Hôpitaux, No. 141, 1902.

To sum up, the lymphatic channels emanating from the larynx empty themselves into the glands placed under the sterno-mastoid muscles, into the prelaryngeal glands, into the glands accompanying the recurrent laryngeal nerves, and additionally into the supraclavicular glands. The sub-sterno-mastoid group of glands must be considered as the chief set of glands to receive finally the lymphatics of the larynx; the prelaryngeal, pretracheal, and recurrent groups are, as Cunéo remarks, simple glandular points placed as interruptors on the line of the lymph vessels going from the infraglottic area to the deeper group of sterno-mastoid glands.

Application of these anatomical facts to the extension of malignant disease of the larynx by the lymphatics.—In the year 1850 Krishaber divided cases of malignant disease of the larynx into two classes, those of intrinsic and those of extrinsic origin. He applied the term intrinsic to those cases in which the primary site of origin was the true or false vocal cords, the ventricles, or the parts immediately below the true vocal cords (subglottic), and the term extrinsic to tumours arising in connexion with the epiglottis, ary-epiglottic folds, inter-arytenoid space, &c. The reason of this division was a two-fold one—pathological and clinical. He laid down the dictum that "as long as the cancer remains intrinsic there is no glandular enlargement; when it is extrinsic the glands are infected." Schwartz uses practically the same terms—namely, "caviteires et marginaux." Cunéo, however, has quite recently suggested that Krishaber's statement is incorrect and classifies malignant disease of the larynx as supraglottic, infraglottic, and glottic in origin. He believes this division to be scientifically correct and based not only on the arrangement of the laryngeal lymphatics, as already described, but on ascertained clinical facts as regards the tendency to lymphatic involvement. Cunéo considers Krishaber's classification and formula inconvenient "in that it includes under the same heading varieties behaving as regards glandular infection in very different ways. One would have to admit that epitheliomas attacking the superior vocal cords, which are very rich in lymphatics, involve the glands equally late as in epitheliomas attacking the inferior vocal cords, the lymphatics of which are extremely few and ill-developed." He goes on to state that he has seen and collected cases showing that glandular infection occurs early when the superior vocal cords are the site of origin of laryngeal cancer. Accordingly, he suggests the following modification: "Glandular infection is more certain and more extensive in supraglottic cancer than in glottic or subglottic cancers." To my mind Cunéo fails to make out a sufficiently clear case for the abandonment of Krishaber's well-known classification and formula.

Although admitting the anatomical fact that injection of the laryngeal lymphatics shows that the lymphatic network is better marked in the area of the superior vocal cords than in the subglottic and glottic regions of the larynx, yet his statement that clinically there is a tendency to early implication of the glands in cases of carcinoma originating in the superior vocal cords is open to question and is most decidedly not borne out by the experience of most English laryngologists. On the contrary, those who have had most experience of malignant disease of the larynx in this country, such as Semon, Butlin, and others (and these two have had an experience second to none), have found that there is no more tendency to early infection of the glands when the disease originates in the false vocal cords than when attacking the true vocal cords or subglottic space. Is it not possible that Cunéo may be mistaken on this point on account of the undoubted fact that cases of malignant disease originating in the superior vocal cords may not for some length of time give rise to any obvious symptoms and therefore are not apt to come under notice until the disease is much advanced, whereas in malignant disease of the true vocal cords symptoms, especially hoarseness, are apt to be present in the earliest stage? This might easily account for Cunéo's conclusion as to early infection of the glands, for if two cases, one of cancer of the false vocal cords and one of the true vocal cords, were to be seen and diagnosed at the same stage, and that an early one, it would be found that in neither case were the lymphatic glands implicated. No; many years have now elapsed since Krishaber's classification and formula were adopted and clinical experience has only tended to prove that his classification is a correct one and that so long as malignant disease is limited to the interior of the larynx (intrinsic) glandular infection is rare, but that if the external parts of the larynx (extrinsic) be affected early glandular infection is the rule. There seem, therefore, no sufficient grounds at present to abandon Krishaber's division; no useful purpose would be served thereby and only confusion that already exists in abundance rendered worse confusion.

Extrinsic carcinomata all present certain characteristics tending to spread towards the upper opening of the larynx and the lateral parts of the pharyngo-laryngeal region. This progress is rapid and sure when the epiglottis or ary-epiglottic folds are primarily attacked, less so when the arytenoid region is attacked. Although extrinsic carcinoma reaches the final stage of its evolution by invading the extra-laryngeal parts it is particularly at the level of the posterior aspect of the thyro-hyoid membrane that it is liable to show itself externally—i.e., to ulcerate through. Extrinsic carcinoma tends to become arrested, at any rate for some time, in its growth downwards by the true vocal cords. Intrinsic carcinoma attacks most frequently the true vocal cords (29 out of 117 cases—Baratoux; 15 out of 55—B. Fraenkel, Semon), next in frequency the superior or false vocal cords, and lastly the subglottic region. Carcinoma of the true vocal cords is conspicuous by virtue of the slowness of its evolution. It tends to spread at first towards the opposite vocal cord and later to the supraglottic region. Similarly when the superior vocal cords are attacked extension is towards the supraglottic region.

Subglottic carcinomata are rare; out of 486 cases Sendziak only collected five. They tend to spread downwards and invade the trachea. Their growth upwards is usually checked by the true vocal cords, although in a case observed by Cunéo the true vocal cords were invaded, the parts above, however, being quite free. With the exception of malignant disease originating in the epiglottis or arytenoid region the disease tends to remain limited at its commencement to one-half of the larynx. Sooner or later, however, the neoplasm tends to attack the opposite side. A few cases have been reported in which the opposite side has become affected by contact, but usually it is by direct continuous invasion. This most often occurs at the level of the posterior aspect of the larynx, although it has been observed to invade the opposite cord through the anterior commissure (Semon). The distribution of the lymphatics can to a great extent explain these different particulars in the local extension of cancer of the larynx.

The arrest for a long time of growths reaching to the inferior true vocal cords is the result of the attenuation of, and diminution in the number of, the lymphatics at this point. In extending towards the superior laryngeal orifice and lateral aspects of the larynx extrinsic carcinoma only obeys the general law observable in the extension of all epitheliomas—namely, a preference to follow the course of the lymphatic stream. The connexion of the lingual lymphatics with those originating on the anterior aspect of the epiglottis explains the tendency to extension of malignant disease of the epiglottis to the base of the tongue. The continuity of the subglottic meshwork with that of the trachea equally accounts for the extension of subglottic cancer towards the trachea. The small number and ill-developed condition of the lymphatics of the inferior vocal cords account mainly for the slow evolution of epithelioma attacking that region. Finally, the relative independence of the lymphatics of each half of the larynx accounts for the non-involvement of the opposite side of that organ for a period at all events more or less lengthy.

Like all epitheliomata cancer of the larynx tends eventually to invade the lymphatic glands; in fact, it is the rule in late cases. Schleier has noticed it 20 times out of 125 cases and Sendziak notes 54 cases out of 486. It is only fair, however, to say that other observers give a much higher percentage—Juraz nine out of 21 and Schwartz 13 out of 28 cases. At the same time lymphatic infection is fairly rare if the growth be limited to the true or false vocal cords, particularly to the anterior two-thirds of the true cords. It is also uncommon in cases of subglottic origin. It is well to remember, as pointed out by Cunéo, that enlargement of the glands in a case of epithelioma of the larynx does not necessarily mean malignant infection. The enlargement may be due to septic infection from a septic malignant-ulcer or to some septic lesion of the pharynx. Much more attention should be given in all cases of post-mortem examinations performed on patients dying from malignant disease of the larynx to the microscopic examination of the neighbouring lymphatic glands; in two cases lately under my care, both advanced cases of intrinsic carcinoma and in which ante mortem no infection of the glands could be made out, post-mortem examination microscopically of the cervical glands gave no evidence of secondary infection.

In cases of epithelioma of the epiglottis and ary-epiglottic folds very early glandular infection is the rule. I have seen most extensive masses of fixed hard glands in such cases. The fact, nevertheless, remains that in many cases (intrinsic) glandular involvement occurs relatively late. Cunéo mentions several causes to explain this early immunity of the glands. First of all he points out that the major number of laryngeal carcinomata are squamous epithelioma (248 cases out of 486—Sendziak) and he goes on to state that it is well known that this variety of growth generally attacks the glands somewhat late. This, however, is certainly incorrect; for instance, in epithelioma attacking the tongue or tonsil very early and extensive implication of the glands is the rule. Again, he thinks cancer of the larynx tends frequently to become pedunculated and to grow into the cavity of the larynx without extending much beyond the border of its base of origin and points out that pedunculated cancers growing into a cavity do not as a rule invade the glands until a very late stage, a good example being papillary carcinoma of the bladder.

Whilst admitting that occasionally laryngeal epithelioma is pedunculated and may possibly for this reason not invade the glands until a late stage, yet in my experience it is exceptional to come across a case of laryngeal epithelioma that is pedunculated. Usually the neoplasm is sessile with a broad base of origin and much infiltration. The only rational explanation seems to me to lie in the distribution of the lymphatic meshwork of the larynx; if certain parts, such as the epiglottis and ary-epiglottic folds, are very rich in lymphatics and consequent glandular infection is both certain and early in appearing, it is seen that in other parts, such as the subglottic and less so the false vocal cords, the lymphatic meshwork is much less developed and that on the true vocal cords, one of the sites of election for epithelioma, the lymphatics are so few in number that their injection is a matter of considerable difficulty. In epithelioma attacking these parts glandular infection is as late in appearing as it is early when attacking the epiglottis or ary-epiglottic folds.

Distribution of glandular infection.—Bearing in mind the anatomical description of the glands already given one would expect infection to show itself in three groups of glands—the substerno-mastoid, the prelaryngo-tracheal, and the recurrent laryngeal. As a matter of fact all the glands included between the posterior belly of the digastric and the clavicle may become infected in cases of laryngeal cancer. There is nothing especially characteristic in their mode of invasion. Infection of the prelaryngo tracheal glands is decidedly rare although Most has collected a few cases. Similarly only a few cases are on record of infection of the recurrent group (Juraz, Fraenkel, Bergeat, Manver, and Most). In all the verification has been post mortem, as malignant disease of these glands owing to their small size and depth cannot be recognised clinically. The order in which the glands become infected varies according to the site of origin of the growth. If of extrinsic origin it is particularly likely to occur in the upper group of glands of the sterno-mastoid chain, and if subglottic in the lower group. As a rule the gland which is first found to be enlarged and that is most often met with in intrinsic carcinoma is placed at the level of the anterior border of the sterno-mastoid muscle about the height of the space which separates the hyoid bone from the thyroid cartilage (Schwartz) So long as the disease remains limited to one-half of the larynx glandular infection occurs only on the affected side. Most and Roubaud were unable to find a single case in which a unilateral laryngeal cancer had caused involvement of the glands on both sides. This is in strict accordance with the

cricoid plate glandular infection on both sides of the neck may occur.

These particular points in the pathological anatomy of cancer of the larynx carry certain practical deductions. Firstly, in early intrinsic carcinoma of the larynx of limited extent the disease can most thoroughly be dealt with by the operation of thyrotomy (or laryngo-fissure). It is very necessary, however, to bear in mind two important points with regard to this operation: (1) that the disease is frequently more extensive than the laryngeal picture has shown it to be and therefore the consent of the patient must be obtained to go further if at the time of the operation it is deemed necessary and to perform unilateral laryngectomy; and (2) that the fact of having to remove small portions of the cartilages of the interior of the larynx as well as the affected soft parts does not justify the operation being called a "partial extirpation of the larynx" in contradistinction to the term thyrotomy. As Semon has pointed out, the difference between a real partial—that is to say, a complete or nearly complete—removal of one-half of the larynx and a thyrotomy with extraction of a small piece of the cartilaginous framework is so great, owing not only to the much more extensive nature of the operation for partial laryngectomy but also to the nature and technique of the after treatment and dangers of complication, that the imaginary difference between a thyrotomy with simple extraction of the soft parts and a thyrotomy in which in addition to the extraction of the soft parts an insignificant piece of cartilage has also to be removed is ridiculous. Such cases must be reckoned in the category of simple thyrotomies. Secondly, in cases of extrinsic carcinoma or of intrinsic too extensive to be dealt with by thyrotomy the tendency of the disease to remain limited for a certain length of time to one half of the larynx justifies the performance of unilateral laryngectomy. The question as to the advisability of excising the neighbouring glands is one of great importance and unfortunately there is a considerable divergence of opinion on the matter. Out of notes of 298 partial or complete laryngectomies collected by Sendziak extirpation of the glands is only mentioned 25 times, a percentage of 8. Cunéo whilst admitting the tendency to comparatively late invasion of the glands and the rarity of recurrence in the glands (five cases out of 110 partial and seven out of 188 total laryngectomies) considers this proportion—i.e., 4·5 per cent. in the former and 3·9 per cent. in the latter—sufficient to justify the systematic extirpation of the set of glands liable to infection in all cases of laryngeal cancer, whether enlarged or not. The operative results of English laryngologists do not warrant the recommendation to extirpate in all and every case of malignant disease the set of glands liable to infection.

The whole question seems to me to turn on two main points: (1) the site of origin of the disease; and (2) the stage in which the disease is diagnosed. If an epithelioma of the larynx of strictly intrinsic origin is seen and diagnosed in an early stage and whilst therefore it is of limited origin the operation of thyrotomy as carried out in this country by Butlin, Semon, and others is amply sufficient to eradicate the disease. In the absence of obvious glandular involvement experience has shown that there is no need to perform a set operation to remove the group of glands liable to infection. Both Butlin and Semon, who are warm advocates of the operation of thyrotomy for early intrinsic carcinoma of the larynx, have had most brilliant results—results unequalled in the surgery of cancer in other parts of the body For instance, if one takes Semon's cases operated on by him between June, 1891, and July, 1898 we find he performed thyrotomy on 12 patients. Ten of these 12 patients have been completely and lastingly cured—a percentage amounting to 83 3. In none of these cases was it deemed necessary to extirpate any glands. On the other hand, in much advanced cases of intrinsic cancer of the larynx which necessitate removal of one-half of the larynx the corresponding glands should be removed whether they are felt to be enlarged or not. Also, in any given case of extrinsic origin, bearing in mind the certainty of early involvement of the glands, a set operation for their removal, whether enlarged or not, should always be the routine practice.

To sum up briefly this question one would agree with Cunéo that extirpation of the group of glands liable to infection should be systematically carried out in all cases of malignant disease of the larynx with the exception of those cases of intrinsic origin which are seen early, are of limited extent, and in which there is no clinical evidence of glandular infiltration.

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ON THE ETIOLOGY OF SCURVY.[1]

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As I have not dealt at all fully with the clinical aspect of the cases referred to in this paper I may perhaps state here that they conformed in every particular to what, I take it, would be regarded as typical scurvy. As to this no question has been raised, but I make the statement with the view of clearing up any doubts which may arise on this point. Briefly the subjects of these cases presented during life spongy bleeding gums, lassitude, anæmia, and breathlessness on exertion, followed later by lameness associated with synovitis in the joints, and hæmorrhages with brawny indurated swellings in one or both of the lower limbs. The urine was slightly acid. The blood showed marked poikilocytosis in the red discs. There were no nervous lesions. Death took place from cardiac failure usually and post mortem the blood was fluid; there were subserous, submucous, subpleural petechiæ. The heart was thin and pale, the right side being dilated, and there was excess of serous fluid in the pericardium. The body was well nourished.

Further, I wish to explain my attitude in the matter. I have approached the subject with a perfectly open mind and before this Transvaal experience I had no special acquaintance with scurvy. After studying this outbreak I endeavoured to explain it by the current views as to the causation of the disease but failed. I am therefore venturing to submit this thesis to the judgment of the society. I would ask you to approach the subject *de novo*, with open minds, setting aside for the present all historical writings and sayings on the matter, treating this outbreak of the disease as an entity, and in particular bearing in mind the fact that the question of the antiscorbutic value of any food is not being raised. I propose to lay before you some evidence pointing to the fact that the condition known as scurvy in adults is not brought about by the absence of any particular kind of food from the dietary but is more probably a specific infection of bacterial origin.

Towards the close of the Boer war, in May, 1902, there was presented the unusual spectacle in the Transvaal and Orange River colonies of lands devastated by fire, devoid of farms, of crops, and of cattle, with the entire human population—natives and Europeans, combatants and non-combatants—gathered together into a series of small communities or units, of fixed location and definite occupation, under supreme military control. Each of these units was supplied by the military authorities with food, this food being mainly imported from over sea and transported up country along closely guarded railway tracks. Thus every individual in every community was definitely rationed. Except in the few towns that still remained undestroyed it was found impossible to obtain food of any description save that imported. For the inhabitants remaining in these undestroyed towns there were provision stores which supplied goods at fixed prices and in definite quantities only. The shops, the inhabitants, and their houses were under close military supervision by day and night. Solely for the use of the military classes there were instituted the field-force canteens which supplied additional articles of food on payment. These canteens, though private ventures, were also under military control, and the demand from them by the troops for goods was nearly always in excess of their power to supply. The goods sold at these canteens were principally imported preserved foods and thus all in British military employ were enabled in some measure to supplement their regular rations. All other classes were dependent entirely on the Government for rations; and about this period every individual in the country could, with some degree of certainty, be accounted for officially as to dwelling place, employment, and amount and nature of food consumed. From the military organisation of affairs and division of the inhabitants into units no individual non-combatant could fare better or worse in his food-supply than the remaining members of his own unit. Thus all burgher camp inhabitants participated equally in the general food supply for the burgher camp population and so with the natives attached to the British army and the regular European troops. For each of them as a class there was a definite food-supply per individual, based on the general stores of food in the country and issued under the control of the military authorities. Sometimes the burgher camp population fared better than the troops; at other times the positions were reversed.

The evidence supporting the contention that scurvy is caused by a specific infection is derived from two sources—viz., the study of the epidemic behaviour of the disease and the study of its clinical features. The incidence of scurvy in the Eastern Transvaal will be considered in the following units: (1) the burgher concentration camps; (2) the European soldiers; (3) African natives attached to the British army; and (4) African natives attached to the civilian Repatriation Department.

1. *The burgher concentration camps.*—The burgher camps under special observation were those situated at Middelberg, Standerton, and Volkrust. Each camp numbered about 5000 inhabitants, of whom 48 per cent. were children under 12 years of age. The remainder were classed as adults, male and female, and were in the proportion of 1 to 3. The inhabitants lived in tents which were regularly arranged at wide intervals on sloping, well-drained soil, and each camp possessed its own internal medical and educational organisations. Every camp was surrounded by barbed-wire fencing and was closely guarded, and as ingress and egress were privileges subject to military control each camp was in a sense an open prison. No food could reach the camps or be distributed to the inhabitants except with official sanction. A definite scale of food, varying with the age of the individual, was laid down and rigorously adhered to. In each camp were separate quarters for the native camp inhabitants. These natives, who likewise had fixed rations, acted chiefly as servants to the members of the camp staffs and to the Dutch inhabitants. They averaged 150 per 5000 whites.

The incidence of scurvy at the burgher camps, considered in detail, was as follows. In the camp at Standerton, between March, 1901, and January, 1903, there were no cases of scurvy. In the camp at Volkrust, similar in every respect to that at Standerton and over a similar period, there were no cases of scurvy. In the camp at Middelberg, which was slightly larger than that at Standerton, there were 100 cases among Europeans and one case among natives over a similar period. This outbreak of scurvy among adults at Middelberg, which occurred during December, 1901, and January, 1902, under a dietary similar in all respects to that in use at the camps at Standerton and Volkrust, immediately lends colour to the suggestion that the cause of scurvy is to be found in conditions other than those usually associated with food. The inhabitants of these camps had no occupation other than their domestic duties.

2. *The European soldiers.*—The district under inspection as to the prevalence of scurvy among Europeans in British military employ was that of Standerton. All the sick within a radius of 40 miles were received into No. 17 General Hospital. This hospital had advanced up country through Natal with General Buller's army, being known as No. 4 Stationary Hospital, and finally found a resting place at Standerton as No. 17 General Hospital. It comprised 600 beds for Europeans and a variable number—from 30 to 70—for natives in military employ. Between December, 1899, and January, 1903, 22,000 European patients were admitted. This number included 100 sick Boer prisoners of war, 40 sailors of the Royal Navy, and 160 civilians in Government employment. There was not a single case of scurvy among these admissions. Between March, 1902, and February, 1903, 3000 soldiers around Standerton were examined while at their duties and only one was found to be affected with scurvy. This was a private on detached duty, living with, and having charge of, the transport section of the Native Sanitary Corps, and to his case further reference will be made subsequently. Scurvy, therefore, with this single exception was non-existent among European troops and Europeans in military employ in and around Standerton.

3. *African natives attached to the British Army.*—With regard to the natives in military employ in and around Standerton the evidence is derived from two sources: the statistics of the native Military Hospital attached to No. 17 General Hospital and a repeated examination of the natives in military employ in the Standerton district. Examination of the hospital record of admissions of natives shows that

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[1] A paper read before the Epidemiological Society of London on Feb. 19th, 1904.

the first case of scurvy admitted occurred in November, 1901. This was the first out of a total of 300 admissions for all causes. Among these 300, however, were 18 cases admitted for indefinite symptoms, such as debility, rheumatism, inflamed connective tissue, and periostitis. These may possibly have been cases of scurvy. No further cases of scurvy were admitted between November, 1901, and April, 1902. In May, the last month of the war, eight cases of scurvy were admitted, six from the Army Service Corps Transport Section on May 1st and two from the Sick Horse and Remount Depôts a few days later. In addition there were 27 cases, diagnosable by their symptoms only, of the character above mentioned. The total admissions to hospital from all causes between November, 1901, and May 31st, 1902, were 390. Definite scurvy, therefore, formed 2 per cent. of the total admissions and doubtful scurvy 7 per cent. Between June 1st and Sept. 30th, 1902, there were 193 admissions, including 22 cases of definite scurvy and 20 doubtful cases, i.e., 11 per cent. and 10 per cent. respectively of total admissions. The last period noted is from October, 1902, to February, 1903. The total admissions numbered 86. Of these, scurvy accounted for 24, and there was one doubtful case. Definite scurvy, therefore, formed 28½ per cent. of all cases admitted during this period.

The following is a summary of the foregoing facts. Between January, 1901, and February, 1903, 970 natives were admitted to the Military Hospital. Before May, 1902, definite scurvy was practically absent. During this month, after a total admission of 600 patients, eight definite cases of the disease occurred and were admitted to hospital. From this month onward until Feb. 7th, 1903, the prevalence of scurvy among the hospital admissions gradually increased from 2 per cent. to 28½ per cent. At the same time the total admissions for dysentery, diarrhœa, and enteric fever fell considerably and the monthly admissions fell from an average of 57 to 21. It is to be remarked that this notable increase in the percentage of admissions of scurvy cases occurred on the cessation of hostilities when the natives and troops to whom they were attached became stationary and concentrated in fixed camps in and around Standerton. It is of further importance to note that during the latter portion of the period under consideration when scurvy was most prevalent all restrictions in food had been withdrawn, and also all cases admitted came from units stationed in Standerton town.

Such is the information gleaned from the hospital statistics. The increasing proportion of scurvy cases admitted to the native military hospital led to a general inspection of all natives in military employ in and around Standerton. The men were examined in their own quarters while on duty. Outside Standerton, between March and July, 1902, before the troops and attached natives were concentrated in the towns, no signs of scurvy were found. After the concentration in Standerton natives were again examined and the following results obtained. Those inspected were of two classes, the labourers and the mule-drivers. The labourers were divided into the Native Labour Corps and the Native Sanitary Corps. In the Native Labour Corps there were 117 men employed and 16 per cent. were affected. In the Native Sanitary Corps 37 men were employed and 76 per cent. were affected. The mule-drivers were all attached nominally to regular regiments or corps. The following is a brief statement of the incidence of scurvy among them. Attached to pom-pom section, ten men; none affected. Attached to mounted troops, 67 men; 22 per cent. affected. Attached to Army Service Corps, Transport Section, 400 men; 32 per cent. affected. Detachment in charge of officers' carts, Army Service Corps, nine men; none affected. Detachment employed as police in Army Service Corps camp, eight men; four affected. To return to a consideration of the Native Labour Corps and the Native Sanitary Corps, these two units received exactly the same rations, which consisted of mealie meal 2¼ pounds daily and meat 1 pound weekly. The Native Labour Corps had 16 per cent. affected; their work was that of heavy goods porterage at the railway station. On the other hand, the Native Sanitary Corps had 76 per cent. affected and their work was that of gathering together the carcasses of animals that had died during the war around Standerton and burying them in pits. The eight men who were occupied in transporting the carcasses by mule wagons to the burial pits were every one of them affected with scurvy, as was also the European soldier in charge of this transport party. This is the case referred to previously as the only European found affected with scurvy at Standerton. His food was the same as that of the other soldiers at Standerton and was totally different from the food of the natives of the Native Sanitary Corps. Although he was granted the use of a separate tent, which stood side by side with those occupied by the Native Sanitary Corps natives, he, however, spent the whole of his leisure time with these natives and associated intimately with them. The natives of this corps had been recruited but three months previously, direct from their homes and had come in perfect health. It is a noteworthy fact that the head native of this gang occupied, with his family of six, a tent a short distance apart from the other natives and although their diet was similar to that of the corps none of them were affected with scurvy. The greater cleanliness of this head native's tent, as compared with the others, was also striking.

The marked contrast in the prevalence of scurvy in these two units—namely, 76 per cent. in the scavengers and 16 per cent. in the porters—under precisely the same dietary, again points to a factor other than food as the prime cause of the disease. Nor can that factor be entirely the unwholesomeness of the work of the Native Sanitary Corps because other diseases due to insanitary conditions, such as diarrhœa, were markedly absent. It may be further mentioned that although these two units, the scavengers and the porters, occupied separate quarters within a few hundred yards of one another, they were practically on one inclosed piece of land.

Next with regard to the mule drivers. Their food was exactly the same as that of the ordinary European soldiers with the exception of the lime juice ration. The cavalry, artillery, and pom-pom section natives lived in tents in the same camps as the European cavalry and artillery. Their surroundings were therefore comparatively cleanly and the incidence of scurvy varied from total absence in the pom-pom section to 22 per cent. in the cavalry natives. On the other hand, the natives of the Army Service Corps, who lived in a large encampment by themselves and whose tents were uncleanly and compared unfavourably with those of the cavalry and artillery natives, had 32 per cent. affected. Of the 400 men examined belonging to this division 200 were leaving for their homes on the following day, their contract period of service having expired. They complained of feeling too ill to work and refused to sign afresh any contracts for further employment. Quite one-half of this number were suffering from scurvy. It will be said, however, that the regular troops were supplied with lime-juice but not the natives. It may be pointed out, in return, that lime-juice was offered to all military natives in December, 1902, and the prevalence of scurvy was greatest in 1903. It must further be stated that the lime-juice was left severely alone by nine out of every ten men, troops and natives alike. This raw lime-juice was too acrid, too raw, and gave severe colic to many. It could not possibly be drunk without sugar and sugar was too valuable for other purposes to be taken to improve extremely unpalatable lime-juice. The ultimate result was that the natives attached to these corps and living with them had precisely the same dieting as the English troops. Still only the natives were found affected by scurvy and that corps of natives (the Army Service Corps) was most affected whose camp was most unclean and least under direct military supervision.

Here, again, proof seems to be wanting that the food factor is the cause of scurvy. In this connexion, further, the condition of affairs in the 19th Hussars is interesting. One squadron of the 670 Europeans forming the regiment were buying fresh vegetables regularly in addition to their ordinary rations. The remaining two squadrons subsisted on the rations issued; there was no sign of scurvy in either section.

4. *African natives attached to the civilian Repatriation Department.*—The last unit in which inquiry was made as to the incidence of scurvy comprised 900 natives of Africa employed as drivers and leaders of mules by the Repatriation Department—a civilian organisation inaugurated on the cessation of hostilities. The sick of this corps were treated at the hospital in the burgher camp, Standerton, when too ill to look after themselves; but when merely unable to work were kept in sick detention tents close by their regular quarters. Between August, 1902, and February, 1903, the department being in full working order, 50 cases of all diseases were admitted to the hospital. Of these 50—i.e., 62 per cent.—were cases of scurvy. In February, 1903, a final

inspection of the natives of this department was made. Of the 900 employed 500 were examined and 252 were found to be affected—i.e., 50 per cent. Of the 14 cases in hospital 12 were scurvy; of the 14 in the sick detention tents 12 were scurvy. In connexion with this inspection the diagnosis of the cases was confirmed by the senior medical officer of the burgher camp, Standerton (Dr. Alexander).

Again, the feature to be noted is that the food of these natives was quite as plentiful (in some respects more so) as that supplied to the natives under military control; but, on the other hand, their camp was the least tidy and cleanly of all at Standerton. The tents were overcrowded, closely packed together, and arranged with a total disregard for sanitation. The area of this camp, containing 900 men, was only one-third in extent of that occupied by the Scottish Rifles who numbered 500. The statistics of the sick in detention tents were not kept or the tale would have appeared heavier. Although the natives of the Repatriation Department did not outnumber by any means the natives in military employ the incidence of scurvy amongst them was the heaviest of all native units at Standerton. A consideration of this fact, then, that this body of natives with the best and most liberal food-supply in the town had the heaviest incidence of scurvy again points to the conclusion that food as a factor in the production of the disease must be eliminated.

Further evidence against food being the prime cause of the condition is afforded by clinical study of the cases—more especially by consideration of the mode of onset and the results of treatment. All these cases of scurvy commenced as an inflammation of the gums and the general symptoms followed at varying intervals but always secondarily to the gum condition. Improvement or the reverse followed *pari passu* with improvement or aggravation of the gum condition. This inflammation of the gums occurred in all cases without exception and in a definite manner. The process was as follows. Around the tooth and next to the gum was first noticed a collection of food. The gum edge nearest this aggregation soon became of a deeper red tint. This deeper tint area spread rapidly, but in the early stage was always separated from the healthy gum by a definite violet-mauve demarcation line. In a few days the whole of the gums, both internally and externally, became involved in the inflammatory process and areas devoid of teeth which had hitherto been healthy were now affected. At this stage the affected tissues were deep red in colour, soft, swollen, and compressible, tender, and bled easily on pressure. In a day or so the gums became easily separable from the teeth, and deep down, between the gums and the teeth, definite masses of a cream-cheesy consistency and colour could be seen and removed. These masses on microscopic examination were found to consist of pus cells, numerous micro-organisms of various kinds, and food débris. At this stage there were no constitutional symptoms nor could any changes be detected in the cardio-vascular system. These conditions developed later at varying intervals and it was found that they did not develop when means were adopted to improve the gum condition. Moreover, in cases in which the general disturbance was present there could be no ultimate recovery without a prior return of the gum condition to the normal. The method of treatment adopted, therefore, consisted of rest in the open air, isolation from previous surroundings, coupled with rigorous and frequent mouth antisepsis, care being taken to remove the cheesy masses mentioned above. The rate of general improvement and return of the gums to the normal condition was in direct proportion to the amount and efficiency of the antiseptic treatment employed for the mouth.

The fact that these cases when seen early could be completely cured by this treatment alone—with, be it noted, no alteration of any sort in the diet—argues directly against the diet being the prime cause of the condition. Further, the value of local treatment for the mouth condition is emphasised by a comparison of the results of treatment in advanced cases by (1) local *plus* constitutional treatment; and (2) by constitutional treatment alone. For local *plus* constitutional treatment the average length of residence in hospital was from 20 to 30 days, but for constitutional treatment alone it was from 60 to 90 days. It is also interesting to note that in advanced cases in which mouth antisepsis was employed there was little or no pyrexia, but that periods of pyrexia were a feature of similar cases in which this treatment was omitted.

These clinical facts, therefore, seem to suggest that the condition is not due to the food but is one caused by an infection through the gums and mouth. Whether the system is infected directly through the gums or through the swallowed saliva after the gum condition has developed cannot readily be determined.

Further, that the condition was found to prevail only among natives concentrated at Standerton, and then only in direct proportion to the absence of discipline and European habits of cleanliness, points to the fact that the unchecked habits of natives must in some measure either account for, or at least increase, the liability to the disease. The natives seldom used soap and rarely did they wash their hands or faces, and a large proportion, though they wore little or no clothing, were extremely verminous. This clothing was second-hand and usually consisted of one or more cast-off European garments which were very filthy and but seldom washed. They rarely washed their blankets and never swept out their tents. They had common eating and drinking utensils and frequently several ate out of one dish at the same time. Though dental caries is less common among them than among Europeans they rarely washed out their mouths. The majority of the natives chewed tobacco, "black cavendish" being easily obtainable through the troops, and not infrequently they passed the half-chewed "quids" from one to the other for further use. With this chewing there was expectoration free and plentiful—a habit found impossible to repress. Then they used mouth-organs and similar instruments in profusion, passing them from one to the other. They left both half eaten food and food in preparation lying about on the ground inside and outside their tents. Moreover, the tents were always in use and crowded during their off-duty time. Altogether these habits formed an excellent basis for the conveyance of any mouth-to-mouth infection.

To sum up—

1. The outbreak at the burgher camp, Middelberg, among Europeans and natives, was attributed to the nature of the food supplied. It was noticeable that the European sufferers consisted mainly of those persons who from advancing years were unable to fend for themselves, and of those who, suffering from mental depression at the prolonged separation from relatives, neglected to obey even the ordinary rules of personal cleanliness. Moreover, the cause could not have been in the food, seeing that food of precisely similar nature was in use at Standerton and Volkrust, and yet scurvy was entirely absent from these latter camps. But, on the other hand, the sanitary condition of the Middelberg camp was much inferior to that of the other camps named. At this time a determined effort was made to improve the sanitary condition of camps. Soap and fuel were ordered to be issued in unlimited quantities, whereas previously they had been supplied in restricted amounts. These articles were included in a new ration scale which was also introduced at this time. Scurvy now disappeared from Middelberg. It may be said that the cessation of the disease was due to the new diet provided, but the total absence of scurvy under the old dietary scale at Standerton and Volkrust is entirely opposed to this view, and it is remarkable that the disappearance of the disease was as markedly coincident with improved personal cleanliness in the Middelberg camp as with the change in diet.

2. Scurvy did not appear in the district of Standerton until the last month of the war when the mobile troops became stationary and concentrated into large units in the immediate neighbourhood of the town. Further, it continued with increasing severity among these units when war had ceased and when restrictions in the way of purchasing extra food had been withdrawn. After the war all classes were free to supplement their Government rations by purchasing fruit and vegetables at the various provision stores in the town. Special inquiry was made among those showing well-marked signs of the disease as to whether or no fresh fruit or fresh vegetables had formed part of their dietary in addition to the official supply of rations. In many cases there was abundant satisfactory evidence forthcoming to the effect that the sufferers were purchasing and consuming fresh pineapples, fresh bananas or fresh melons, and other vegetables imported direct from Natal. It is highly probable that these natives, whose daily pay always equalled and in many cases exceeded that of the English soldier, both purchased and consumed regularly a larger quantity of fresh vegetables or fruit than was the custom of our British European troops.

3. The only European affected at Standerton was attached to the Native Sanitary Corps—a unit of which 76 per cent. suffered from scurvy. Let it be noted, however, that this European lived with these natives. His diet was similar to that of the other European soldiers at Standerton, but he spent the whole of his time in the company of these scavengers and by reason of this mode of life was freely exposed to any mouth-to-mouth infection. On the other hand, the family of the head native, consisting of six individuals, was unaffected by scurvy. Their dietary was that of the Native Sanitary Corps, but they lived in a tent at a short distance from the scavengers' encampment and their standard of personal cleanliness was of a high order.

The varying incidence in the two units—the Native Labour Corps and the Native Sanitary Corps—namely, 16 per cent. in the former and 76 per cent. in the latter—cannot be explained by the food alone, since both units were on precisely the same diet.

4. With regard to the other natives inspected at Standerton not one of the 150 employed at the burgher camp as servants to the European camp staff was found to be affected, nor did natives employed as domestic servants in the European military messes, shops, or households in the town show signs of the disease; but in the remaining units, both civil and military, scurvy prevailed directly as the filthy habits of the natives were allowed to go unchecked by direct European control.

5. Of those sufferers from scurvy admitted to the military hospital at Standerton 12 per cent. died. Of those who recovered 90 per cent. returned to their former duties, their former dietaries, and their former surroundings; and though they lived among men afflicted with scurvy, yet the hospital records do not furnish a single instance of a patient once recovered from scurvy seeking readmission for a recurrence of the disease.

These facts, therefore, concerning the incidence of scurvy in the various bodies of individuals seem to be against the contention that food is the sole cause of the disease; and, moreover, the clinical facts also would seem to oppose the contention. The infection appears to occur through the mouth, the general system being involved later and secondarily. The manner in which the primary infection occurs and how it gives rise to the manifestations of the disease in the mouth are points on which it is not easy to make any definite statement and further investigation is required.

In conclusion, I submit that the facts adduced seem to prove that scurvy is not due to either the presence or absence of any particular kind of food from the dietary but rather to an infection for which food may act as a vehicle under conditions of dirty storage or dirty preparation; and considering that the disease prevailed in inverse proportion to the standard of personal hygiene of the individuals affected its infectivity would seem to depend on the insanitary habits and perhaps the unwholesome occupation of those who were its victims.

WEEKLY DIETARY SCALES AND INCIDENCE OF SCURVY.

A.—*In use at all Burgher Camps till Dec. 31st, 1901.*

salt, 4 oz.;

coffee, 3 oz;

Children (1–6 years).—Flour, 3½ lb. Remainder, as children (6–12 years).

Note.—When fresh meat served out—adults, 3 lb.; children, 2 lb. Tinned milk issued, "made up" by dispensers with water, ready for drinking, for children only, and issued daily but for adults only on medical officer's order. Wood and coal issued when required.

B.—*Introduced to all Burgher Camps Jan 1st, 1902.*

Age	Vegetables.	Flour.	Syrup or sugar.	Coffee.	Fresh meat.	Salt.	Milk.*	Rice	Soap.	Butter.
	lb.	lb.	oz.	oz.	lb.	oz.		lb	lb.	oz
Adults	1½	7	12	7	4	4	1 tin	1	½	4
Children, 6–12 years	1½	5	12	4	3	4	7 qts.*	½	½	4
Children, 2–5 years	As supplied by camp matron.	3½	12	—	2	2	14 qts.*	½	½	4
Children under 2 years... ...		2½	12	—	—	2	14 qts.*	—	½	4

* Tinned milk, made up by dispensers with water, daily ready for consumption.

A + B.—*Incidence of Scurvy.*

, 48 per cent.; adults—male, 12 per cent.;

population, 5000, *nil*; burgher camp,
nil; burgher camp, Middelberg, popula-

Outbreak in December, 1901, and January, 1902.

C.—*European Soldiers—at Various Times.*

Bacon or cheese, jam, frozen meat, fresh meat, tinned vegetables and meat, coffee, sugar, salt, rum, soap and fuel, tea, lime juice (not usually taken).

Admissions to No. 17 General Hospital, Standerton, 22,000. Scurvy, *nil*.

Examined on duty, 3000. Scurvy, one. (This man was in charge of transport section of Native Sanitary Corps, F.I. 2.)

D.—*For Natives employed in Burgher Camps: Standerton, Middelberg, and Volkrust.*

Flour, 7 lb; sugar, 8 oz.; coffee, 4 oz.; salt, 4 oz.; meat, 1 lb.

Total employed at each camp, 150.

Scurvy at Middelberg, one case; scurvy at Standerton and Volkrust, *nil*.

E.—*For Natives employed by Military as Muleteers.*

Lime juice issued in December, 1902, but not taken.

t,

y,

Scurvy, *nil*.
Field Battery R A., 67 men.
03.

F.—*For Labourers employed by Military as Porters and Scavengers.*

fresh, 1 lb.; lime-juice, 1 oz. weekly in

as burnt and drunk as a black liquor
mented makes a drink called "mahow"

I. *Native Sanitary Corps (Scavengers).*

February, 1903, at Standerton.

1. Examined, 34. Scurvy, 76 per cent.
2. Transport, 7. (To the transport section is attached the European under Dietary C who was affected with scurvy.) Scurvy, 100 per cent.
3. Later examined, 20. Scurvy, 100 per cent.
4. Head native with family of six, living separate Scurvy, *nil*.

II. *Native Labour Corps (Porters).*

Employed, 120. Scurvy, 16 per cent. Examined, February, 1903, at Standerton.

G.—*Natives employed by Repatriation Department, Standerton, as Muleteers.*

lb.; coffee, 7 oz.,

Canterbury.

THE TREATMENT OF TABES DORSALIS AND ITS PROGNOSIS.

BY DR. MAURICE FAURE.

IT is an erroneous idea to consider tabes as a disease amenable to one method of treatment, that is to say, by drugs. Whether the drug be nitrate of silver, which was formerly employed, or mercury, which is employed nowadays, the idea remains the same and the object is to cure the patient by means of a drug. A nervous disease is not an equation in which the observer may set one poison as equally opposable to another poison. The evolution of tabes bears a definite relation to various infections and intoxications. The patient is always a complex problem and the physician must in every case take into consideration such causes as syphilis, overwork, alcoholism, tobacco poisoning, influenza, tuberculosis, and the like. On account of the predominant part played by syphilis in the pathogeny of tabes it is indisputable that antisyphilitic treatment ought always to be tried, at all events at the beginning of the attack, and especially if the tabetic patient have not previously undergone antisyphilitic treatment, but this treatment should not be kept up as a routine and particularly when it is observed to give bad results. Certain cases of syphilitic tabes which are vigorously treated with mercurials given in increasing doses from the beginning of their rapid evolution are often much improved and furnish the greater part of the cures

(Lemoine, Leredde), but the systematic giving of mercury or of iodides in big doses in those patients in whom tabetic lesions are already well marked, whose general health is broken down, and who are suffering from auto-infections arising from the gastro-intestinal tract, the bladder, or the lungs, does nothing except increase the number of poisons in an organism which is already overcharged with them, and as a consequence aggravates the nervous disorders which are the consequences of those poisons.

It is indisputable (1) that no tabetic gets well solely on account of the quantity of iodide or of mercury which he absorbs, and (2) that aggravation of the disease is more frequent among tabetics who are put on an antisyphilitic treatment in increasing doses than among those who are not treated in this way (Belugou, Faure). It is necessary to avoid attributing exclusively to the action of heroic remedies such as mercury the relaxations and the diminutions in the symptoms of disease which are sometimes observed in the majority of cases of tabes, for such ameliorations are the rule, and it is incorrect to say that locomotor ataxy must be a disease which is necessarily and invariably progressive (Brissaud, Joffroy, Raymond, Marie, Ballet, and others). The disease is steadily progressive in a third of the cases. It is arrested, improved, or gets well in about a fourth of the cases and in the remainder it proceeds very slowly with periods of quiescence only affecting the life of the patient seriously on occasions, and during the rest of his life offering him the possibility of living a life the activity of which doubtless must be diminished, but which is by no means very uncomfortable and is markedly different from the average life which used to be supposed to be the only one in view for a tabetic; and this life may go on for a long time, for by statistics collected at Berlin, La Malou, and Bicêtre it appears that the duration of life of a tabetic is very nearly the same as that of a normal patient (Leyden, Belugou, Faure, and P. Marie).

Why, then, are the present prognosis and that formerly held so different? For many reasons. First, it is obvious that in the present day nearly all medical men know how to diagnose tabes in its very early stages, whereas in former years the diagnosis was only very rarely made. As the patient is made the sooner aware of his malady by so much is he the sooner treated. Secondly, the very general employment of the treatment by mercurials and iodides of syphilitic patients is probably a reason for the diminution in the evolution of tabes which may be called the daughter or niece of syphilis (Babinski, Leredde). And thirdly, because a tabetic patient nowadays is treated as a tuberculous patient and so many other patients suffering from chronic diseases, so that he does not sit down with his hands folded and resign himself without a struggle to the fatal sentence which used to be pronounced against him as soon as the diagnosis of tabes was given. The tabetic takes care of himself, that is to say, just as a tuberculous patient does; he modifies his mode of life, he gives up certain periods to treatment, he regulates his affairs and no longer carries on his work as a normal man but as an invalid—in short, he makes terms with his enemy and sacrifices a little to gain much (*il fait la part du feu*). He lays down a special regimen for himself and so is enabled to economise his life, so to speak, and to make the smallest demands possible upon his vitality. The physician who undertakes the care of a tabetic patient should map out his code of directions so as to attain the mean between two extremes. (1) He must not allow the patient to think that there will be a complete and radical cure within a few months or that there is any specific remedy for his disease; but (2) he must not allow his patient to abandon himself to his lot as one without hope or to think that his disease is inevitably tending towards death, for such is not the case. The physician should further inform the patient that the disease from which he is suffering will in all probability not get any less during his life, that it will diminish his capacity for work, and will be the cause of suffering and of discomfort, but that on the other hand the watchful care of the medical attendant and the willing coöperation of the patient will to a great extent avoid the occurrence of possible complications. Finally, he must tell him that tabetic patients have been known to get quite well.

As a matter of fact, the arrest with the persistence of the abolition of the patellar reflex or of Argyll Robertson's sign, or of any other symptom without importance has the same value for the patient as a cure. Besides this the medical man must attend carefully to the state of the patient's bladder and see that it is washed out; he must prevent the accumulation of fæcal matter in the intestines which so commonly occurs in tabes; he must keep a watchful eye upon his patient's nourishment and sleep and see that he is not underfed and that he does not suffer from insomnia; he will order him to live as much as possible in the open air and will protect him from overwork, either mental or physical; and finally he will watch with care the condition of the circulatory system. By doing this the physician will be in the way to combat most of the causes of death which supervene in tabes. Moreover, while this long watch is being kept the physician must remember to order such drugs as may be suggested by circumstances.

The physician should besides impress upon his patient the necessity for taking an annual "cure" of one or more months' duration during which the patient residing in a sanatorium should devote himself entirely to the task of repairing the damage already caused by the disease and of putting himself into a condition to resist the attacks of complications which may be expected to occur. During this therapeutic retreat the patient should by means of special exercises learn how to train his respiratory system, as it is owing to defects in this that a tabetic patient suffers from respiratory crises, such as attacks of suffocation, of broncho-pulmonary infection, or of hæmoptysis. He must also train his excretory system so far as regards urination and defecation. He will also find that he will greatly improve and possibly will recover altogether his powers of voluntary movement over which he may have completely lost control. During the period of retreat he may also submit himself to a special hygienic course of thermal hydrotherapy, and finally must employ all the methods which experience has already shown to be useful in cases of tabes.

But the continuity of the treatment must be maintained not for a day, or a week, or a month, but throughout the years. After years of strict care and of watchful medical surveillance the tabetic patient will find himself a changed man. Even though he do not recover the integrity of all his functions yet he may at least make sure of the prolongation of his life, of being able to do some kind of work, and to have health and strength sufficient to enable him to lead a useful and interesting life. It is by following these directions that the physician will find himself in a position to give in a case of tabes a prognosis which, if not absolutely good, is yet quite bearable in the majority of cases.

Paris.

SEVEN CASES OF HOUR-GLASS CONTRACTION OF THE UTERUS.

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HONORARY SURGEON TO THE EWELL AND EPSOM COTTAGE HOSPITAL.

THE following examples of hour-glass contraction of the uterus occurred in the last 200 cases of midwifery that I have attended.

CASE 1 (No. 58).—The patient was a middle-aged multipara. I was called in by a *confrère* when the child had been born five hours and the patient was much exhausted from loss of blood and prolonged manipulation. After examination I found that, with the exception of a small piece removed with the cord by forcible traction before my arrival, the placenta still remained in the upper portion of the uterus. Below this dilated upper third of the uterus was a firmly contracted ring of uterine muscle with an aperture of about one inch in diameter. Pressing the finger-tips of my right hand firmly together to form a cone I gradually forced them past the obstruction, then clenching my right fist I still further dilated the constricting part and after some manipulation managed to work round between the uterine walls and the remains of the placenta. This done the latter was easily removed and the left hand, which all the while had been grasping the fundus, then had no difficulty in inducing firm and general contraction of the womb. The lower two-thirds of the uterus had been the while in a complete state of inertia for my right hand and forearm had entered the uterus per vaginam as far as the elbow through a mass of jelly-like clots before I could reach the constricted orifice and the retained, though unattached, placenta. Friction of the fundus externally had been carried on intermittently, I believe, before I arrived, and the patient had lost a great deal of blood. An intra-uterine injection of hot water with permanganate of potass and a hypodermic injection of strychnine soon improved the pulse. Regular antiseptic douches were for the next ten days administered. This after-treatment was employed in all these cases.

CASE 2 (No. 116).—The patient, a very weak woman with her third child, miscarried at seven months after weeks of intermittent uterine hæmorrhage. The fœtus was born easily but immediately afterwards the uterus assumed a state of hour-glass contraction. With the left hand on the fundus the right hand was introduced as above described, and it was then found that the placenta was everywhere adherent above the contraction, and it had to be peeled off most carefully lobe by lobe; very little bleeding took place. I dared not give this patient an anæsthetic as her pulse was weak and intermittent. She made a good recovery. Her child was so weak and puny that he only breathed for a few hours.

CASE 3 (No. 134).—The patient, in her fifth confinement, showed a well-dilated os uteri, but the pains were ineffective and the head did not engage or descend. Forceps were therefore applied and grasping the head in its long axis I rotated and delivered it with ease, with the occiput anterior. The uterine inertia persisted after the removal of the child and an hour-glass contraction was discovered. The placenta, which was non-adherent, above the constriction, was removed as described in Case 1, with excellent after-results.

CASE 4 (No. 156).—The patient was a primipara, aged 42 years. Dilatation of the os uteri was very slow; the membranes, which contained a large quantity of greenish-black liquid, presented in front of the head and were mistaken by the nurse for a placenta prævia. After the child was born the uterine walls assumed the hour-glass condition. The woman engaged to nurse the patient was so ignorant, emotional, and deaf that I had to go out myself and secure a substitute during the first stage of labour. The patient weighed 16 stones, was the subject of chronic asthmatic bronchitis, and had a pulse so small and weak that I dared not administer an anæsthetic. Her only sister was an in-patient at a metropolitan asylum. As the patient throughout violently resented my manipulations the extraction of the placenta was very difficult, but eventually I succeeded. In spite of the complicating conditions she did well and her convalescence was uneventful.

CASE 5 (No. 169).—The patient was a healthy young primipara. The child was born naturally save for the fact that the cord was round the neck. An hour-glass contraction was noticed immediately after the birth. When the constriction was dilated the placenta, which was unattached, was easily removed and the patient made a good recovery. 12 months before delivery I saw numerous fibrous masses of any size up to that of a walnut which were discharged with the patient's menstrual flow on one occasion only. They might have been fleshy moles or masses of decolourised blood clot. I could detect no organised tissue.

CASE 6 (No. 189).—With her second child the patient showed an occipito-anterior presentation. The child was extracted with forceps under chloroform as the uterine contractions were futile in operation. Hour-glass contraction supervened on the birth of the child, but the non-adherent placenta was readily extracted. As in the foregoing cases the patient had no bad after-symptoms.

CASE 7 (No. 198).—The patient 14 months previously had miscarried at the fourth month. This labour was at term and with strong, steady pains the child appeared with the occiput anterior, the labour lasting four hours. After the birth of the child the fundus was felt so high up and so indefinite that the right hand was introduced into the uterus up to the elbow and an hour-glass contraction was discovered. The after-birth was lying loose in the upper third of the uterus and was retrieved in the way previously detailed. Recovery was in every way unexceptionable.

None of these placentas when examined showed any signs of morbid degeneration, nor was the cord attachment abnormal. Chloroform neither relaxed nor prevented the uterine band from contracting below the placental site. Matthews Duncan describes the condition "as one of uterine inertia both above and below the hour-glass contraction." Of this there can be no doubt, for although it is very often difficult to disengage the finger tips from the placenta and its membranes, which fall like a loose glove over them after they have overcome the hour-glass contraction, yet when once the fingers are completely disengaged it is found that there is plenty of room beyond the contraction—i.e., between the detached placenta and the upper inert uterine sac. From the cases above narrated it will be seen that, save in Case 1, no undue post-partum hæmorrhage occurred, as Simpson leads one to expect from this condition. Herman, who speaks of hour-glass contraction as "a rare condition," proceeds to suggest "that the circle of contraction is identical with the retraction ring or ring of Bandl." The illustration which he figures seems to point to the fact that perhaps the ring of Bandl is a synonym for the internal os. Playfair states "that this contraction is said to take place at the internal os." Clinically I have never been able to define the internal os during labour and when one's hand and arm enter a flaccid inert bag up to the elbow before reaching the constriction I can hardly believe that the inner os is so high. Rigby says that "the most frequent cause is over-anxiety to remove the placenta, the cord is frequently pulled at, and at length the os uteri is excited to contract." If, indeed, the uterus were not inverted by this procedure I think that Case 1 shows what would happen inevitably. Playfair also says "that if the *vis a tergo* was employed it would not happen but it is because the *vis a fronte* is used that these irregular and spasmodic contractions occur." Johnstone further "attributes the condition to the fact that ergot has been given before the expulsion of the placenta." But with the exception of Case 1 in all the above the *vis a tergo* was carefully and persistently employed, whilst no *vis a fronte* was used and ergot was not given in any of them until the uterus was completely emptied. Braun's sweeping assertion "that hour-glass contraction of the uterus is more frequently encountered in the experience of the young practitioner and diminishes in frequency in direct ratio to increasing years" seems hardly to account for such a definite condition.

Cases 3 and 6 showed obvious uterine inertia before delivery and made the use of forceps obligatory, so that it is not to be wondered at that this, another variety of uterine inertia, afterwards supervened, for I look upon the condition as an uncommon variety of uterine inertia. If the placenta is promptly extracted the irregular contractions can scarcely be regarded as more than an interesting feature, but when the condition is not recognised and treatment is delayed then the uterine sac is allowed to remain as two large flaccid bags, full of clots perhaps and with blood flowing or oozing from the placental site. The danger to the patient's life from this persistent inertia must be considerable, if not always immediate.

When the woman is lying in the usual obstetric position—on her left side—if hour-glass contraction supervenes the fundus lies high up in the left hypochondriac region of the abdomen and is hardly, or at most indistinctly, to be felt. These conditions are conveyed at once to the left hand which after the birth of the child ought never to leave the fundus till it yields a "cocoa-nut" sensation to the grip half way between the umbilicus and the pubes. When hour-glass contraction occurs the uterine cavity must be explored for the purpose of removing the after-birth, but with the proper use of disinfectants at the time and afterwards this manipulation should not give rise to any great danger. Chloroform should be given to mitigate pain if its use is not in any way contra-indicated.

The explanation of this abnormal muscular contraction of a section of the uterine walls seems to be that the womb is in full retraction and contraction to expel the child and when this has been accomplished it attempts afterwards to expel the placenta. But in a small proportion of cases the placenta cannot be at once detached by these muscular efforts from its uterine site and the retracting longitudinal muscular fibres, meeting with an unexpected resistance and exhausted by their recent prolonged efforts, relapse into a state of inertia. The circular fibres, however, below the placental site, acting simultaneously, find no resistance to their endeavours and contract firmly, and thereby exert perhaps an inhibitory action on the retractive longitudinal element below them—i.e., in the lower two-thirds of the uterine muscular walls.

Ewell, Surrey.

ROYAL UNITED HOSPITAL, BATH.—A cricket match, forming a continuation of the "Bath cricket week," was played at Bath on June 9th for the benefit of the Royal United Hospital. Both sides contained prominent members of the Somerset County Cricket Club and there was a large attendance.

cardiac sounds caused by the minute caverns of air in the tissues. 4. The diagnosis being made by the cutting out of the part played by the air by the various pressures of the stethoscope.

Camberwell, S.E.

AN ANALYSIS OF THE SYMPTOMS PRESENTED BY 132 CASES ASSOCIATED WITH THE PRESENCE OF ASCARIS LUMBRICOIDES.

BY WALTER H. HAW, M.R.C.S. ENG., L.S.A. LOND.

HAVING noticed a little time ago a correspondence in THE LANCET on "Fever due to Ascarides" I am led to hope that the following analysis of 132 cases, taken from my day-book and extending over a period of two years, may prove of interest to the profession. The symptoms refer to what was stated either by the parent or the patient or what was noted by myself. I do not wish it to be inferred that I ascribe every symptom to the presence of the worms; I merely am desirous of conveying that in 132 cases, where the ages ranged from eight months to 33 years, in which worms were present the accompanying symptoms were observed. They are put down in the order of frequency.

Fever was noticed 41 times (31 per cent.); vomiting, 38 times (28·8 per cent.); cough, 31 times (23·4 per cent.); abdominal pain, 29 times (21·9 per cent.); diarrhœa, 27 times (20·4 per cent); anorexia, 22 times (16·6 per cent.); restlessness, fretfulness, sleeplessness, night frights, and sleep-talking, 19 times (14·3 per cent.); rigidity of recti abdominis, 16 times (12·1 per cent.); emaciation, 14 times (10·6 per cent.); convulsions and nasal discharge, each 11 times (8·3 per cent.); constipation, 10 times (7·5 per cent.); cephalalgia, stomatitis, and pains in the limbs, each 9 times (6·8 per cent.); syncope, 8 times (6 per cent.); pallor, debility, and swollen hands or feet, each 6 times (4·5 per cent.); swollen face and nausea without vomiting, each 5 times (3·7 per cent.); delirium, 4 times (3 per cent.); swelling of the abdomen, mappy tongue, drowsiness, head sweats, pain in the chest, asthmatic attacks, and cold hands or limbs, each three times (2·2 per cent.); sweats, urticaria, eczema of the face, palpitation, crying fits, enlarged tongue papillæ, obstruction of the bowels, masses felt in the abdomen, and increased appetite, each twice (1·5 per cent.); while the following conditions were each noticed once (0·7 per cent.): jaundice, ascites, difficult micturition, nocturnal enuresis, erection of penis at the end of micturition, pains in the neck, fluttering before the eyes, photophobia, open-eyed sleep, sunken eyes, dark rings around the eyes, hysteria, trembling red fingers, decubitus on the knees and the hands, decubitus curled up, rigidity during sleep, and clonic spasms of the arms.

Knysna, Cape Colony.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

HILLINGDON COTTAGE HOSPITAL.

A CASE OF TETANUS TREATED BY THE INJECTION OF ANTITOXIN.

(Under the care of Dr. A. CHARPENTIER.)

A MAN, aged 29 years, suffering from tetanus, was sent to the Hillingdon Cottage Hospital by Dr. P. J. A. Seccombe of West Drayton. On admission on the evening of May 21st the patient was found to be dull and apathetic; his pulse was 100 and his temperature was 101° F. He complained of pain and stiffness in the back and neck, all the limbs were rigid though not fixed, the mouth could only be opened about half an inch, and the risus sardonicus was commencing to show itself. He was sweating profusely and the perspiration smelt sour, resembling that of acute rheumatism. A wound of about the size of half-a-crown was seen over the left patella, with a black slough in the centre, which gave off the characteristic offensive smell of a tetanus culture. The pus from the wound, examined under the microscope, showed the bacilli of tetanus and large numbers of staphylococci. The patient stated that he had burnt himself three weeks ago but had been to work until two days before admission when he had begun to feel pain. Soon after admission the patient had a tetanic paroxysm and had difficulty in swallowing. He was given a mixture of chloral hydrate and bromide of potassium. The next day he was anæsthetised and the wound was freely excised, with all antiseptic precautions, and 70 cubic centimetres of antitoxin were injected under the skin of the abdomen. (As it was Sunday the special serum for intracerebral injection did not arrive until late.) In the evening there was still a good deal of rigidity and the patient had one other paroxysm but slept fairly well. Early in the morning of May 23rd the patient was anæsthetised and two cubic centimetres of antitoxin were injected into each side of the brain, according to the directions given by Dr. Borrel of Paris, Mr. H. Swithinbank of the Denham Research Laboratory having kindly lent Dr. Charpentier the trephine and syringe. 20 cubic centimetres more antitoxin were also injected under the skin of the abdomen. The patient recovered well from the anæsthetic. When seen in the afternoon the rigidity had passed off from the limbs and neck and the patient could open his mouth and put out his tongue when requested. At 7 P.M. the temperature was 102·4°, the pulse was 120, the respirations were 40, and he was evidently very ill, although he could answer questions and had free movements of his limbs. The knee reflex was normal. At 10 P.M. the temperature was 104·2°, the pulse was 120, and the respirations were 60. Cold sponging reduced the temperature to 102° again and he took nourishment well, but he died at 8.20 the next morning.

Remarks by Dr. CHARPENTIER.—The interest of this case lies in the fact that the tetanic symptoms entirely disappeared under the treatment. And I regard the case as one of "mixed infection"—that is, that he was infected with septicæmia as well as with tetanus at the same time. For (1) the film showed the presence of cocci as well as the bacilli of tetanus and (2) death was certainly not due to tetanus or to any interference with the brain by the operation. The statistics of tetanus treated without antitoxin give a fatality of 86 or 88 per cent., while Koehler states that cases treated by intracerebral injection of antitoxin show a fatality of only 30·4 per cent. There is reason to suppose that the early use of antitoxin in every case will ultimately give us results almost as good as those obtained by the early use of antitoxin in diphtheria; in any case there is no other treatment that has any effect on the disease and as the antitoxin does no harm it is certainly worth trying in all cases and if used early enough the results seem promising.

ROCHDALE INFIRMARY.

A CASE OF GASTROSTOMY FOR STRICTURE OF THE ŒSOPHAGUS.

(Under the care of Mr. WILLIAM POOLEY.)

IN April, 1903, the following case came under the care of Mr. Pooley. The patient was a woman, aged 43 years, suffering from inability to swallow. Diagnosis was made of cancer of the œsophagus and probably of the thyroid gland, with secondary implication of the lymphatic glands. On May 15th she was taken into the infirmary for operation. She was then very emaciated and suffering acutely from hunger and had also a troublesome cough and much salivation. For four days she was fed on nutrient enemas and gained strength. On the 19th Frank's gastrostomy was performed in two stages, the stomach being opened on the 20th, when the tube was inserted and feeding commenced and was well borne. The patient made an uninterrupted recovery, the temperature never rose above 99° F., and the pulse kept more or less normal and of good volume. The abdominal wounds were healed on the 29th and she went home on June 9th.

On July 7th she was readmitted suffering from dyspnœa, due to the pressure of the growth on the trachea. On the 10th tracheotomy was performed (the lower operation). Again she made a rapid recovery and was discharged on the 22nd She now gained weight and was able to attend to her children and household duties and Mr Pooley only called occasionally to see her, as the district nurses (Queen's Jubilee) went twice daily and attended to her tubes She continued free from pain, had a good appetite and was cheerful till towards the end of December when she began *to suffer from attacks of syncope She died on Jan 27th,* 1904, the end being hastened by the growth opening the vessels in the neck and causing profuse hæmorrhage The photograph which is reproduced was taken on Oct 31st, 1903 five and a half months after the first operation

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PRETORIA HOSPITAL

A CASE OF RECOVERY AFTER OPERATION FOR PERFORATION IN ENTERIC FEVER

(Under the care of Dr GEORGE THORNTON and Dr A W SANDERS)

A MAN, aged 22 years, was admitted into the Pretoria Hospital on Feb 6th, 1904, with a history of severe headaches and general malaise for three days A positive diagnosis of enteric fever was made a few days later from the persistent fever, the occurrence of definite "spots," and a palpable spleen. The disease ran a mild course and by the middle of the third week the morning temperature was normal, the evening temperature was from 99 6° to 100° F, and the pulse was only from 72 to 76 On Feb 24th (the twenty first day of the disease) a change, however, occurred About two o clock in the afternoon the patient complained of colicky pain in the abdomen Some carminative was given and a hot water bottle was applied to the abdomen with apparent relief Shortly before 6 P M there was another attack of colic of much greater severity Dr Laing (assistant medical officer) was called He noted that though the temperature was only 97 6° the pulse was 100 and that the patient was looking anxious and was decidedly ill. Dr Thornton saw the patient with Dr Laing at 6 30 P M and distinct rigidity of the right rectus muscle and some tenderness in the right flank were found Palpation seemed to bring on spasms of pain which caused the patient to assume a decided "peritoneal" look The abdomen was not at all distended but was quite hollow as it had been for some time past The liver dulness was apparently normal The pulse, which had been only 72 at 2 P M, was now 116 although the temperature had fallen from 99 6° to 97 6° Dr Thornton and Dr Laing both came to the conclusion that perforation had occurred quite recently A *turpentine enema was ordered* and their surgical colleague Dr Sanders, was sent for with a view to operation if he agreed with the diagnosis The enema acted well Dr Sanders began the operation at 9 P M and the correctness of the diagnosis was soon established At the time of the operation the pulse rate had risen to 126 The *patient stood the operation very well* and on the next day his condition was excellent, his temperature was 99°, his pulse was 88, and there was no abdominal pain On the second day after the operation one grain doses of calomel were given every two hours for four doses followed by a one ounce dose of a saturated solution of magnesium sulphate The bowels had not acted by the next day and there were some distension and general abdominal discomfort, so two five grain doses of compound powder of elaterin were ordered to be given at four hours' interval That night the bowels were *moved freely to the great relief of the patient.* The next few days were uneventful and the patient made steady progress towards recovery Eight days after the operation however, the temperature began to rise again because of *the onset of a definite relapse which was attended by fresh crops of "spots" The relapse was of a mild type* and never caused any real anxiety although it ran a full three weeks' course On May 8th the patient was up and about and on ordinary diet.

Remarks by Dr THORNTON —The steadily increasing successful result to be obtained by surgical treatment of the above otherwise fatal complication is now well established The present case (the first successful one in South Africa) affords an example which it is hoped may be calculated to encourage others to adopt similar measures The following points of interest may be noted in connexion with the case the occurrence of perforation in a mild case apparently just about to enter on convalescence and exhibiting a clean tongue and a hollow abdomen, the premonitory signs of peritoneal pain and quickening of the pulse from 2 P M until actual *perforation* about 6 P M —"*preperforative stage*", the absence of any *apparent change in the liver dulness* after perforation and the explanation in the condition found on opening the abdomen—viz, a pinhole perforation practically sealed by inflammatory lymph, the steadily increasing pulse *rate along with a persistent subnormal temperature*—72 at 2 P M and 126 at the time of the operation (9 P M), and the production at so early a stage of the "peritoneal look on palpating the abdomen and its spontaneous occurrence also

No case could have been more hopeful and that recovery did occur is not surprising Unfortunately a similarly favourable condition is not always found even when an early diagnosis of perforation is made and an operation quickly resorted to We have had several cases operated on quite as early and have found a large perforation with a free escape of liquid *fæces* spreading widely amongst the intestinal coils In such cases I imagine that recovery is the exception Finally, I may be allowed to remark that in my opinion there ought to be no hesitation in giving aperients and if necessary stronger purgatives within two or three days of the operation if there be signs of increasing distension I believe the value of this is well recognised after laparotomy for other reasons

Remarks by Dr SANDERS —The successful issue of this case was, I believe, due to the attack being of a mild type the perforation speedily recognised, and an operation quickly resorted to Chloroform was given and a median incision was made The first coils of intestine seen appeared normal but on displacing these other coils were observed showing a general fine injection of their peritoneal coat and still later others with traces of inflammatory lymph adherent to them On *withdrawing a coil thus affected a portion* was soon found in which ulcers could be seen. One of these had extended through to the peritoneal coat and on its outer surface was some adherent lymph On removing this a fine perforation was seen from which bubbles of gas could be expressed A second ulcer also appeared nearly to have perforated Both ulcers were invaginated by pressing a probe over them in the long axis of the bowel and the edges of the groove thus formed were sewn together by several Lombert's sutures The peritoneal inflammation was fairly extensive but there was *little or no fluid between the intestinal* coils and there was no recognisable sign of any real fæcal contamination The affected area was well washed with hot *saline solution* and a counter opening was made in the right flank. A drainage tube was passed through this from the *abdominal incision* On the first two days after the operation [illegible] through this tube but as [illegible] ation was discontinued at [illegible] The wound healed quickly and well

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Protracted and Recrudescent Infection in Diphtheria and Scarlet Fever.

A MEETING of this society was held on June 14th, Sir R. DOUGLAS POWELL, Bart., the President, being in the chair.

Dr. ARTHUR NEWSHOLME read a paper on Protracted and Recrudescent Infection in Diphtheria and Scarlet Fever. He first detailed instances of cases of each of these diseases illustrating the occurrence of protracted or recrudescent infection in different circumstances: when there had been (*a*) contact or (*b*) no contact with other acute cases of the same disease; (*c*) when there had been several weeks' interval between the occurrence of the "return" case and the latest exposure of the infecting patient to the infection of other patients; and (*d*) when the patient had been treated alone at home. The various explanations of "return" cases were considered, including, besides the ordinary ones of failure of disinfection or a true "return" of infection, the possibility of a relapse of the original disease, of latent microbism, or of missed cases. Instances were given of diphtheria of infectivity continuing over 110 days or even longer. Instances of the somewhat neglected infectivity of ear discharges in diphtheria were given. The following considerations were emphasised: 1. "Return" cases are relatively rare and do not seriously invalidate the utility of isolation hospitals. 2. These cases occur generally, but not always, in connexion with rhinorrhœa and otorrhœa. 3. Accurate hospital records of complications are needed. 4. Post-isolation supervision of both home-treated and hospital-treated cases of scarlet fever and diphtheria is required. 5. The rhinorrhœa, which is the main index of protracted infectivity, is oftenest already present when isolation is commenced. 6. In some instances dormant infection is again roused into activity by catarrhs and the like. The close analogy between diphtheria and scarlet fever, as regards both protracted and recrudescent infection, was urged. The conception of protracted infection in diphtheria had been stated by Greenhow and Gresswell, but in scarlet fever it had not been recognised until recently. There could, however, be little doubt that it had occurred long before the period of isolation hospitals and that it explained the persistent belief in the infectiousness of late desquamation. The bearing of these considerations on the hospital treatment of these diseases was next discussed and the proposition was based on the foregoing facts that "in scarlet fever, as in diphtheria, the occasional persistence of infection is a phenomenon in the natural history of the disease, irrespective of, and in the main uninfluenced by, the external conditions to which patients are ordinarily subjected." This view was not, in Dr. Newsholme's opinion, contradicted by the apparent statistical excess of "return" cases in hospital experience. No statistics making due allowance for varying conditions of age and susceptibility had hitherto been made on a sufficiently large scale. The possibility of *non ceteris paribus* had not been borne in mind. It was reasonable to believe that the scarlatinal germs multiplying in the patient himself and collecting on the rhinorrhœal lesion with which the patient was usually admitted would be in large numbers and be more efficient to produce secondary infection than the relatively minute number that could obtain ingress from other patients. The notion that increased infectivity was caused by hospital aggregation was borrowed from the like theory for small-pox and in both instances was a theory to support a theory. The bearings of relapses of scarlet fever on this theory were discussed and the analogy of enteric fever, in which such relapses could not be caused by fresh external infection, was pointed out.

Dr. E. W. GOODALL said that he could cite many cases of protracted infection in diphtheria and scarlet fever and believed that it was well known that a patient who developed scarlet fever during convalescence from diphtheria was very liable to a relapse of his primary disease. He agreed that the protraction of infection was not due to hospitalism and that there were more instances of the kind in cases treated at home than was generally supposed. He laid stress on the part played by "secondary throats" as well as by mucous discharges in producing "return" cases and was of the opinion that desquamation was not a dangerous source of infection. Rhinorrhœa sometimes occurred for the first time after the patients had returned to their homes and in these cases was often responsible for the infection of others. It was not proved that complications in scarlet fever and diphtheria were more common in hospital than in private practice.

Dr. P. CALDWELL SMITH said that in his district he had had in 1902 4·5 per cent. and in 1903 6·5 per cent. of "return" cases and he believed that something would have to be done in order to reassure the public feeling in the matter.

Dr. W. J. R. SIMPSON did not agree with Dr. Newsholme that protracted infection was a part of the natural history of the pathology of these diseases. At a hospital in connexion with the Pasteur Institute in Paris patients suffering from various infectious fevers were separated in cubicles with glass partitions and one nurse attended several different cases, taking very careful measures in the way of disinfection. He was of the opinion that the ward system was in some degree responsible for "return" cases.

Dr. W. BUTLER did not think that hospitalism was alone responsible for "return" cases and stated that there was no evidence of medical men, nurses, or attendants carrying infection outside fever hospitals. He had had considerable experience of home-treated cases carrying infection for protracted periods and had found that convalescent homes to which only uncomplicated cases had been sent were as great, or greater, sources of secondary infection as hospitals where acute and complicated cases were aggregated.

Mr. D. L. THOMAS in investigating outbreaks of diphtheria for the late London School Board had come to the same conclusion as Dr. Newsholme as regards the part played by protracted infection and urged the more continuous supervision and bacteriological examination of cases.

Dr. C. K. BOND argued against the present hospital system but thought that the importance of "return" cases was exaggerated.

Dr. NEWSHOLME replied.

OPHTHALMOLOGICAL SOCIETY.

Primary Optic Atrophy due to Lead.—Optic Atrophy after Post partum Hæmorrhage.—Optic Glioma.—Microphthalmos.—Exhibition of Cases and Specimens.

AN ordinary meeting of this society was held on June 9th, Mr. JOHN TWEEDY, the President, being in the chair.

Mr. SIMEON SNELL (Sheffield) related a case of Primary Optic Atrophy due to Lead occurring in a boy aged 16 years. The sight had commenced to fail for rather more than a year before the patient was first seen in October, 1903, and had rapidly become worse during the past three months. The vision was: right, $\frac{2}{60}$; and left, $\frac{1}{60}$; both optic papillæ were white and atrophic but did not suggest preceding neuritis. The family and personal histories were good. For two or three years the boy had worked as a file-cutter which exposed him to the influence of lead and he had the ordinary symptoms of lead poisoning. The optic atrophy was, in Mr. Snell's opinion, due to this cause and all other causes had been eliminated. Mr. Snell, after mentioning a similar case, stated that among file-cutters he had observed several instances in which the optic nerves were affected either directly by the lead or in association with kidney or brain disease.

Mr. SNELL related the following case of Optic Atrophy after Post-partum Hæmorrhage in a woman, aged 28 years, who was seen last February a few days after recovery from puerperal mania. Both papillæ were atrophied but there was no evidence of past neuritis. There was no perception of light and the pupils were dilated and motionless. On Oct. 3rd, 1903, she was delivered of her first child at full term, but an hour afterwards she had hæmorrhage and although the amount lost was not very great yet she had never seemed really to have recovered from it. It was doubtful when the failure of sight had commenced but it had been suspected for some time. She had probably not seen at all for two months. There was no albumin nor throughout the pregnancy anything to suggest kidney disease. Mr. Snell referred to a previous case he had seen in which the sight was greatly affected by the same cause and he also alluded to cases collected by Chevallereau.

Mr. SNELL also narrated the following case of Optic Glioma. A baby, aged one year and ten months, was first seen on April 1st, 1897, when glioma of the retina was diagnosed. One eye was excised on April 7th and the tumour was found to be confined to the globe but was rather large. On Jan. 7th, 1899, the child was again seen with a similar condition in the other eye. This was excised on March 1st and at the present time the child was alive and well. Mr. Snell referred to the small number of cases in which both eyes had been removed for glioma without a fatal result. Other cases related were as follow. A girl, aged four and a half months, was sent to Mr. Snell on Dec. 18th, 1903, with glioma of the right eye; the eye was removed on Dec. 22nd and the growth found to be confined to the globe which it nearly filled; there was no recurrence. Another member of the same family had suffered from glioma of both eyes, which had proved fatal, the parents having refused to allow the removal of both eyes; there was one other child between these two who was alive and healthy. Mr. Snell mentioned that until recently no instances had been published in which glioma had occurred in more than one member of the same family. Up to the present time three observers besides himself had recorded cases.—The PRESIDENT, Mr. A. STANFORD MORTON, and Mr. C. DEVEREUX MARSHALL mentioned cases which they had seen of glioma bearing on the points brought forward by Mr. Snell.

Mr. M. STEPHEN MAYOU gave a lantern demonstration of the Anatomy of Three Cases of Microphthalmos which he had examined.

Cases and specimens were shown by Mr. LOUIS WERNER, Mr. E. E. HENDERSON, Mr. G. W. ROLL, Mr. E. W. BREWERTON, and Dr. RAYNER D. BATTEN.

EDINBURGH OBSTETRICAL SOCIETY.—A meeting of this society was held on June 8th, Dr. N. T. Brewis, the President, being in the chair.—Sir J. Halliday Croom read a [illegible] or Eclampsia with two cases. [illegible] he first to carry out Cæsarean [illegible] combined with contraction of the pelvis in the first degree and with a successful result. Sir Halliday Croom's first case was that of a primipara, aged 20 years. She had been well till the day previous to her admission into hospital when she suffered from slight headache; there was no appearance of œdema. On the day of admission she had vomited for some time and then frequent convulsions came on and she was in a comatose condition on [illegible] baths were [illegible] oroform was [illegible] lsions but it [illegible] albuminous. [illegible]

this offered the only hope for the woman and the best chance for the child. The operation was performed in the [illegible]

[illegible] had collected 28 cases o[illegible] more. [illegible] latter or[illegible] the forn[illegible] embered that only in the [illegible] [illegible] sarean section performed. [illegible] mortality was estimated variously from 3 to 25 per cent. and the infantile mortality from 25 to 54 per cent. Sir Halliday Croom then discussed the different theories of eclampsia, that of auto-intoxication, of uræmia, anæmia and œdema of the brain, pressure on the vessels of the renal system, acetonæmia, microbes, and hepato-toxæmia. The kidneys were mostly diseased; in 98 per cent. of the cases albumin was present in the urine. Recent experiments on animals had shown that the urine and serum of eclamptic women produced negative results. As regards treatment, owing to the special excitability of the nervous system in pregnant women any treatment that would anticipate, avoid, or shorten labour must be the best for the woman. The present knowledge of the causation and pathology of eclampsia was very unsatisfactory and could afford no reasonable basis for treatment. It was due to some toxic material in the blood and the great point was to favour the elimination of the poison; this was done by various means and the convulsions were controlled by chloroform, chloral, and morphine. The main point was rapid delivery. In the great majority of cases the fits ceased on delivery; therefore rapid delivery was desirable. There were four methods: Duhrssen's cervical incisions, dilatation by the dilators of Bossi and Fommer, vaginal Cæsarean section, and Cæsarean section proper. These were discussed in detail. Cæsarean section proper was justified in eclampsia mainly to save a living child, where the woman was in extreme peril and where it was probably impossible to deliver a living child through the natural passages.—The President, Dr. R. Jardine (Glasgow), Dr. D. Berry Hart, Dr. James Ritchie, Dr. J. W. Ballantyne, Dr. J. Haig Ferguson, Dr. J. Lamond Lackie, Dr. H. Oliphant Nicholson, and Dr. A. D. Webster made remarks on the paper and Sir Halliday Croom replied.—Dr. Hart read a note on Tubal Abortion. After pointing out that tubal abortion was one of the most frequent disturbances occurring in tubal gestation, he narrated two cases where he had operated for this condition. In the first the collapsed chorion was found in the pelvis and also a clot of the size and shape of a billiard ball evidently expelled from the tube. In the second case the patient had lost a large amount of blood and in the pavilion of the right tube he found the gestation, of the size of an egg, adherent all round, with about a [illegible] cavity. Blood had [illegible] towards the rectum [illegible] cavity. The tube wa[illegible] with iodoform gauze passing into the vagina. The patient, however, sank on the third day from anæmia and cardiac failure. He considered that in the production of tubal abortion there was, first, extravasation of blood between the gestation sac and its tubal attachment due to the phagocytic action of the trophoblast, and that the gestation itself became converted into a mole from blood extravasa[illegible] mnion and the chorion. The "mole," [illegible] hed and if the ostium abdominale was [illegible] be expelled by blood effusion and tubal [illegible] o the pelvis, producing complete tubal [illegible] e mechanism might account for incom[illegible] as in the second case, but possibly this [illegible] lly be an infundibular pregnancy simulating incomplete abortion.—Sir Halliday Croom, Dr. Ballantyne, and Dr. Haig Ferguson discussed the paper and Dr. Hart replied.—Professor J. A. C. Kynoch (Dundee) showed Two Vesical Calculi, the nuclei being formed by hair from a perforating dermoid tumour of the left ovary.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM.—The annual extra metropolitan meeting of this society was held at Glasgow on May 21st, Dr. Thomas Barr, the President, being in the chair.—An interesting demonstration on the Development of the Mastoid and the Tympanic Plate was given by Dr. J. Cleland, in the [illegible] he pointed out that, contrary to the [illegible] description, [illegible] stoid was no [illegible] ama. This [illegible] e suprameatal spine, and the so-called "squamo-mastoid suture" was formed by the entrance of a row of branches of the posterior auricular artery into the substance of the mastoid bone.—Notes of a case of Otitic Cerebellar Abscess, in which absence of the mastoid antrum from pathological changes was observed, were read by Dr. Peter McBride. Owing to an apparent improvement following the mastoid operation exploration of the brain was postponed. At the necropsy pus was found over the tegmen tympani and in the occipital lobe as well as in the cerebellum. The tympanic attic and aditus were present bey wash and change their clothes before they leave their work and go into the streets. Nothing like English working-class dirt is ever seen in public on the continent of Europe, unless in its far eastern portions; and dirt is prejudicial to health not only by its direct physical operation but in a still greater degree by reason of the absence of self-respect which it entails and which removes from the dirty man or woman at least one safeguard against drunkenness and against misconduct. Much of the dirt of the English labourer is at least partly due to his habit of dressing himself in a caricature of the clothes of the more leisured classes; and the introduction of the continental blouse would almost alone be sufficient to produce a beneficial change in his condition. Many of the reforms advocated by Mrs. Watt-Smyth are of a kind which could only be carried into effect by a combination of strenuous effort with improved legislation, but we think we could mention two for which the way is open. If the Local Government Board would secure fixity of tenure for medical officers of health the sanitation of the country would soon be enormously improved and the health of the poorer classes would be improved in a corresponding degree; and if the county councils throughout the kingdom would make proper use of the powers recently conferred upon them, and would see that the education of poor children, especially of girls, was of a kind calculated to be useful to them in after life, and not as useless as it has been hitherto, the axe would be laid to the root of many of the evils of which Mrs. Watt-Smyth has only too much reason to complain. While we cannot in all particulars agree with her we have no hesitation in commending her book to the careful consideration of all social reformers.

The Practice of Obstetrics. By J. CLIFTON EDGAR, Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College. With 1221 Illustrations, many of which are printed in Colours. London: Rebman, Limited. 1903. Pp. 1111. Price 30*s.*

THIS work is of a most ambitious character and does great credit to the industry of its author. Dr. Edgar's aim has been to present the "subject of midwifery from a practical and clinical standpoint, so that it will best facilitate the requirements of the student of medicine and the active obstetrician." Several innovations are to be found in the book. At the beginning of each part a table of contents has been placed and to insure ease of reference each part has been divided into sections, each of these in turn being headed with a table of its subject matter. In the section dealing with the subject of examination during pregnancy the various methods of carrying out pelvimetry are very fully discussed and a description is given of pelvigraphy or the method of taking a series of measurements of certain pelvic diameters and thus plotting out the size of the various pelvic planes. The interesting subject of cliseometry, or the method of measuring the size of the angle of inclination of the planes of the pelvic inlet and outlet, is also included and the apparatus devised by Neumann and Ehrenfest for carrying this out is figured and described. The various methods of practising cephalometry are given and, as Dr. Edgar points out, the late Professor Varnier succeeded in obtaining, after some three years of effort, a clear view by Roentgen-ray photography of the contour of the fœtal head in a woman seven months pregnant, so that he thought it would be possible by this means to determine the size of the fœtal head, its manner of engagement, its position, and its degree of flexion in the later months of pregnancy. It is greatly to be regretted that his death brought his studies on this subject to a premature conclusion.

The author has adopted a somewhat novel method in obtaining the illustrations for his sections on the mechanism of labour; those illustrating the engagement of the presenting part in the cervical canal were obtained by palpating with two fingers of the left hand and making a sketch with the right hand at the same time. He found that inspection was less satisfactory than palpation except in the case of face presentations. The illustrations of the engagement of the various parts of the fœtus in the vulva are drawn from flash-light photographs. An interesting feature in the work is the section devoted to the important question of the medico-legal aspects of obstetrics together with a chapter on Rape containing the results of examinations of 600 consecutive cases of this kind. It might be objected that such subjects are out of place in a text-book on Obstetric Medicine and if they had been inserted to the exclusion of more important matter no doubt such an objection would hold good but they have not been in this instance at any rate and after all the person most likely to be called upon for an expert opinion in a case of this kind is the obstetric physician. In discussing the important question of tubercle and pregnancy the author takes the view that pregnancy, even by itself, can render a healthy woman liable to become infected by the tubercle bacillus, and he argues that if this be admitted then the tendency will be much greater in the case of women predisposed to tubercle or who are or have been the subjects of latent tubercle or of apparent recovery from the disease. He would leave it for the future to decide whether pregnancy in the tuberculous woman should be interrupted as a routine procedure but he considers the prevailing tendency to persuade such women from marriage as serving in some measure to justify the interruption of a pregnancy which has already begun. It has been argued by some authorities that the induction of abortion in these cases is of no avail since the parturient patient is still more likely to succumb to the disease than if her pregnancy is allowed to continue, and while Dr. Edgar admits that the danger after delivery is undoubtedly very great yet he thinks that if the pregnancy is interrupted sufficiently early the result is likely to be good and the disease to be held in check to a decided extent. The question is one which certainly requires further consideration.

A very fair account of antenatal pathology is included and a section is devoted to the description of the various forms of fœtal monsters—decidedly a waste of space, we think.

The interesting subject of labour in elderly primiparæ is discussed at some length by the author. His observations have led him to the same conclusions as those of Courgenon of the Tarnier Clinic, that the influence of age on primiparity is that it slightly increases the length of the first stage of labour and that it somewhat increases the frequency of the indications for the use of forceps. Such conclusions are, of course, contrary to those held by the majority of authors and are in direct contradiction to the statistics published by some of the earlier observers. The subject is an important one in this age of late marriages and a low birth-rate, and the author's conclusion is no doubt the correct one—viz., that if labour is more severe or protracted in the elderly it is because of conditions which interfered with early marriage or conception. Dr. Edgar's writings on the subject of posture in obstetrics are well known and it is not surprising therefore to find that he has entered very fully into the matter and that the chapter is illustrated by some good reproductions of drawings.

While there is much in this book of great value we cannot by any means agree with all that the author either teaches or practises. For instance, we are told, in the treatment of placenta prævia occurring after the twenty-eighth week of pregnancy, that a case of this kind should never be left for natural expulsion of the child to occur after the performance of version—teaching with which we entirely disagree. The best results in the treatment of placenta prævia are to be obtained by t[illegible] immediate extraction of the child. A few pages before—viz., on p. 228—the author draws attention to the danger attending the practice of rapid delivery and yet he recommends it. In the consideration of the treatment of accidental hæmorrhage nothing is said of the method of employing a Champetier de Ribes bag in severe cases where the membranes are still unruptured and sufficient stress is not laid on the good results obtained by the Dublin School by their method of plugging the vagina for severe external hæmorrhage before rupture of the membranes. We notice one curious omission in the book—viz., there is no detailed account of hæmatoma of the vulva.

There is much that is of interest in this volume and while the general style is, perhaps, hardly clear and dogmatic enough for the student, it should be of value to the practitioner and obstetric physician. The illustrations—1221 in number—are well chosen and beautifully reproduced. The work will undoubtedly enhance the reputation of its author and is one which we can recommend.

A Method for the Identification of Pure Organic Compounds by a Systematic Analytical Procedure based on Physical Properties and Chemical Reactions. Vol. I. By SAMUEL PARSONS MULLIKEN, Ph.D., Instructor in Organic Chemistry and Organic Analysis at the Massachusetts Institute of Technology, Boston. London: Chapman and Hall, Limited; New York: John Wiley and Sons. 1904. Pp. 264. With three coloured standards. Price 21*s.*

IT is hardly possible to offer any criticism on a work such as this which deals so completely with constants and the physical behaviour and chemical reactions of compounds. The work is deserving of the highest praise and will occasion universal admiration for the monumental labour which its compilation must have entailed. The first volume contains classified descriptions of about 2300 of the more important compounds of carbon with hydrogen and with hydrogen and oxygen. The author's plan in the classification of compounds and in general analytical procedure is to arrange them in genera, orders, and various minor groups. This system is thus similar to that adopted in biology. It is necessary to understand the underlying principles of this classification before the general analytical scheme can be intelligently applied. The author calls the tests which have for their object the determination of the order of a species—that is, tests for the elements—ordinal tests. These are treated in Chapter II., which therefore relate to the detection in an organic compound of the elements carbon, hydrogen, sulphur, nitrogen, phosphorus, chlorine, bromine, and iodine. Again, he defines a genus as a group of species characterised by showing a common behaviour in certain prescribed and carefully defined generic tests which, with few exceptions, are based on chemical reactions rather than differences in physical properties. Generic tests are applied until the genus of the compound is ascertained. Aldehydes, for example, would give a colour reaction with a fuschine solution decolourised by sulphurous acid and carbohydrates would be tested for by the Molisch carbohydrate reaction which consists in adding to the substance a little water and two drops of a 10 per cent. chloroform solution of alpha naphthol. One cubic centimetre of concentrated sulphuric acid is then allowed to flow slowly into this mixture when, if a carbohydrate is present, a red ring will appear within a few seconds at the line of separation between the two layers. The colour is due to the formation of a furfural naphthol product. In this way the compounds are classified into the following genera: (1) aldehydes, (2) carbohydrates, (3) acids, (4) phenolic compounds, (5) esters, (6) acid anhydrides and lactones, (7) ketones, (8) alcohols and (9) hydrocarbons. Following the consideration of the compounds so [illegible], which is spread over 11 chapters of the book, comes the classification [illegible] Chapter XII. of Order 1 [illegible] hydrogen and of carbon, [illegible] concluding chapter (XIII.) [illegible] apparatus, and reagents are dealt with, and we have here an excellent illustration of the author's attention to detail and care in carrying out the tests. When it is considered that the physical constants of some 2000 compounds are given an idea of the enormous task of compilation will be gained. We understand that the second part of the work, which describes the compounds coming under Order 2 of the analytical system, is well advanced and finally it is proposed to issue a third volume which will provide for compounds of carbon with those elements which are not included in the first and second order. The author desires to base all the most essential portions of the descriptions of at least several hundred of the species of Order 2 on original or personally verified data and he appeals to those studying organic chemistry to cooperate in the work to the extent of placing at the author's disposal small samples of any of the less accessible nitrogen compounds which they may have prepared or collected. This work is clearly undertaken in the true spirit of one careful to a degree to place facts once and for all on record. We can think of no work of reference which can be more valuable to chemists and others engaged in the collateral sciences than that before us. The indexing is admirable and includes a formula group based upon the number of carbon atoms in the molecule of the compound. There is an excellent chapter on colour and the colour descriptions of the work are expressed in terms of the Bradley colour standard. This standard is printed on two cards placed in a pocket in the back cover of the volume. It contains 18 pure colours; and of derived tones there are 36 tints, 36 shades, and 12 medium "broken" colours. The volume is an excellent example of thorough, conscientious, and comprehensive work.

LIBRARY TABLE.

A Laboratory Manual of Physiological and Pathological Chemistry for Students in Medicine. By Dr. E. SALKOWSKI, translated by W. R. ORNDORFF, A.B., Ph.D. London: Chapman and Hall, Limited. New York: John Wiley and Sons. 1904. Pp. 265. Price 10*s.* 6*d.*—This is the authorised translation of the revised and enlarged edition of the work "Practicum der physiologischen und pathologischen Chemie," by Dr. Salkowski, professor in the University and director of the chemical laboratory of the Pathological Institute, Berlin. The translator, Dr. Orndorff, is professor of organic and physiological chemistry in Cornell University. This collaboration is sufficient to show the authoritative character of the work and the methods described bear evidence of a sound practical acquaintance with the details of laboratory manipulation. The book is essentially one for use in connexion with practical work at the bench. Its plan is quite simple, some 16 chapters dealing with the properties and examination of milk, blood, bile, urine, and food substances. Sections follow on quantitative analysis with simple examples, such as the determination of copper in copper sulphate, the estimation of aluminium in potash alum, and so on. Methods for the quantitative analysis of urine, fæces, milk, blood, and the gastric juice are next described. We find that the analytical processes are completely in accordance with modern investigations. The book will be a guide of undoubted practical value to the student in both the pathological and physiological laboratory.

A History of the Daubeny Laboratory, Magdalen College, Oxford. By R. T. GUNTHER, M.A., F.L.S., Fellow and Tutor of Magdalen College. London: Henry Frowde

Oxford University Press Warehouse. 1904. Pp. 137. Price 5*s.*—This is a very interesting monograph recounting the circumstances in which the Daubeny Laboratory at Magdalen College was founded. Dr. Daubeny, who had been Professor of Chemistry since 1822, was chosen in 1834 to succeed Sibthorpe as Sherardian Professor of Botany. Soon after this appointment Dr. Daubeny applied himself to make the study of botany and chemistry more efficient than hitherto. In 1848 he determined to erect a lecture room and laboratory close to the physic garden and the College gave him leave to do so, agreeing to allow to him and his heirs or assigns the sum of £282, "being a moiety of the sum proposed to be laid out by Dr. Daubeny, in case the society shall at any time hereafter within the period of 20 years find occasion or think it proper after six months' notice to resume the whole of the grounds into their own hands, but after that time the College shall have the option of assuming it without any payment." The laboratory still exists and many men of mark have worked within its precincts. Amongst them may be mentioned H. G. Madan, Wyndham Yule, Pike, Jeffrey, Burdon Sanderson, Gotch, Lazarus Fletcher, Harold Dixon, and Veley. We are glad to learn from the preface, writen by the president of Magdalen, that the subsequent history of the laboratory which Daubeny founded and to some extent endowed continues to be interesting. Moreover, "it has at times somewhat anticipated the university teaching" and "has afforded a home and opportunity for many stray professors and students and been the scene of not a little excellent original research." With certain of the latter we are acquainted and more especially with the researches of Professor Veley. We are sure that Mr. Günther's compilation will be keenly appreciated by Magdalen men. A list of the writings of Dr. Daubeny and a register of the names of those persons who attended the chemical lectures of Dr. Daubeny from 1822 to 1867 as well as of those who have received instruction in the laboratory up to the present time are appended.

Life of Joseph Jordan, Surgeon, and an Account of the Rise and Progress of Medical Schools in Manchester, with some Particulars of the Life of Dr. Edward Stephens. By F. W. Jordan, M.D. Durh. London and Manchester: Sherratt and Hughes. 1904. Pp. 135. Price 5*s.* net.—This book is dedicated to the memory of John Durham Bird, M.B., of Heaton Norris, partner and fast friend of the author. In putting forth this tribute of admiration for the originality, industry, and perseverance of a Manchester worthy whose great work was the germ of the provincial medical schools the author has been actuated by two motives—a desire to give to the present generation some idea of the early days of medical education in Manchester and a wish to place on record some particulars of the life of him who initiated it. The author was brought into frequent association with Mr. Jordan during the time that he was an apprentice to his nephew, James Stephens, and he has in his possession a number of papers written by Edward Stephens in 1859 for the purpose of supplying certain members of the House of Commons with the necessary information in their endeavour to obtain some mark of Her Majesty's favour for Mr. Jordan; he therefore felt himself specially qualified to undertake a work of this nature and he has received generous help from many sources. It was under the care of Mr. Simmons of Princess-street, a surgeon to the Manchester Infirmary, with whom he remained until he reached the age of 19 years, that Mr. Jordan laid the foundation of his abilities as a surgeon and anatomist. After completing his studies in Edinburgh under Sir Charles Bell and the celebrated Munro he joined the Royal Lancashire Militia, first as an ensign, in 1806, but as at this time there was a great demand for surgeons in the militia he became assistant surgeon to the battalion in the following year. In 1812 he was hard at work teaching anatomy in his "re-opened" school. In 1819, together with others, he established the Manchester and Salford Lock Hospital, to which he was appointed surgeon. In 1817 the Society of Apothecaries of London notified to Mr. Jordan that his certificate would in future be accepted by the board of examiners as in every way equivalent to those given by metropolitan teachers. This was a most important event in the history of the provincial medical schools. The medical student of the present day can hardly realise the difficulty in obtaining subjects for dissection in the days when, though a medical student was compelled to dissect in order to obtain his qualification to practise, the law stated that bodies should not be used for the purpose. The gruesome poem entitled "The Surgeon's Warning," which is reprinted in this book, will bring the whole state of affairs prior to the passing of the Anatomy Act vividly before the reader. The story of Mr. Jordan's election to the staff of the infirmary is graphically told. The excitement at the election was intense and resembled that of a parliamentary election. It cost Mr. Jordan £690. The expenses consisted chiefly in hiring vehicles to bring voters from the neighbouring towns. Mr. Jordan was a strong man with opinions based on what he had learnt in the school of experience. He was a good clinician, a cool operator, and was trusted and looked up to by the students as a sound teacher and a man of original thought. He was one of the founders of the Chetham Society in 1843 and of an antiquarian society called the Order of Rosicrucians or Brotherhood of the Holy Cross. This book contains the record of a singularly full life. Mr. Jordan's doings are certainly worthy of being enshrined in a volume such as has been produced by the author and we can recommend it for its style to those whom such works interest.

A Manual of Ambulance. By J. S. Riddell, C.M. Fifth edition. London: Charles Griffin and Co., Limited. Pp. 227. Price 4*s.*—We welcome another, the fifth, edition of this book, showing that it is in requisition, although the size and price place it beyond the use of the ordinary first-aid student. It is much to be desired that manuals intended for the use of first-aid students should be confined to giving enough knowledge to equip the student for his most useful work of rendering succour either in the street or the home. But we strongly deprecate the gradual increase in the size of these manuals due to the addition of matter quite outside the province of the first-aid student and encroaching upon the domain of the medical man. Nothing tends to do more harm to the "first-aid" movement than offering to unqualified and irresponsible persons knowledge more fitted to the medical student than to the first-aid pupil. It has the effect of alienating from this most useful work the members of the medical profession, and rightly so, if it tends in any way to trespass beyond the proper limits. In the removal of foreign bodies from the ear it would have been well to lay greater stress upon the danger of unqualified persons syringing the ear. A pea subjected to such treatment is sure to swell and it is in treatment such as this that the first-aid student is likely to do harm by adopting operative procedures which should only be conducted by the medical man. To the same category belongs the treatment of a fractured thigh by means of a long outside Liston splint. In a new edition which should be written up to date we should have expected to see the now most approved method for the first-aid treatment of a broken collar-bone. When the broad principle of never placing any bandage over the seat of fracture is wisely insisted upon, the application of the large arm-sling with the corner of the triangular bandage passing under the armpit instead of over the shoulder of the injured side is far superior, keeping as it does the pad in the axilla. Fracture near to or into the elbow-joint is also omitted with its required treatment by improvised rectangular splint. The chapter on Organisation and Management will be found very useful to secretaries intending to promote ambulance lectures but for the first-aid student himself we would recommend the smaller manuals issued by the London County Council or the St. John Ambulance Association.

Refrigeration in the Dairy. By Loudon M. Douglas, A.M.I.Mech.E. Putney: William Douglas and Sons. 1904. Pp. 80. Price 2*s.*—It is only within comparatively recent years that any serious attention has been paid to the construction of refrigerating machines and yet at the present time we depend largely upon the success of refrigerative processes for a very large proportion of our food-supply. Mention need only be made of the enormous supplies of frozen meat, fruit, and vegetables which annually reach these shores from New Zealand, Tasmania, and elsewhere. The work before us illustrates the importance of an installation of refrigerating apparatus in the dairy and the author has taken the opportunity thus presented to him of describing the refrigerative methods applicable to the dairy as well as to other operations. The *rationale* of the process on which mechanical cooling depends is explained and illustrations of various installations of refrigerating plant are given. There is little doubt that the time is at hand when every small dairy must be provided with refrigerating machinery and such apparatus is now made on quite a small scale. This book therefore will be of the greatest service to those engaged in the routine of the dairy.

Buddhism. An Illustrated Quarterly Review. Vol. I., No. 3. March, 1904. Rangoon: The Hanthwaddy Printing Works. Price 2 rupees—This is the official organ of the International Buddhist Society and contains articles on the ethics of religion, with special reference to the religious books of the East. An article on Hidden Tibet, illustrated with a reproduction of a photograph of the palace of the Dalai Lama, briefly reviews the work of the various explorers who have attempted to reach the "Forbidden City." Of special interest at the present moment is the statement: "In view of wild rumours to the contrary ...... Buddhists ...... view with absolute indifference the affairs of the Dalai Lama and of Tibet generally. ...... The fiction that Buddhists regard the former (the Dalai Lama) in the same light as do Roman Catholics the Pope is too absurd for serious discussion."

JOURNALS AND MAGAZINES.

Birmingham Medical Review.—The April and May numbers may be conveniently noticed together, as each of the articles which appear in the first of them is continued in the second. Sir Oliver Lodge contributes summaries of six lectures to medical practitioners on physics applied to medicine, "ethereal rays of all kinds" being the department of physics selected. The subjects considered at most length are the theories of electrons and ionisation, cathode rays, x rays, brush discharge, high-frequency oscillations, Leyden-jar discharge, ultra-violet rays, and radium emanations (i.e., alpha, beta, and gamma rays). Dr. William H. Wynn writes on Secondary Hypertrophic Osteo arthropathy, giving "a critical review of the whole subject"; the mere enumeration of recorded cases, together with the bibliographical references, fills 12 pages. Mr. Charles A. Leedham-Green records and discusses a great variety of experimental work on the sterilisation of the hands.

Dublin Journal of Medical Science.—The subjects or titles of the original articles in the June number are as follows:—Milk, Human and Bovine, by Dr. Walter G. Smith; concluding portion of the Clinical Report of the Rotunda Hospital, by Dr. R. D. Purefoy; and Traumatic Rupture of the Spleen followed by Recovery, by Dr. Percy N. Gerrard. In his paper on milk Dr. Smith confines himself to a consideration of its chemical and physical properties and to a discussion of some new and little-known reactions.

Journal of the Irish Medical Association.—In the June number the editorial article is a somewhat caustic criticism of the Irish Local Government Board Report for 1903. The annual report submitted at the general meeting of the association held on June 7th occupies several pages. The remaining contents include summaries of the business transacted at meetings of the council and the various branches.

The Electrical Engineer.—The issue of April 22nd devotes considerable space (about the equivalent of two pages of THE LANCET) to a supposed case in which an x-ray apparatus, in use in a hospital and at present worked by accumulators, may also be worked from the supply main which supplies alternate current at 110 volts and 76 periods. The first recommendation is rectification of the current by means of a Nodon valve with which a mercury interrupter or a step-down transformer would have to be used for the protection of the induction coil. Another method is the employment of an alternating-current motor direct-coupled to a continuous-current generator giving a current of about 10 ampères at 12 volts; this system has the advantage that it may be used for charging accumulators if the apparatus has to be taken from the hospital to a patient elsewhere. A third expedient might be stopping one half of each alternating wave with a Wehnelt brake and a "soupape." A variety of other suggestions are made, including the use of a Batten rectifier, of a Tesla transformer, and of a double-pole vacuum tube.

Mercy and Truth.—The June number contains an article on Work in Kirman, Persia, by Miss Winifred A. Westlake, L.R.C.P., L.R.C.S. Edin., and an account of a tour among the Bedouins in the wilderness of Beersheba, by the Rev. R. Sterling, M.B.

Knowledge and Scientific News.—In the June issue of this journal Mr. W. A. Shenstone, F.R.S., throws out the suggestion that radium may possibly be used to replace the comparatively complicated equipment required for x-ray photography. At present there is some difficulty in using radium in consequence of the radiations from the salt being too diffuse, but the article is illustrated by some very good reproductions of skiagrams taken by means of 50 milligrammes of highly purified radium bromide enclosed in glass tubes.

Analytical Records

FROM

THE LANCET LABORATORY.

(1) "TABLOID" CALOMEL AND OPIUM; AND (2) TABLOID ZINC VALERIANATE WITH IRON AND ARSENIC.

(BURROUGHS, WELLCOME, AND CO., SNOW HILL BUILDINGS, LONDON, E.C.)

1. THE combination of calomel and opium is classic and was, and is still, in favour in the treatment of inflammation. The tabloid of calomel and *opium* contains these drugs in exact doses and in a state of purity which are matters of some importance considering that this combination is frequently prescribed in intestinal disorders. From our examination of the tabloid there is no doubt that it speedily disintegrates after its administration. Each tabloid contains one grain of calomel and a half grain of powdered opium. 2. To the tabloid preparations of the valerianate series Messrs. Burroughs and

[illegible] formula: zinc valerianate, two grains; reduced iron, one grain; arsenious acid, $\frac{1}{30}$th grain; and extract of gentian, one grain. This combination has been favourably used in hysteria and in nervous affections associated with chlorosis.

CHLORYL ANÆSTHETIC (ABSOLUTE ETHYL CHLORIDE).

(DUNCAN, FLOCKHART AND CO., 143, FARRINGDON-ROAD, LONDON, E.C.)

Chloride of ethyl has been used with some success as a general anæsthetic, inducing narcosis when administered in quantities of from two to five cubic centimetres, the anæsthesia lasting for about one [illegible] be maintained for 10 or 15 minutes [illegible] administration of one or two cubic [illegible] sample submitted to us gave physical constants consistent with the statement that it is absolutely pure ethyl chloride. There was no residue on evaporation nor was any smell developed other than the fragrant chloroform-like smell of the pure chloride. The boiling point is 12·5° C. The anæsthetic is contained in cylinders holding 60 cubic centimetres graduated into one cubic centimetre divisions. The cylinder is provided with a stopcock by which any desired quantity of the anæsthetic can be discharged by gentle pressure with one finger. Ethyl chloride may thus be easily administered and the anæsthesia kept under control. Messrs. Duncan, Flockhart and Co. provide also the simplex inhaler for the administration of the chloryl anæsthetic. Its great merit is its simplicity as is pointed out in an article in THE LANCET of July 18th, 1903, p. 168.

BRANDIES.

(ROUYER, GUILLET, AND CO., COGNAC, AND 59, MARK-LANE, LONDON, E.C.)

We have received five samples of brandy from the above firm representing three qualities "offered as cognac" and "made entirely from Charente wine," while two samples are stated to be young brandies distilled entirely from French wines. We have no doubt that all the samples are genuine brandy—that is, spirit obtained in the pot still from grape wine. The following results on analysis were obtained: One star: alcohol, by weight 46·00 per cent., by volume 53·72 per cent., equal to proof spirit 94·14 per cent.; extractives, 1·16 per cent.; and fixed acids reckoned as tartaric acid, 0·015 per cent. The secondary products were found to be as follows, given in grammes per 100,000 parts of alcohol: acidity reckoned as acetic acid, 44·64; aldehyde, 26·41; furfural, 4·12; ether as ethyl acetate, 132·58; and higher alcohols, 223·20. Total secondary products, 430·95. Regarding ethers as a standard this brandy gives quite satisfactory results of analysis. It may be remarked that the furfural and the higher alcohols are somewhat in excess of the amounts commonly found in good standard Cognac brandy. The brandy is decidedly palatable. Two star: alcohol, by weight 46·68 per cent., by volume 54·43 per cent.; equal to proof spirit, 95·38 per cent.; extractives, 1·11 per cent.; mineral matter, 0·02 per cent.; and fixed acidity reckoned as acetic acid, 0·03 per [illegible] products were as follows, given agai[illegible] [illegible],000 parts of absolute alcohol present: [illegible] acetic acid, 10·8; aldehyde, 45·00; furfural, 3·60; ethers as ethyl acetate, 136·22; and higher alcohols, 180·00; total, 365·62. As regards ethers this specimen is also satisfactory. The acidity is somewhat low and the furfural is somewhat high, while the higher alcohols are about normal. We believe this to be a specimen of genuine brandy and its flavour is good. Three star: alcohol, by weight 45·55 per cent., by volume 53·24 per cent.; equal to proof spirit, 93·31 per cent.; extractives, 0·87 per cent.; mineral matter, 0·04 per cent.; and fixed acidity reckoned as tartaric acid, 0·02 per cent. The secondary products were as follows, given in grammes per 100,000 parts of absolute alcohol, acidity [illegible] 62·32; furfural, 3·10; ethers as ethyl acetate, 123·86; and higher alcohols, 224·40; total, 464·17. There is no evidence in the face of these figures that this is not also a sample of genuine brandy. It possesses a somewhat peculiar and full flavour in which the evidence of having been stored in wood is plainly indicated. Besides the foregoing samples we have received two samples representing brandies shipped in bulk. Their flavour is decidedly inferior, we think, to that of those just described, while on analysis they show a very high proportion of secondary products and in this regard they somewhat resemble marc brandies—i.e., spirit obtained from the marc or residue of grapes after most of the juice has been extracted. Thus the ethers amounted to over 200 parts per 100,000 parts of alcohol present. The higher alcohols were present in almost the same proportion.

NUTRIENT FOOD (SAVORD).

(SAVORY AND MOORE, LIMITED, 143, NEW BOND-STREET, LONDON, W.).

This food has been prepared with due regard to the requirements of those possessing feeble digestive functions. We find that its composition is accurately described. It [illegible] of milk in soluble form and carbo[illegible]y malting. For use the food is mixed [illegible]ked. On analysis we obtained the [illegible] moisture, 4·20 per cent.; mineral matter, 1·30 per cent.; fat, 2·00 per cent.; proteid, 26·46 per cent.; total sugar, 18·67 per cent.; and carbohydrates, 47·37 per cent. Except in regard to fat the food contains a satisfactory proportion of the elements of nutrition. The deficiency of fat, however, is compensated by preparing the food with milk.

EVAPORATED CREAM.

(FUSSELL AND CO., 4, MONUMENT-STREET, LONDON, E.C.)

Our analysis of this preparation was as follows: total solids, 40·00 per cent.; non-fatty solids, 28·78 per cent.; fat, 11·22 per cent.; and mineral matter, 2·21 per cent. This composition shows that the preparation consists of milk of good quality reduced to about one-third by evaporation. It is not correct to call it evaporated cream. According to analysis it is a poor cream but a rich milk. An important feature in regard to the supply of this preparation is that it may be obtained in what are called "family sized" tins which contain sufficient milk for use at one time so that none is left to deteriorate in the tin.

MALTICO PREPARATIONS.

(THE MALTICO FOOD CO., KINGSTON CROSS, PORTSMOUTH.)

We have already reported upon "maltico" which is described as an infant food and which consists chiefly of carbohydrates carefully modified by the diastasic action of active malt. The food is almost entirely soluble in water. It contains, however, only a small proportion of fat and therefore for infants it is desirable that it should be prepared with milk. A recent sample sent to us was found to contain 6 per cent. of fat, a result which is at variance with the statement that the proportion of fat in the new sample which we examined has been increased. On the other hand, "leci-maltico" yields 16·16 per cent. of fat due in part no doubt to the added lecithin. Leci-maltico is in fact an excellent preparation and represents a really valuable food. The value of lecithin in the treatment of anæmic conditions is well known. "Creamalto" is a combination of cream with active malt extract. The proportion of cream is indicated in the amount of fat, which on analysis we found to be 16·78 per cent. The preparation showed a decided digestive activity on starch. It should make a very excellent substitute for cod-liver oil and malt, while its flavour makes it much more pleasant to take.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on June 9th, Mr. JOHN TWEEDY, the President, being in the chair.

It was resolved that diplomas of Fellowship should be issued to 16 candidates, two being postponed because the candidates were under age.

It was resolved that diplomas of the Licence in Dental

useum
of the
museum should be painted and that the museum should be closed during August and September to permit of the painting being done.

A report was read from the committee on the Relations of the Medical Profession to the Coroner's Court. It was approved and entered on the minutes. The committee had inquired into the matter and had examined the recommendations put forward by the British Medical Association and by the London County Council and had found ample proofs of the desirability of alterations in the present laws, but the questions involved are varied and include matters of administration, such as the rearrangement of coroners' districts, with which the medical profession is not immediately concerned. Having regard to the various interests concerned and to the failure of other institutions to induce the Government to initiate legislation, the committee was of opinion that it would not be expedient for t
in the matter at the present tin

The PRESIDENT laid before
had received from the Home
proposed to recommend Dr
St. Mary's Hospital as official
the vacancy occasioned by the resignation of Dr. A. P. Luff. The Council approved of the recommendation.

A letter was read from Mr. Henry Morris reporting the proceedings of the General Medical Council at its recent session. The thanks of the Council were given to Mr. Morris for this letter.

It was resolved that the revised regulations for study in chemistry and physics shall apply to those who register as
dental
student
of the

of a reasonably detailed syllabus giving the general range of knowledge required in (*a*) surgery, (*b*) anatomy, and (*c*)
physiology, as
and metallurgy
tion as for the
enforce an un
extra expense,
candidates. The petition was referred to the Board of Examiners in Dental Surgery to consider and to report.

A report was read from the committee on Diplomas in Tropical Medicine in favour of instituting an examination and a diploma, and it
College of Physicians of
to confer with representat

A letter was read from
a statement in regard to a
was called and the action
district of the county of London in reference thereto, and asking the Council to take such steps as shall appear proper to it to defend the College from the inferential aspersion cast upon it by this coroner that a Fellow of the College is not competent to give evidence in his court or to perform

Physiology for the

Christopher Add
logy: Edward
Leonard Erskine
Conjoint Exam
tary Biology: H
Thomas George

Second Examination—Anatomy: Holburt Jacob Waring, Arthur Keith, Christopher Addison, and James Ernest Lane. Physiology: William Henry Thompson, Thomas Grigor Brodie, and John Beresford Leathes. Third Examination—Midwifery: William Duncan, James Henry Targett, George Francis Blacker, and Arthur Hamilton Nicholson Lewers.

Examination in Public Health.—Part I.: Alexander G. R. Foulerton. Part II.: Herbert Timbrell Bulstrode.

In response to a letter from Sir R Douglas Powell, Bart., the Council granted permission to the Royal Medical and Chirurgical Society to hold a conversazione at the College in May, 1905, in connexion with the celebration of the centenary of the society.

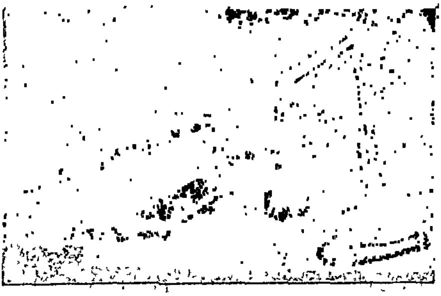
A vote of thanks was given to Mr. Thomas Bryant for his long and zealous services to the College as a member of the Council.

New Inventions.

A NEW CHLORIDE OF ETHYL INHALER.

THE accompanying illustration represents an inhaler for chloride of ethyl of my own design which I have used with marked success for the past 12 months. The following are some of the advantages which may be claimed for it: (1) direct and immediate contact with the chloride of ethyl vapour as there is no medium such as lint which is apt to get frozen and become inert; (2) a continuous discharge of a

necessity for measurement
ility of manipulation, as the
nd slipped on in a second or
two. A very short time is required for the induction of anæsthesia; the average time is 30 seconds and it may be as short as 15 seconds. The average period of available anæsthesia is one and a quarter minutes.



In administration the inhaler is placed firmly and closely over the patient's nose and mouth. (In dental cases a mouth prop or gag is placed in position before commencing.) The air valve is opened and two deep inspirations are allowed to fill the respiratory bag. The air valve is then closed and unconsciousness with full stertorous breathing will rapidly ensue. The inhaler is made by the Dental Manufacturing Company, 6 to 10, Lexington-street, London, W.

J. MAXWELL WOOD, M.B., C.M., L.D.S. Edin.

Dumfries.

DILAPIDATED RUSSIAN HOSPITAL BUILDINGS.—The *Russki Viedomosti* relates that in Juriev the public hospitals, pharmacies, and other analogous institutions are in a most dilapidated condition and in one of the hospitals the other day a large portion of the ceiling fell, simply through age, and killed a patient, wounding a nurse at the same time. It is stated that the fears for the safety of the other houses are based on bad material used in the buildings as well as on their age.

THE LANCET.

LONDON: SATURDAY, JUNE 18, 1904.

The Metric System in Medicine.

THE General Medical Council has passed resolutions which will be likely to create a certain degree of uneasiness amongst older members of the medical profession. The Council was asked by the Decimal Association to express its concurrence with the Weights and Measures (Metric System) Bill at present before Parliament and the matter having been referred to the Pharmacopœia Committee for an opinion it was mentioned in the report of that committee to the Council. The committee was strongly impressed with the importance of bringing the weights and measures of the British Pharmacopœia into accord with the international system which was current in the pharmacopœias of all other countries, and was therefore of opinion that the Council might properly use its influence in favour of the proposed legislation. The wording of the motion adopted by the Council will afford some comfort to those who might be disposed to view this proposal with distrust and uneasiness, since it clearly indicates that the change is only to be made after a sufficient period to be fixed by law. According to the terms of the Bill the substitution of standards of weight and measure according to the metric system for the existing imperial standards will not take effect earlier than the first day of April, 1909, so that there will be ample time for members of the medical profession to become acquainted with the changes which it involves. Should the Bill now before Parliament become law the Council expresses readiness to take all necessary steps to give effect to the law by making the proper modifications in the British Pharmacopœia. It will be remembered that when the Pharmacopœia was last revised in 1898 such a change was foreshadowed by the introduction of metric equivalents for the imperial weights and measures; this, at least, left to pharmaceutical chemists and manufacturers liberty of action and in no way interfered with the freedom of the prescriber. For doses the imperial system alone was used, hence in all probability most medical men ignored the columns of the metric system. The metric system, however, has numerous supporters and there is no doubt that it has much in its favour. Amongst modern physiologists and analytical chemists it is invariably employed, and its convenience for rapid calculations cannot be over-estimated; there is enormous advantage in adopting a system which is common to all nations, since the troublesome need of conversion is thus saved and this further diminishes risks of error. The one strong argument against the innovation is the convenience of the prescriber, and it is not the future or even the present student of medicine, but the practitioner who fears the change, feeling as if he were suddenly called upon to learn a new language. That this is no fanciful grievance has been suggested by experience in the United States where it has been urged that the unpopularity of the Pharmacopœia and its relative disuse may be attributed to the introduction of the metric system. Medical men are so much accustomed to regard the United States as the forerunner in modern improvements in pharmacy that it is interesting to learn that in this matter the departure has not proved a success.

There must be wholesale lightening of the ship by throwing overboard superfluous and antiquated cargo; the old comforting phrases about "putting everything right with a few grains of calomel or a grain or so of aloes" will have to be exchanged for a newer version. Revised versions are never satisfactory to those accustomed to an earlier form, even texts do not seem quite so soothing when amended by the latest scholarly efforts. We feel a sense of loss, although assured that greater accuracy implies gain. Patients then as well as the older generation of practitioners may be expected to resent any tampering with the standard and may feel as though landmarks were being shifted. Younger practitioners may also resent the change but will, it is to be hoped, not experience the same degree of difficulty in adopting the new and discarding the old. Those to whom the change will be most welcome are those still in the embryonic stage, who have not yet been troubled to commit doses to memory and thus have little or nothing to unlearn. The pity is that they will accept their inheritance of greater ease without one thought of gratitude, since they can never realise how much they have been spared. Every change of routine involves trouble and risk. In this suggested change the risk is more than merely the convenience of the prescriber. It is a trite saying that "coming events cast their shadows before them" and already, before the metric system has been officially recognised, we hear of trouble through the confusion of the two systems. Not very long ago we published an interesting case[1] in which most serious symptoms resulted from an overdose of hyoscine hydrobromate through the familiar mistake of dispensing grammes for grains; a dispenser sent a written message to a branch establishment for 0·08 gr. of hyoscine hydrobromate and the dispenser at the second shop, seeing decimals were used, took it for granted that it was a foreign prescription and that "gr." stood for gramme. In reporting this case it was remarked that surely the time had come for the rational and scientific metric system to be enforced as the official standard.

In the preface to the present Pharmacopœia it is recognised that during the period of transition from the imperial to the metric system a certain amount of confusion is likely to occur. We have become so much accustomed to think in terms of the imperial system that we feel as though we had, like the poet, "lisp'd in numbers, for the numbers came." Dread is experienced lest the attempt to make the change, with its appalling appearance of weird decimals, should involve personal risks to the patients and professional risks to the prescriber. All who have travelled on the continent know that these fears are more imaginary than real. The metric system is easy to acquire and it greatly facilitates rapidity of calculation. The Pharmacopœia Committee appears to consider that after the metric system has become the one legal system employed in this country it would probably still be necessary to insert, in reference to dosage at least, equivalents expressed in the old imperial terms. This may be desirable as a matter of convenience but it is to be hoped that it will not foster the continued employment of the older system. There is risk of confusion when the two systems are employed side by side and for this reason we think that if any change be made it should be a complete change; that the metric system, if legalised, should completely supersede the imperial system and that prescriptions should no longer be made up when the older system has been employed. This may seem rather a harsh recommendation but it is necessitated by a desire for the public safety.

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[1] THE LANCET, Jan. 2nd, 1904, p. 24.

A Pathological Frontier.

WE have heard a good deal from time to time in connexion with the defence of our Indian possessions about a "scientific frontier" and a "natural frontier" but it has remained for the present expedition to Tibet to have added what may be not inappropriately termed a "pathological frontier" to the list. Our special correspondent in his "Notes from India" which we published at p. 1613 of our issue of June 4th gave us such a picture of the nature of the climate and country traversed and of the difficulties, hardships, and sufferings of the Tibet mission on its march as may well keep Russia from caring to encounter them by advancing *viâ Tibet into* India, if she ever cherished such a design. Our correspondent says that the ordinary accounts of the advance of the Tibet mission only briefly refer to some of the hardships of this wintry march. But it is not generally recognised that the marching and camping are being done at altitudes unknown and impossible in Europe and that while the suffering from the cold is severe that from the rarity of the air is intense. To quote from our correspondent's communication, "The lungs seem unable to do their work. One gasps and pants after the slightest exertion as if about to suffocate. Whilst still this rarefied air can be tolerated but under exertion air-hunger becomes distressing. The transport animals feel it and the business of bringing them along is painful. The mission camped at Dantu opposite a frozen waterfall 200 feet high. As the march was above the wood line fuel was doled out very sparingly—in fact, only sufficient to cook the daily ration. None could be spared to light fires for the sake of warmth. Further on Pharo plain an altitude of 14,000 feet was attained. During this part of the march it is stated that at every few yards men sat down, bent double, grasping their heads in their hands." Still further on came the Tung pass which is higher than Mont Blanc and the air-hunger became still more extreme. Many followers in advancing lay down and would have died in the cold but the column moved them on to another camping ground, but without fuel and with 23° of frost.

The difficulties of this particular march in many ways may be said to have been unparalleled but a reference to the published accounts of other exploratory missions undertaken on behalf of the Government of India furnishes us with somewhat similar experiences. In "The Roof of the World," published in 1876, Colonel T. E. GORDON, now General Sir T. E. GORDON, K.C.B., has given a full description of his journey and experiences on the Kashghar Embassy of 1873–74 under the late Sir DOUGLAS FORSYTH, K.C.S.I. The mission was a very remarkable one in many respects, especially as regards the exceptional altitude of some of the mountain passes traversed—18,550 feet in some instances. Mountain sickness was very prevalent but it appeared to be like sea-sickness in that it seems possible to get used to it, as it became less and less at each succeeding elevation. Headache, breathlessness, and difficult respiration are also mentioned. The mission had a native butler who was as sensitive in these respects as a mountain barometer at all altitudes at and above 1200 feet. On the return journey Dr. F. STOLICZKA, Ph.D., of the Indian Geological Survey, a member of the mission, died at the Dipsang plateau, where the climatic conditions proved distressing and the elevation was 17,500 feet; otherwise the mission was healthy. It may be mentioned that while the temperature was 15°F. below zero in tents at Aktagh the thermometer marked 100° in tents at Rawal Pindi when the mission reached there towards the end of July.

The late Surgeon-Major BELLEW, C.S.I., of the Bengal Staff Corps, in his "Kashmir and Kashghar, a Narrative of the Journey of the Embassy to Kashghar in 1873–74," published in 1875, deals more fully, as might be expected, with the medical aspects and occurrences of the journey. He dwells upon the effects of elevation in causing distressing headache, giddiness, nausea, and sickness, as well as difficulty of breathing, especially on exertion, all of which he attributes to an imperfectly oxygenated blood from rarefaction of the air—"the evils of a half ration of our wonted supply of oxygen." He mentions that he found the administration of chlorate of potassium as a means of introducing oxygen into the blood of great value in mitigating these distressing symptoms—a suggestion which he obtained and acted upon from Dr. G. HENDERSON'S experience on his journey in the same regions in 1870. At 18,300 feet men and cattle were severely affected by the elevation and cold, animals labouring and moving slowly with light loads and some of them being affected with great muscular tremor and tumultuous action of the heart. All these experiences of the difficulty of traversing long distances at high altitude justify us in regarding the enormously elevated ridges and plateaux of Tibet as a "pathological frontier."

On the Immunity from Plague enjoyed by Shanghai.

WE have had our attention drawn to the immunity enjoyed by Shanghai from plague whilst so many of the other coast ports of China suffer severely. Various explanations have been offered for this fortunate state of affairs, and, were we convinced of their potency, we would suggest that strict inquiry should be made into the matter with a view of ascertaining how Shanghai has remained unaffected, and what practical lessons are to be learned from the circumstance. The immunity is ascribed to (1) the strict inspection of ships calling at the port from infected centres; (2) the excellence of the main drainage of Shanghai; (3) the fact that the Chinese houses are two-storeyed buildings only and that each house has a small yard at the back paved with cement or concrete; (4) the absence of sanitary fittings inside the houses, so that it is impossible for the Chinese to interfere with the working of the drains; (5) an ample supply of water; (6) the removal of the whole of the night soil and kitchen refuse by the bucket system; and (7) the flushing of the drains by tidal water and the consequent destruction of rats. According to this showing Shanghai would appear to be a hygienic paradise and immunity from epidemics of all sorts practically to be guaranteed.

Those who know Shanghai will be astonished to hear the sanitary arrangements of the city so highly spoken of. It is a fact that typhoid fever is present in Shanghai to a degree unparalleled in any other of the coast ports of China—at any rate, so far as Europeans are concerned. Dysentery is a disease of common occurrence, diphtheria claims its victims, and cholera is not unknown during the autumn. The water-supply of the city is, moreover, not above suspicion. Water there is, no doubt, in plenty but the quality of the water was recently the subject of serious alarm. The claims made for the bucket system being efficacious in the prevention of plague cannot be seriously considered, for the bucket system is in force in all treaty ports in China. It would appear, therefore, that there must be other causes at work to account for the immunity enjoyed by Shanghai but we are not prepared to say what these are. In many other parts of the world we find isolated towns and districts with a similar and a still more extraordinary immunity. No better example can be quoted than that of the city of Madras. Plague has not visited Madras city although in the Madras Presidency right up to the very outskirts of the city itself plague has prevailed in epidemic form for several years. Anyone who has visited Madras is ready to believe that all the elements, as we at present understand them, calculated to harbour plague exist there, and yet, although some cases of the disease have actually been imported into the town and died there, the disease has not spread. Why this should be is not understood. Calcutta, again, has not suffered so severely as Bombay, although the conditions would appear to be even more favourable for the spread of plague in the former than in the latter city. There are other etiological factors at work that are not readily ascertainable and the immunity of Shanghai is not to be understood by any sanitary consideration which we know of. In Hong-Kong we have the example of a city visited again and again by plague, a city in which the quality of the water supplied for consumption is amongst the purest in the world. The bucket system is in force there, the sewerage is excellent, and yet Hong-Kong suffers to as great an extent as Canton where all the sanitary conditions are bad.

The fact is that plague exists nowhere along the valley of the Yang-tse-Kiang and although Shanghai stands at the mouth of the river and is liable to infection from the seaboard we know that, in China at any rate, the infection has come for the most part overland. Canton was infected from Yunnan and from Canton plague reached Hong-Kong. The disease travelled along the Chinese littoral to Swatow and further north. The infection of Niu-Chwang and parts of Manchuria was possibly from up country, for CLEMOW has shown that a distinct centre of plague exists to the north of the Great Wall. These and other considerations render the immunity enjoyed by Shanghai difficult to be accounted for in any sanitary conclusions. We are daily getting additional proofs that the presence of plague in epidemic form is dependent upon the infection of the domestic animals of the district. Cases of plague occurring amongst men arriving from infected areas are little likely to lead to a local outbreak of the disease. It seems to be a fact that if the animals do not suffer from plague the disease will not spread amongst men. By animals it is not only rats that are meant for almost all domestic animals are known to acquire plague and it may be safely said that if these animals do not develop plague the disease in man will not continue in any particular district. We rejoice to know that Shanghai has escaped plague so far; we are willing to admit that careful precautions have been taken by the municipal authorities; we admire the sanitary improvements which have been accomplished by the untiring efforts of the medical officer of health, the sanitary engineers, and by those responsible for the health of the great city, of which the foreign community has every reason to be proud; but we are sure that they will pardon us if we refuse to recognise as a scientifically proved fact that these measures have succeeded in protecting Shanghai from an epidemic of plague, seeing that other cities and districts with far fewer hygienic advantages have also shown an extraordinary immunity to the same disease.

Annotations.

"Ne quid nimis."

PUBLIC COMPETITION IN THE SERVICE OF HUMANITY.

ANY plan which is calculated to develop inventive capacity and to direct it towards the attainment of humane ends is worthy of the highest encouragement. The great masses of people must include not a few individuals possessing originality of purpose, thought, and practical application to a special degree which lie dormant for the want of a stimulus or for lack of opportunity of developing these attributes. There is no doubt that if many of the difficult problems which frequently confront us could be forced upon the serious attention of the public at large there probably would be found some individuals to whom a satisfactory way out would readily suggest itself. Amongst the methods of drawing upon the talent that may otherwise lie hidden in a community is that of offering prizes of a substantial and honour-giving character. The method is commendable so long as the reward is ample to the originator of the design and consistent with what may prove to be its practical value to humanity. There are several instances on record in which by opening a public competition and offering substantial money prizes valuable results in the interests of humanity have been gained. We need refer only to two—viz., the King's Prize Essay for the best design of a sanatorium for the treatment of consumption and the Nobel prize for the best essay on the steps to be taken calculated best to secure the peace of the world. The latest example of inventive capacity being invited and encouraged to work in the interests of humanity was the offer of the Transvaal Chamber of Mines at Johannesburg in 1902 of three prizes—the first of £500, with a gold medal, the second of £250, and the third of £100—for the three this fearful scourge and great good has come out of the scheme. Even assuming that an entirely satisfactory method does not prove to be the outcome of a competition organised on the lines indicated, yet the efforts made towards securing a desirable end are not likely to be made in vain but rather to add very substantially to our

use of an atomiser. The first prize was awarded to Mr. Thomas J. Bri
75 per cent. o
for a water dr
desired, but it
the drill will lead inventors to improve further upon it until absolute success is attained.

THE MINOR NEUROSES AND PSYCHOSES AS SEEN IN THE DISPENSARY PRACTICE OF A GREAT CITY.

IT is seldom possible to obtain accurate data and trustworthy figures with regard to the distribution of the minor psychoses and neuroses in any community, though the inquiry might be well undertaken by philanthropic bodies such as the charity organisation societies of great cities. In the *Journal of Nervous and Mental Disease* for May Dr. Smith Ely Jelliffe of New York gives an interesting account of the cases of minor neuroses and psychoses at the Vanderbilt Clinic of New York since its opening in 1888, and adds full details of the special kinds and classes of patients treated during the past year. The conclusions drawn, based as they are on the material of a vast and representative practice of the dispensary class, are of both medical and social interest. During the early years of the period—viz., from 1888 to 1892—the cases of all diseases treated in the clinic averaged from 30,000 to 35,000 a year, the proportion of nervous diseases among these being between 4 and 5 per cent. This proportion has been maintained throughout the period under review. During the past five years the cases of all diseases treated in the clinic averaged from 46,000 to 48,000 per annum, the proportion of nervous diseases remaining practically as before—viz., between 4 2 and 4 8 per cent. "So far as the Vanderbilt Clinic is concerned," says Dr. Jelliffe, "the ratio of sickness referable to the nervous

entire sick
those with
tended with
ound that in

and of "obsessions" were very rare (three cases in all).

morphine,
(five cases), paranoia
ven cases), and melancholia with
cases). The cases of melancholia were sufficiently severe to warrant the diagnosis. The psychoses which follow were in higher proportion—viz., 28 cases of climacteric psychoses or mental disturbances in women occurring at the menopause and sufficiently grave to cause anxiety to themselves or their friends, 26 cases of general paralysis of the insane, all in males, and 40 cases of chronic alcoholism of who 39 were males. Probably, says Dr. Jelliffe, these alcoholic cases represent but a small portion of those addicted to excessive drinking. On the borderland between the psychoses proper, as mentioned before, and the neuroses a number of cases variously called neurasthenia and phrenasthenia were treated at the clinic. Whether the "neurastheniacs" that present them

to decide, Dr. Jelliffe's opinion being that most of the cases were "individuals of weak mental capacity and, properly speaking, psychasthenias rather than neurasthenias of the strictly nerve-fatigue type. Neurasthenias of defective [cerebral] evolution perhaps they may be but neurasthenias of overwork they rarely are." They comprised 364 patients, of whom 211 were men and 153 were women. No etiological factors are mentioned for nearly the whole number, except that syphilis is put down as an exciting cause in six, trauma in two, and sexual excesses in 45. It appeared that most of them were of congenitally abnormal nervous constitution. The group of "neuroses" proper which follow comprised varying forms of neuralgia and neuritis, of peripheral palsies, tabes dorsalis, and other diseases of the nervous system. Cases of neuralgia were common, there being 114 cases, including 49 males and 65 females. The neuralgic attacks were nearly always local, affecting the following regions—viz., facial (40 cases), occipital (five cases), sciatic (36 cases), supraorbital (nine cases), dental (16 cases), brachial (nine cases), arthritic (ten cases), and lumbar region (four cases), while a few are not specified. Neuritis affected 61 patients—viz., 35 males and 26 females. All were mild cases unassociated with peripheral palsy or wasting of muscles. They comprised three cases of occipital neuritis, four due to lead poisoning, eight of multiple (peripheral) distribution and of obscure causation, and ten of alcoholic neuritis. The peripheral palsies and organic

cases of tumour of the spinal cord, six of lateral sclerosis (all males), 16 of disseminated sclerosis, 20 of Erb's paralysis, 21 of acute anterior poliomyelitis (of children), 31 of traumatic palsy of various nerves (21 being of the musculo spiral nerve), 31 were cases of facial paralysis, and 35 of tabes dorsalis.

THE LIVERPOOL SCHOOL OF TROPICAL MEDICINE AND TRYPANOSOMIASIS.

IN a letter published in the *Times* on June 14th an appeal is made for funds to continue the important researches on trypanosomiasis which are now being conducted by the Liverpool School of Tropical Medicine. In the appeal, which is signed by Sir Alfred L. Jones as chairman, by the Duke of Northumberland as vice chairman, and by

and to tsetse-fly disease and surra in animals is very obvious, and the statement in the letter that this investigation is of imperial interest and that it will tend to benefit all our great tropical possessions is one which we can endorse while commending the appeal to public support.

WHAT IS BRANDY?

THE recent magisterial decision on this question—a decision which has our entire concurrence—is evidently having a wholesome effect upon the retail spirit trade. We learn that notices in very big type are being displayed in the bars of certain public-houses in the north of London announcing that "all spirit sold at this establishment as brandy is of the same superior quality as heretofore, but the percentage of pure grape spirit is not guaranteed." The value of analysis was discredited by the trade previously to the Islington prosecution case. It is an interesting sequel to the case that they now find that they must protect themselves against the further operations of analysis by disclosing to the purchaser the nature of the so-called brandy in such unmistakeable terms as are contained in the above notice.

"PUBLIC HEALTH" AT SPENNYMOOR.

THE urban district of Spennymoor in the county of Durham has achieved unenviable notoriety for its insanitary conditions and for the incompetence of its local governing bodies. Two years ago strong representations were made to the Registrar-General by the county council of Durham with the object of remedying the scandal of death registration in this district. During the seven years 1896 to 1902 uncertified deaths had formed, on an average, no less than 24 per cent. of the total deaths. Nearly all these deaths were uncertified as a result of unqualified medical practice and the action of the coroner and of the local registrars made it comparatively easy for such deaths to be registered without inquiry. It does not appear that this objectionable state of things has yet been remedied and meanwhile it has been shown that a large proportion of the uncertified deaths occur at early ages and that the death-rate from certain diseases of children would be materially increased if the facts about the cause of death had been in all cases properly ascertained. This is especially important, as even with the present faulty certification it is found that the mortality in Spennymoor from infantile diarrhœa and other diseases of children is exceptionally high. The general death-rate of the locality, and also the mortality from enteric fever, are also very unsatisfactory. A report by Dr. R. J. Reece, issued by the Local Government Board last year, showed that the district council of Spennymoor has been largely to blame for the unhealthiness of the place. Dr. Reece reported that all kinds of nuisances were allowed to arise through the want of paving, draining, and channelling of back yards and common yards and that soil pollution also occurred in consequence of the large open privy middens near the dwellings and the inefficient system of scavenging adopted. Sewers, where laid, had been constructed practically without plan and were imperfectly ventilated and defective in construction; the sewage was allowed to pollute the river Wear without treatment, even at outfalls where works of sewage disposal had been provided; by-laws were antiquated; and cowsheds, slaughter-houses, and especially common lodging-houses received no efficient supervision and in most cases were in an extremely insanitary state. The district council, though well advised by its medical officer of health, had neglected to attend to these and to many other defects, and Dr. Reece showed that where money has been spent in sanitary works it has not always been employed to the best advantage. It might have been expected that after this outspoken report the district council would have made an effort to obtain a better reputation for competency in the future but reports of its recent proceedings are far from encouraging. The most pressing need of the place is that there should be an active sanitary inspector with good knowledge of his duties. Yet when the office lately became vacant the district council passed over 122 candidates, of whom 82 held certificates of the Sanitary Institute or some similar body, and selected a coal-miner, lately a member of the council, who was without practical experience of sanitary work and possessed no certificate of competency. The Local Government Board has very properly refused sanction to the appointment. At its last meeting the district council declined to make a fresh appointment and resolved that the influence of two local Members of Parliament should be invoked in support of the coal-miner. The Members concerned will be wise to read Dr. Reece's report forthwith and to understand the unhealthy and dangerous conditions of life which this local "sanitary" authority is virtually asking them to encourage. It is to be hoped that the Local Government Board will continue to take a strong line with this obstructive district council and will bring it to a better understanding of its duties and responsibilities.

THE INFANT ORPHAN ASYLUM AT WANSTEAD.

IN THE LANCET of June 4th, p. 1610, we published a letter from Dr. W. P. Herringham and Mr. A. A. Bowlby concerning the decision of the committee of the Infant Orphan Asylum, Wanstead, not to provide an isolation block and also to abolish trained nurses. We have now before us the annual report of the medical officer of health of the Wanstead urban district council for the year 1903. In this report occurs the following passage concerning the Infant Orphan Asylum: "I am of opinion that the present infirmary accommodation is quite inadequate for the requirements of such an institution containing as it does nearly 600 inmates. My main point is this, that even apart from the ordinary beds where cases of ringworm can be treated, there is no separate block where infectious diseases can be isolated. The disinfector, which is now relied upon, is useless for the purpose." We can only repeat our contention that the friends of the institution will regret that the committee has adopted a course so incompatible with the expressed opinions of the medical staff and not only of the medical staff but of the medical officer of health of the district. Ringworm, it is well known, is a very infectious disease and the facts that the children are infants, are orphans, and are poor supply no reasons why they should be exposed to the risks of infection to which they must necessarily be exposed if proper accommodation for isolation and proper nursing are not provided.

THE VITAL STATISTICS OF BUENOS AYRES.

WHATEVER may be said for the cult of the beautiful in art, the achievements of architecture and engineering, the application of chemistry and electricity to the material prosperity and luxury of a community, or to the perfecting of the engines of destruction in modern war as indications and measures of progress in civilisation, it will scarcely be disputed that the successful working out of the principles of public health in a large and rapidly growing population is at least as good an indication as any of the former. Tried by this some of the most prosperous and "up-to-date" of our colonial cities would have to take a low place, while one, and we think one only, of those of South America would be found in the very front. Anyone interested in vital statistics will find the "Annuaire Statistique de la Ville de Buenos Ayres" most satisfactory reading, showing results highly creditable to the activities of the municipal authorities during the last 20 years. We have here a city with a most heterogeneous population rapidly growing both by immigration and by natural increase, with an extremely high birth-rate, especially among the predominant races of Italians, Spaniards, and "native" Argentines so-called, coupled with a very low general, and still lower infant and child, mortality. In 20 years the population has more than doubled itself and last year had reached a total of 895,000. The general death-rate which in the "eighties" had been as high as 27, has steadily fallen during the last decade from 19·0 to 15·6 per 1000. The birth-rate, after having averaged 40 for a number of years, has sunk to 35 3, but the infant mortality has gone down from 140 to no more than 80 per 1000 live births, while the child population, or number under five years of age, was 137,000, equal to 155 per 1000 of all ages, the proportion in England and Wales being 136. The death-rates from the two diseases or groups of diseases most fatal to infant life had fallen—that from diarrhœa, &c., from 56 to 19, and that from bronchitis, pneumonia, &c., from 38·57 to 15·94 per 1000 living under two years of age. Every disease in any way preventable by hygienic measures is steadily declining, though some are still higher than they might be, as tuberculosis (22·0) and typhoid fever (2·20), the figures for London being 17·3 and 1·44 per 10,000 inhabitants respectively, that from diphtheria, on the other hand, being 2·39, against 3·46 for London. Every people of Europe and America with some from Asia and Africa is represented among the immigrants and on an average half of these new-comers marry into other nationalities than their own, giving rise to a singularly mixed race. But the Italians and Spaniards come in overwhelming numbers—e.g., last year 42,358 Italians and 21,917 Spaniards, equal to 64,275 out of a total of 75,227 immigrants, so that the Argentine proper may be looked on as essentially a blend of these two and the fertility of the two pure and mixed races is remarkable, families of from 15 to 20 being of not infrequent occurrence. Montevideo, on the opposite shore of the mouth of the Rio de la Plata, holds a position among South American towns second to Buenos Ayres only, but Santiago de Chili in the same latitude and enjoying one of the most perfect climates in the world is at the same time one of the unhealthiest cities in every way.

THE TAMWORTH TOWN COUNCIL AND THE REPORT OF ITS MEDICAL OFFICER OF HEALTH.

ACCORDING to the *Tamworth Mercury* of June 11th the mayor of that borough has recently had reason to deplore "a repetition of those extremely unpleasant scenes in the past which made that council improperly, if he might say so, but at any rate undesirably, famous throughout the country." The occasion for the outbursts referred to appears to have been "the action of the medical officer of health in sending his annual report to the Local Government Board and the county council without first intimating to this council his intention to do so," an omission which, in the opinion of the sanitary and streets Committee, was "discourteous to the committee." We have not yet received a copy of the report in question and so far as we can judge, seeing that the committee is apparently disinclined to print it, we are not likely to do so. But as the merits of the report do not really arise this point is immaterial and, moreover, the account in the *Tamworth Mercury* throws some interesting sidelights upon the unwillingness of the committee to have the report printed. It is curious that a local administering body which has risen to the dignity of a town council should not have been accurately informed as to what is the precise position of the medical officer of health with respect to his annual report and what are his instructions relative thereto. Doubtless the town council could have ascertained all the facts from its town clerk, but it would seem that the mayor, who "will always try to prevent the town from being governed by officials as it had been," was too proud to seek advice from the proper quarter. In these circumstances it may be well that we should draw attention to Article 16 of the Order of the Local Government Board which was issued on March 23rd, 1891. This Order provides that when giving information to the Local Government Board of the outbreak of infectious disease or transmitting to it a copy of his annual report or of any special report he must give the like information or transmit a copy of such report to the county council or county councils of the county or counties within which his district may be situated. Obviously, therefore, Dr. H. J. Fausset, the medical officer of health, had no alternative but to submit at once a copy of his report to the Local Government Board. Had that Board wished for the reports of medical officers of health as "revised" by the local authorities it would doubtless have asked for this in its Order and in that case it would never have learnt that "the work of inspection of the borough with regard to the removal of nuisances required more attention." Possibly this may be one of the paragraphs which it was the object of a defeated amendment to omit but whether or not this is the case the country will now know that things are not as they should be at Tamworth. We gather, too, from Mr. Dewes, one of the councillors who supported the medical officer of health, that there is much truth in the report and that it should not be tampered with because such reports "ought to be ungarbled and unaltered but express straightforwardly" the views of the medical officer of health on the sanitary condition of the borough. As Mr. Dewes pertinently observed, the council could not absolve the medical officer of health "from his duty to send his report to the Local Government Board." The medical officer of health is, Mr. Dewes added, the "eye" of the Local Government Board, which body looked to him for an independent report. Alderman Hare agreed with Mr. Dewes and in his view the action of the committee suggested the idea that there was something in the report which was incorrect. He considered it "an excellent report with nothing at all wrong about it." Having now obtained the report both the Local Government Board and the county council may be anxious for the observations of the Tamworth town council upon some of its passages. Possibly it may select those two passages which were the subject of the amendment. The town council has clearly made a mistake and it would do well at its next meeting to acknowledge frankly the fact to Dr. Fausset.

POISONING BY ILLUMINATING GAS.

ATTENTION to the important matter of poisoning by illuminating gas, of which 290 fatal cases occurred in New York city alone in 1901, is drawn by Dr. W. G. Thompson in a paper read at the recent annual meeting of the Association of American Physicians held at Washington in May and published in *American Medicine* of May 28th. Dr. Thompson's investigations were undertaken to determine the cause of death and of certain symptoms that are characteristic of poisoning by illuminating gas. A brief account of some of these symptoms was published, with illustrative cases, in THE LANCET of Oct. 11th, 1902. The series of cases studied by Dr. Thompson include 90, of which 17 were fatal. It is estimated that in New York probably 2000 cases of poisoning by gas occur annually. This is due to the prevalent use of the gas stove and to the ignorance of the foreign population going into the city. The deleterious effect of the gas on the blood, when inhaled, is due to one of its constituents, carbon monoxide, which firmly combines with the hæmoglobin of the red corpuscles and thus deprives the blood of its normal oxygen-absorbing power. But, adds Dr. Thompson, the action of the carbon monoxide upon the nervous system is more important than the changes produced in the blood. A leucocytosis which lasts for many days is one of the changes produced, while a febrile reaction is also developed in the system. The character of the fever is varied; a subnormal temperature may exist for some hours and then be followed by a fever which persists and remains high for a week or more. One case of pyrexia was observed in which the temperature reached 110° F. The associated nervous symptoms are varied in character. They consist of headache and mental confusion or delirium passing into coma in severe cases, muscular tremors and twitchings, anæsthesia of the skin, and rigidity of the muscles combined with opisthotonos. Among the later sequelæ there occur sclerosis and destructive changes in the brain and bulbo-spinal cord or in the peripheral nerves. The most satisfactory form of treatment was found to be venesection to the extent of about two pints of blood with simultaneous infusion of an equal quantity of warm and sterile physiological saline solution. In the discussion which followed the communication of Dr. Thompson's paper at the meeting referred to Professor Stengel of Philadelphia drew attention to recent experimental work which had shown that the transfusion of defibrinated blood had saved animals (rabbits, dogs) poisoned by coal gas even when venesection and infusion with salt solution failed. Professor S. Weir Mitchell and Professor Solis Cohen directed attention to the varying composition of illuminating gas in different cities; it was more highly charged with carbon monoxide, acetylene, and other highly toxic constituents at certain times than at others. Much leakage of gas took place into the cellars and basements in streets where the main gas-supply pipes had been badly laid and the slow and chronic poisoning of persons exposed to the influence of leaking gases was established by investigation in various large cities. Dr. Peabody said that defibrinated blood was difficult to procure as it had to be fresh and he supported the conclusions of Dr. Thompson that prompt treatment of all severe cases with venesection and saline transfusion had saved the lives of many persons poisoned by gas.

THE PROVISION OF OUTDOOR MEDICAL RELIEF.

IN attempting to improve the conditions under which the wants of the sick poor of their district are ministered to the Lambeth guardians have taken a step which may have far-reaching consequences, especially as regards the status of Poor-law medical officers. At a recent meeting of the board a special committee which had been appointed to consider the question of outdoor medical relief reported favourably upon a scheme which has been for some time under discussion and which proposes to substitute for the present district medical officers a staff of medical men who should devote their whole time to relief work and be under the direct control of the chief medical officer of the workhouse infirmary. In the opinion of the committee this plan promises so well that it advises its adoption in certain of the districts of the parish and it proposes that four medical officers at salaries ranging from £100 to £250 per annum should be appointed in order to give to the suggested arrangement a fair trial. There is, of course, no imputation that the existing district medical officers fail to carry out their duties as efficiently as possible and we assume that when the new arrangement comes into effect the interests of these gentlemen will be adequately safeguarded. Provided that this is done the proposed change is one likely to be to the advantage of both the sick poor and their medical attendants. The former will cease to run any risk of having their claims upon the time of a district medical officer subordinated to those of private patients, while the latter will have an opportunity of setting on foot a scheme of organisation which may do something to lift the Poor-law service from its present unsatisfactory position. There seems, indeed, to lie in the Lambeth proposal the germ of great possibilities. We may eventually get in this particular branch of our national undertakings a Poor-law Medical Corps in relation with the Local Government Board and comparable with the Royal Army Medical Corps. Such a development could hardly fail to increase greatly the prestige and the efficiency of the medical men engaged in Poor-law work. Until the experiment has been tried it is difficult to form an even approximately accurate estimate of its cost but at the salaries which the Lambeth board offers there does not seem likely to be any serious addition to the present expenditure. There is, moreover, a further prospective advantage in that the nursing of the sick poor could be intrusted to women trained under the medical superintendent of the infirmary and recognising in him and the medical officers under him a legitimate authority whose instructions they would readily obey.

EMPYEMA OF THE FRONTAL SINUS FOLLOWED BY CEREBRAL ABSCESS.

ABSCESS of the brain is a rare result of empyema of the frontal sinus. In the *American Journal of the Medical Sciences* for April Dr. Paul S. Mertins has reported the following case. A man, aged about 40 years, sought medical advice on Sept. 8th, 1903. For six months he had suffered from violent headaches of increasing severity. Within the last three days a swelling of the size of a goose's egg appeared in the re[illegible]. It was fluctuating and very tender. [illegible] apparently thickened periosteum, was fe[illegible]. 16 years before he contracted syphilis and two years before he received a blow with a hammer on the top of the head and was unconscious for several days. The swelling was incised and about an ounce of dark-coloured pus was evacuated, with complete relief of the pain. On the third day the pain returned and the patient noticed that when he held his head forward the flow of pus increased and the pain diminished. On the night of Sept. 13th the pain became more severe and the patient vomited several times and had three convulsions. On the following morning he was seen in consultation by Dr. Mertins. Cerebration was slow but no paralysis could be found. The anterior end of the middle turbinate bone was swollen. The temperature was 97·5° F. On probing the wound necrosed bone was found and in several places the probe seemed to enter the cranial cavity. Extradural abscess was diagnosed and the patient was admitted to hospital for operation. Under chloroform a three inch incision was made through the seat of the abscess. The pericranium was found separated from the bone and was held back by retractors. An area of necrosed bone of the size of a dollar was exposed. It was of a dark brown colour and presented the appear[illegible] in consequence of the numerous [illegible] pus oozed at each respiration. A button of bone was removed from the centre of the necrosed area with a half-inch trephine. An extradural abscess containing about an ounce of pus was found. The trephine opening was enlarged to the size of a dollar. The dura mater was found adherent to the frontal bone all around and formed the bed of the abscess. The removal of the necrosed bone opened the left frontal sinus which contained about half an ounce of pus. The right frontal sinus was opened and found to be healthy. The dura mater was of a dirty yellowish colour and pulsated only on the left side. On the 15th the patient's general condition was good and his mind was clearer but still not normal. There was a condition of irritability with semi-stupor and the urine was passed involuntarily. On the 23rd there were transient paresis of the right internal rectus muscle and right optic neuritis On the 24th he was more stupid. An aspirating needle introduced into the right frontal lobe was felt to enter a cavity and pus flowed through it A pair of scissors was entered beside it and the blades were separated. About one and a half ounces of creamy pus and a yellowish lump of broken down brain tissue were evacuated The cavity was curetted and an iodoform gauze drain was introduced The mental condition at once improved and the pulse rose from 78 to 100 On the following days the patient's condition continued to improve slowly and the abscess cavity grew smaller and the discharge less, but on the 30th there were symptoms of hypostatic congestion of the inferior lobe of the right lung and hæmoptysis The wound was in good condition On Oct 3rd the left lung became involved He grew worse and died on the 5th At the necropsy a depressed fracture of the size of a hammer head was found in the left parietal bone half an inch deep near the sagittal suture The bone was healthy This fracture was probably the result of the blow received two years previously Around the trephine opening the dura mater was adherent to both the bone and the brain It was also adherent to the depressed fracture The brain showed an abscess cavity one and a half inches deep, surrounded by nearly normal tissue The inferior lobes of the lungs were in a state of hypostatic congestion Dr Mertins thinks that but for the pulmonary complication the patient would have recovered from the cerebral abscess The abscess was the result of the empyema of the frontal sinus The posterior wall of the latter was necrosed and a fistulous tract led from the sinus to the extradural abscess

A MUSICAL [illegible] THE [illegible]

ON May 29th at the Grafton Galleries, under the auspices of the Sunday Concert Society, Madame Magdaleine, an artist who claims to interpret the emotions of music by dancing and artistic movements executed while in a state of induced "hypnotism," made her *debut* in London While in a "hypnotic" state on this occasion music was played and Madame Magdaleine illustrated the various moods reflected in the music by appropriate poses and dances The musical instruments were a violin, a piano, a Mustel organ, and a celesta A brief account of the séance was published in THE LANCET of June 4th, p. 1621 As doubt was expressed in some quarters as to the reality of the apparent hypnosis a matinée performance was given at the Garrick Theatre on June 9th, when, supported by music and scenery, Madame Magdaleine appeared on the stage and again went through her performance She was introduced by a M Magnin of Paris who seated her on a chair and, holding her two hands, gazed into her face for some seconds He then made a few "passes" over her face until she passed into the supposed hypnotic condition and then led her to the centre of the stage Music was then played and the artist began to dance. Her attitude was still and somewhat rigid until the first notes on the Mustel organ were struck. It then underwent a change. Consciousness seemed to light up, as it were, the face became expressive, and she danced and moved with grace and skill, interpreting the significance and the emotions of the music into movement with great facility This was followed after a brief pause by a song, "Les Rameaux," sung by Mr —— and accompanied on the Mustel organ. The artist danced and moved to this well known song with exceeding animation and grace, all the appropriate emotions, and attitudes of prayer and praise, devotion, joy, sorrow, and reverence being expressed with the highest art. Other items, four in number, followed, which concluded the first part of the programme During the interval, at the invitation of M Magnin, Madame Magdaleine was seen and briefly examined on the stage by a representative of THE LANCET She was found to be in a condition of cataleptic rigidity of the arms and legs, the pupils were moderately contracted, and the eyeballs were converged and turned slightly downwards The pupils reacted sluggishly to light Her skin was covered with sweat from the exertions of the dance, but the pulse, though full and strong, was not accelerated, its beat averaging from 75 to 80 per minute The knee jerks were tested after relaxation of the legs was induced (by passes made by M Magnin) and found to be absent, but as a slight degree of rigidity persisted in the legs this test could not be regarded as conclusive The test for anæsthesia of the skin with a pin was not allowed Madame Magdaleine's whole condition was suggestive of the hypnotic or somnambulistic stage, a condition of subconsciousness without any apparent spontaneity She was now restored to consciousness by the passes of M Magnin During the second half of the programme the representative of THE LANCET stood at the wing of the stage and watched her closely, following every movement, action, and pose from an excellent position of observation The dancer's eyes never for a moment dwelt, or seemed to dwell, upon the pianist or on any of the other instrumentalists on the stage, or upon any person at the wings of the stage, but were moved as though she were the subject of visual hallucinations during her dancing Whether this was acting and feigned or whether real hallucinations were seen could not be decided in the time and by the means afforded. The performance was throughout characterised by grace and beauty of movement in dancing Whatever may be said, Madame Magdaleine is a thorough artist and her dancing, gracefulness of movement, and wonderful power of facial and pantomimic expression constitute a performance worth seeing The tests applied and the observations made by the representative of THE LANCET incline him to the belief that the hypnosis is genuine and not feigned, and that the performances are carried out during the hypnotic state But a further study of this interesting case would be needed before all doubt could be settled as to the genuineness of the phenomena M Magnin states that Madame Magdaleine is a Russian born woman of mixed French and Swiss parentage and that the family history of both her parents is free from serious neuroses or brain affections She is married to a Frenchman and is the mother of two children He also states that when not under the influence of hypnotism she is in no sense an artist nor has she any skill as a musician or interpreter of music into movement. The psychological aspects of this case are certainly of interest.

THE EAST LONDON MEDICAL SOCIETY AND HOSPITAL ABUSE

THE East London Medical Society at a meeting held on May 17th decided to memorialise various hospitals on the subject of the abuse of hospital charity Deputations from the society have met the house committees of two of the East London hospitals The matter was discussed and it was promised that steps would be taken to diminish as far as possible certain abuses the existence of which was admitted. The abuses that the society complained of more particularly were (1) the part payment system at hospitals, and (2) the insufficiency of the scrutiny of patients to prevent treatment at hospitals of persons whose means render them unsuitable for relief at a charitable institution The society also pointed out that the hospital authorities are almoners of the charitable public, that it is their bounden duty to see that the money intrusted to them is applied in relieving deserving cases; that to expend it otherwise is to commit a grave breach of trust; and that to expend it on those whose means render them unfit for such relief is a course calculated to pauperise the recipients and to sap their independence of character. The society contends that a proportion of the funds subscribed by the charitable public is wasted on unsuitable subjects and it intends to press for reform at all institutions where these abuses exist. In order to give greater weight to its representations the society would strongly urge medical practitioners to join it, as it is fighting for reforms which intimately affect the whole profession and the charitably disposed public.

AN OUTBREAK OF CASES OF SORE-THROAT APPARENTLY CONNECTED WITH AN INFECTIVE ERUPTION ON THE TEATS OF COWS.

WE have received a report of considerable interest on a recent outbreak of infective sore-throat in the Fever and Small-pox Hospitals at Belvidere, Glasgow, in which a considerable amount of evidence is adduced connecting it with an infective eruption on the teats of the cows from which the milk-supply was derived. The facts may be briefly summarised as follows. During the months of April and May 39 persons more or less directly connected with the institutions suffered from certain throat symptoms, variously regarded as tonsillitis and diphtheria, while 13 of the cases were so slight in character that no medical advice was sought. Bacteriologically a few of the cases showed diphtheria bacilli, a few others pseudo-diphtheria bacilli, and the remainder of those examined only streptococci. On considering the occupations of the various persons affected it became obvious that the disease was spread by a direct distribution from a common source rather than by secondary transmission among persons closely associated in their work and habitation. As certain cases occurred in the small-pox hospital and in the house steward's family attention was directed to the milk-supply, this being the only apparent circumstance in common between them and the fever hospital generally. After May 17th the milk supplied to the fever hospital was scalded and no further cases occurred there, but by a mistake in the instructions sent to the small-pox hospital the milk supplied there was not scalded till May 23rd and one case occurred there on the 27th. On investigating the source of the milk it was discovered that on April 23rd a new cow had been added to the herd which then numbered 72 in all. This cow had a slight eruption on the teats at the time but as this gave rise to no difficulty in milking little or no notice was taken of it. The cow was placed in one of the byres with a certain group of cows and within a few days it was moved to another byre and placed with another group. Subsequently the animals in both these groups were found to be suffering from a similar eruption on the teats and as a result 30 per cent. of the whole herd were affected. The disease appears to have lasted about three days, during which the animals gave some extra trouble in milking; after this, although the lesions persisted for a while, the cows took no notice of them and milking was not more difficult than usual. During the course of the epidemic the hands of four out of the eight milkers employed were affected with an eruption which subsequently healed and was apparently due to infection from the teats. As far as circumstantial evidence can go the connexion between the two conditions would appear to be a very close one. The direct or bacteriological proof is still engaging the attention of the medical officers. As far as this part of the investigation has gone, in one of the cases, that of a medical officer in charge of diphtheria wards, the *organisms were those of true diphtheria, although it is, of* course, possible that the original determining cause of the more virulent infection may have been the same infective agent as in the other cases acting by lowering resistance and thus favouring the diphtheritic infection. Dr. A. K. Chalmers, the medical officer of health and author of the report, is disposed to regard the throat-sympton as due to a septic infection arising from the growth secondary organisms on the affected teats and conveyed the milk. The complete bacteriological report of the prese outbreak should be of great interest.

A VISIT OF FRENCH MEDICAL MEN TO LONDON.

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AT the annual prize giving of the London (Royal Free Hospital) School of Medicine for Women, which will take place on Thursday, June 23rd, at 4 P.M., Professor T. Clifford Allbutt, F.R.S., Regius Professor of Physic at Cambridge, will present the prizes.

THE Right Hon. Lord Alverstone, G.C.M.G., Lord Chief Justice of England, will distribute the prizes to the students of St. Mary's Hospital Medical School, London, at the annual distribution on Wednesday, June 29th, at 4.45 P.M.

WE regret to announce the death of Mr. A. O. Mackellar, surgeon-in-chief to the Metropolitan Police and late senior surgeon to St. Thomas's Hospital.

THE INTERNATIONAL HOME RELIEF CONGRESS.

THE fourth of these congresses took place last week in Edinburgh and was attended by more than 400 members, more than half of whom were ladies, whilst several had come from France, Belgium, Holland, and other foreign countries. The first of these congresses was held in Paris in 1901, the second in Antwerp, and the third in Bordeaux. The idea of holding them arose at a Paris congress in 1900 which dealt with charitable work of every kind, the work of hospitals and other institutions being included. But the discussions which took place showed clearly that the questions relating to Home Relief presented special problems embracing so wide a field and of such urgent importance that it was resolved that in the future an independent congress should be devoted to their consideration.

Lord BALFOUR OF BURLEIGH, the President, in his opening address defined the general object of the conference as the discussion of those methods by which help could best be given to our weaker and less fortunate brethren without relegating them to special institutions where recipients of relief are congregated together. In many ways this system commends itself to Scotland, for last month the percentage of ordinary poor in the various poor-houses was only 13, compared with 87 per cent. receiving outdoor relief.

The congress was divided into five sections, most of which discussed matters of medical interest.

I.—CHILDREN.

Miss HORN (school manager under the London School Board) read a paper on the Feeding of Infants and School Children, with the object of showing that the feeding of children from the school as a centre was a bad method of relief.—Dr. H. W. THOMSON (Glasgow) dealt with the Eye Troubles of Children, especially Myopia and Strumous Ophthalmia, and pointed out that employers often refused to engage a man who was obliged to wear spectacles.—Dr. F. M. SANDWITH (London) described the objects of the Infants' Health Society and drew attention to the high infantile mortality of the United Kingdom.—Dr. W. ROBERTSON (Edinburgh) stated that pasteurised cow's milk ready mixed with water, sugar, and salt was now provided for 74 infants daily in separate bottles, for which the mothers paid 1*s.* 6*d.* a week and yet the milk depôt was self-supporting. During 15 months none of these children had died from diarrhœa.

In a crowded meeting to discuss the home care of mentally defective children the opinion was expressed that these could be trained and kept for life with most advantage to themselves and others in labour schools and colonies in the country where the workers might actually produce the food on which they lived.

II.—ABLE-BODIED ADULTS.

Mr. J. Q. DONALD (Fife), in a paper on What to Do with our Inebriates, stated that the only method in which he believed was the confinement of the patient in a retreat where it was necessary to implant in the patient's mind a loathing for his old habits. He quoted several cases which he had successfully treated.—Dr. J. F. SUTHERLAND (Edinburgh), on the other hand, thought that inebriates should be housed out in the country, but not more than two in any one house.—Dr. R. W. BRANTHWAITE (London) said that out of the last 1000 committals from England he did not know one case that could have been sent from the court to a private house over which any ordinary individual would have control.

III.—SICK ADULTS.

This section was presided over by Mr. MALCOLM A. MORRIS and began with a discussion on the Means of Home Attendance [illegible] er papers by Dr [illegible] (Amsterdam), [illegible] s. SCHARLIEB, M.D. (London). On the second day Dr. R. W. PHILIP (Edinburgh), while recognising the value of sanatoriums, pleaded *for a properly equipped tuberculosis dispensary* under the direction of the local authority as being the best means to organise the campaign against phthisis and a motion to this effect was unanimously carried. He calculated that there were *now* in Edinburgh 2500 *persons* who would die from tubercle during the next five years. At the Victoria Dispensary for Consumption 87 patients had attended on one day and there were up to the present time 13,360 patients on the books who had been visited at their homes by a willing staff of nurses and ladies. The meeting loudly applauded the view that the tuberculosis dispensary should be placed under the medical officer of health and under the local authority. Besides the tuberculosis dispensary Dr. Philip recommended a home for dying patients, chiefly in the interests of other persons; sanatoriums for selected patients who required a special régime not procurable in their own homes; and colonies for the after-life and supervision of patients in whom the disease had been sufficiently arrested to make selected open-air employment feasible and desirable.—A paper was read from Professor CALMETTE (Lille) describing his tuberculosis dispensary started three years ago for superintending ex-patients. 100 families received daily rations of coals, meat, milk, and eggs, while their linen was washed for them and their houses were disinfected periodically.—Professor J. A. LINDSAY (Belfast) reported two reforms from his municipality—the appointment of two female inspectors for visiting ex-patients and the gratuitous examination for tubercle of sputa.

After a debate on the third day on the relation between hospital and home relief of sick poor the following motion was carried:—

[illegible] experience may suggest.

IV.—INSANE AND EPILEPTICS.

Dr. A. ROBERTSON (Glasgow) opened a discussion on the Scottish system of boarding out the insane poor in private dwellings.—Mr. CONOLLY NORMAN (Dublin) said in his remarks that there was in Ireland one person of unsound mind to every 178 of the general population.—Sir JOHN SIBBALD (Edinburgh), in speaking of the Bill just introduced in the House of Commons by the Attorney-General to permit cases of doubtful or incipient insanity being sent to private homes for a period not exceeding six months without the formality of certificates, said he greatly objected to applying to the insane a word which could be made to refer to them alone. He welcomed the substitution of "hospitals" for "asylums" and said in Edinburgh they had now gone one step further, for there was a new asylum being constructed which is to be called "The Bangour Village."

An important discussion on epileptic colonies took place. Dr. J. M. RHODES (Manchester) stated that there were certainly not less than 70,000 epileptics in Great Britain and for the treatment of that number there was not one single State institution for the proper scientific care of the sane epileptic.—Dr. FLETCHER BEACH (London) mentioned that the number of colonists was now 196 at the Chalfont Farm in Buckinghamshire.—Dr. D. FRASER (Paisley) contributed a paper with special reference to the colony at Bethal in bounden duty to see that the money intrusted to them is applied in relieving deserving cases; that to expend it otherwise is to commit a grave breach of trust; and that to expend it on those whose means render them unfit for such relief is a course calculated to pauperise the recipients and to sap their independence of character. The society contends that a proportion of the funds subscribed by the charitable public is wasted on unsuitable subjects and it intends to press for reform at all institutions where these abuses exist. In order to give greater weight to its representations the society would strongly urge medical practitioners to join it, as it is fighting for reforms which intimately affect the whole profession and the charitably disposed public.

AN OUTBREAK OF CASES OF SORE-THROAT APPARENTLY CONNECTED WITH AN INFECTIVE ERUPTION ON THE TEATS OF COWS.

WE have received a report of considerable interest on a recent outbreak of infective sore-throat in the Fever and Small-pox Hospitals at Belvidere, Glasgow, in which a considerable amount of evidence is adduced connecting it with an infective eruption on the teats of the cows from which the milk-supply was derived. The facts may be briefly summarised as follows. During the months of April and May 39 persons more or less directly connected with the institutions suffered from certain throat symptoms, variously regarded as tonsillitis and diphtheria, while 13 of the cases were so slight in character that no medical advice was sought. Bacteriologically a few of the cases showed diphtheria bacilli, a few others pseudo-diphtheria bacilli, and the remainder of those examined only streptococci. On considering the occupations of the various persons affected it became obvious that the disease was spread by a direct distribution from a common source rather than by secondary transmission among persons closely associated in their work and habitation. As certain cases occurred in the small-pox hospital and in the house steward's family attention was directed to the milk-supply, this being the only apparent circumstance in common between them and the fever hospital generally. After May 17th the milk supplied to the fever hospital was scalded and no further cases occurred there, but by a mistake in the instructions sent to the small-pox hospital the milk supplied there was not scalded till May 23rd and one case occurred there on the 27th. On investigating the source of the milk it was discovered that on April 23rd a new cow had been added to the herd which then numbered 72 in all. This cow had a slight eruption on the teats at the time but as this gave rise to no difficulty in milking little or no notice was taken of it. The cow was placed in one of the byres with a certain group of cows and within a few days it was moved to another byre and placed with another group. Subsequently the animals in both these groups were found to be suffering from a similar eruption on the teats and as a result 30 per cent. of the whole herd were affected. The disease appears to have lasted about three days, during which the animals gave some extra trouble in milking; after this, although the lesions persisted for a while, the cows took no notice of them and milking was not more difficult than usual. During the course of the epidemic the hands of four out of the eight milkers employed were affected with an eruption which subsequently healed and was apparently due to infection from the teats. As far as circumstantial evidence can go the connexion between the two conditions would appear to be a very close one. The direct or bacteriological proof is still engaging the attention of the medical officers. As far as this part of the investigation has gone, in one of the cases, that of a medical officer in charge of diphtheria wards, the organisms were those of true diphtheria, although it is, of course, possible that the original determining cause of the more virulent infection may have been the same infective agent as in the other cases acting by lowering resistance and thus favouring the diphtheritic infection. Dr. A. K. Chalmers, the medical officer of health and author of the report, is disposed to regard the throat symptoms as due to a septic infection arising from the growth of secondary organisms on the affected teats and conveyed in the milk. The complete bacteriological report of the present outbreak should be of great interest.

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ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING MAY, 1904.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS	Estimated population in the middle of 1904.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small pox.	Measles.	Scarlet fever.	Diphtheria *	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa	Total.	Annual rate per 1000 persons living.			
LONDON...	4,648,950	87	1015	556	2	8	2	17	335	—	2092	5·9	3	306	19	63	163	—	11	1	74	640	1·8	5200	13·9	107
West Districts.																										
Paddington	146,975	—	26	8	—	4	—	2	7	—	47	4·2	1	1	—	—	1	—	—	—	1	4	0·4	137	12·2	83
Kensington	179,236	1	32	22	—	2	—	—	10	—	67	4·9	—	2	—	2	1	—	—	—	2	7	0·5	163	11·9	103
Hammersmith	117,412	—	25	17	—	2	—	—	10	—	54	6·0	—	8	—	2	1	—	—	—	1	12	1·3	102	11·3	103
Fulham	152,482	—	19	15	—	3	—	1	9	—	47	4·0	—	10	—	1	4	—	1	—	5	21	1·8	160	13·7	125
Chelsea	74,329	—	6	6	—	—	—	1	4	—	17	3·0	—	3	—	1	1	—	—	—	—	5	0·9	91	16·0	44
City of Westminster	177,321	—	25	9	1	1	—	1	12	—	49	3·6	—	2	—	—	1	—	—	—	4	7	0·5	182	13·4	105
North Districts.																										
St. Marylebone	130,337	—	16	10	—	5	—	—	9	—	40	4·0	—	5	—	1	—	—	—	—	—	6	0·6	146	14·6	75
Hampstead	86,663	—	19	1	—	4	—	—	7	—	31	4·7	—	2	—	—	1	—	—	—	—	3	0·5	65	9·8	66
St. Pancras	235,936	—	80	35	—	7	—	—	5	—	127	7·0	—	6	2	2	6	—	—	—	5	21	1·2	247	13·6	103
Islington	341,044	5	97	15	—	5	—	—	20	—	142	5·4	—	17	1	1	4	—	3	—	3	29	1·1	333	12·7	111
Stoke Newington	52,445	1	13	3	—	3	—	—	5	—	25	6·2	—	2	—	2	1	—	1	—	—	6	1·5	48	11·9	98
Hackney	226,266	2	52	59	—	6	1	1	13	—	134	7·7	—	4	2	5		—	—	—	2	20	1·2	214	12·3	97
Central Districts.																										
Holborn	57,161	1	3	6	—	1	—	—	6	—	17	3·9	—	7	—	1	2	—	1	—	1	12	2·7	90	20·5	111
Finsbury	93,958	1	33	15	—	2	—	2	11	—	64	8·4	—	5	2	2	6	—	—	—	2	17	2·2	146	19·2	140
City of London	23,482	—	7	2	—	1	—	—	1	—	11	6·1	—	—	—	—	1	—	—	—	—	1	0·6	36	20·0	107
East Districts.																										
Shoreditch	117,033	1	23	23	—	—	—	1	11	—	59	6·6	—	4	1	3	8		—	—	4	20	2·2	135	15·0	129
Bethnal Green	130,207	38	50	21	—	—	—	1	11	—	121	12·1	1	6	2	2	5	—	—	—	1	17	1·7	195	19·5	172
Stepney	303,791	10	92	42	1	3	—	2	26	—	176	7·6	1	33	2	5	15	—	2	—	6	64	2·7	443	19·0	146
Poplar	169,905	2	60	86	—	1	—	—	14	—	163	12·5	—	14	2	14	5	—	—	—	2	37	2·8	210	16·1	144
South Districts.																										
Southwark	207,937	10	30	13	—	1	—	—	21	—	75	4·8	—	56	2	4	11	—	1	—	5	79	5·0	288	18·1	141
Bermondsey	129,397	5	27	9	—	3	1	2	12	—	69	5·9	—	28	—	1	7	—	—	1	1	38	3·8	220	22·2	158
Lambeth	310,359	5	52	18	—	8	—	—	18	—	101	4·2	—	23	1	1	18	—	1	—	4	48	2·0	342	14·4	102
Battersea	175,465	—	20	15	—	3	—	—	10	—	48	3·6	—	13	1	1	4	—	—	—	10	29	2·2	190	14·1	143
Wandsworth	257,443	1	59	45	—	3	—	2	17	—	127	6·4	—	13	—	6	10	—	—	—	6	35	1·8	256	13·0	106
Camberwell	253,384	3	57	18	—	4	—	—	33	—	115	5·6	—	16	—	1	15	—	—	—	1	33	1·6	260	12·6	93
Deptford	113,509	—	29	10	—	—	—	1	14	—	54	6·2	—	16	—	1	8	—	—	—	2	27	3·1	140	16·1	127
Greenwich	101,651	1	17	15	—	2	—	—	6	—	41	5·3	—	6	—	1	2	—	—	—	1	10	1·3	101	13·0	131
Lewisham	140,401	—	15	10	—	3	—	—	11	—	39	3·6	—	1	1	—	4	—	—	—	2	8	0·7	127	11·8	122
Woolwich...	123,416	—	30	8	—	1	—	—	2	—	41	4·3	—	3	—	3	14	—	1	—	3	24	2·5	133	14·0	107
Port of London	—	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

the average number in the corresponding periods of the ten preceding years; among the various metropolitan boroughs this disease was proportionally most fatal in Holborn, Stepney, Poplar, Southwark, Bermondsey, and Deptford. The fatal cases of scarlet fever numbered 19 last month, against an average of 48 in the corresponding periods of the ten preceding years; this disease showed the highest proportional fatality in St. Pancras, Hackney, Finsbury, Bethnal Green, Poplar, and Southwark. The 63 deaths from diphtheria were equal to exactly one-half of the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in Stoke Newington, Hackney, Shoreditch, Poplar, Wandsworth, and Woolwich. The 163 fatal cases of whooping-cough showed a decline of 39 from the average number in the corresponding periods of the ten preceding years; the greatest proportional mortality from this disease occurred in Finsbury, Shoreditch, Lambeth, Camberwell, Deptford, and Woolwich. The deaths from "fever" numbered 12 last month, the corrected decennial average being 27; the highest "fever" death-rates occurred in Fulham, Islington, Stoke Newington, Holborn, Stepney, Bermondsey, and Woolwich. The 74 fatal cases of diarrhœa were 21 in excess of the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in Fulham, the City of Westminster, Shoreditch, Southwark, Battersea, Wandsworth, and Woolwich. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases was more than 15 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 107 per 1000. The lowest rates of infant mortality were recorded in Paddington, Chelsea, St. Marylebone, Hampstead, Stoke Newington, Hackney, and Camberwell; and the highest rates in Finsbury, Bethnal Green, Stepney, Poplar, Southwark, Bermondsey, and Battersea.

THE SERVICES.

Royal Navy Medical Service.

THE following appointments are notified:—Surgeons: P. T. Nicholls to the *Mutine* and J. H. Jones to the *Lizard*.

In accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet Surgeon William Spencer Lightfoot has been placed on the Retired List at his own request, with permission to assume the rank of Retired Deputy Inspector-General of Hospitals and Fleets (dated June 9th, 1904).

Army Medical Reserve of Officers.

Surgeon-Lieutenant G. R. Livingston to be Surgeon-Captain (dated June 5th, 1904).

Volunteer Corps.

Rifle: 1st Cadet Battalion the Queen's (Royal West Surrey Regiment): Surgeon-Lieutenant A. O. Elliman to be Surgeon-Captain (dated June 11th, 1904). 3rd (The Blythswood) Volunteer Battalion the Highland Light Infantry: Supernumerary Surgeon-Major A D. Moffatt to command the Highland Light Infantry Bearer Company, Royal Army Medical Corps (Volunteers), vice Surgeon-Major Q. Chalmers, 5th Volunteer Battalion the Highland Light Infantry, who has vacated the appointment (dated June 11th, 1904). 5th (Glasgow Highland) Volunteer Battalion the Highland Light Infantry: Supernumerary Surgeon-Major Q. Chalmers is appointed Brigade-Surgeon-Lieutenant-Colonel whilst holding the appointment of Senior Medical Officer to the Highland Light Infantry Volunteer Infantry Brigade, and to remain Supernumerary (dated June 11th, 1904). 1st (Ross Highland) Volunteer Battalion Seaforth Highlanders (Ross-shire Buffs, the Duke of Albany's): Surgeon-Major J. Adam to be Surgeon-Lieutenant-Colonel (dated June 11th, 1904). 7th Volunteer Battalion the Gordon Highlanders: Surgeon-Lieutenant J. F. Robertson to be Surgeon-Captain (dated June 11th, 1904).

Consequent upon the division of the 1st Cheshire and Carnarvonshire Royal Garrison Artillery (Volunteers) into two Corps, designated respectively the 1st Cheshire Royal Garrison Artillery (Volunteers) and the 1st Carnarvonshire Royal Garrison Artillery (Volunteers), His Majesty has been graciously pleased to approve of the following, with effect from June 4th, 1904:—1st Cheshire Royal Garrison Artillery (Volunteers): Honorary Assistant Surgeon, R. E. Owen; Surgeon-Major, A. M. Archer; Surgeon-Captains, R. B. Wright and T. G. Lusk. 1st Carnarvonshire Royal Garrison Artillery (Volunteers): Surgeon-Lieutenant-Colonel, E. J. Lloyd; Surgeon-Lieutenant, O. W. Owen.

Royal Army Medical Corps (Volunteers).

Wilts and Dorset Bearer Company: Surgeon-Major H. J. Mackay, from 2nd Volunteer Battalion the Duke of Edinburgh's (Wiltshire Regiment), to be Major and to command (dated June 11th, 1904); Surgeon-Captain R. G. Worger, from 1st Volunteer Battalion the Prince Albert's (Somersetshire Light Infantry), to be Captain (dated June 11th, 1904).

Deaths in the Services.

Inspector-General Maxwell Rodgers, R.N., at his residence in Southsea on June 8th, in his seventy-second year. The deceased, who graduated M D. of the University of Glasgow and took the qualification of M.R.C.S. Eng. in 1857, entered the Royal navy in the same year, and retired in 1893 with the rank of inspector-general of hospitals. As assistant surgeon he served in the *Belleisle* and attended on the wounded during the operations at the Peiko Forts in 1858 (China medal). He served as surgeon of the *Assurance* during an outbreak of fever and cholera which broke out on that ship when in the river Danube and Black Sea in 1865. He was fleet surgeon of the *Monarch* at the bombardment of Alexandria on July 11th, 1882, and was present at the occupation of Port Said (Egyptian medal, Alexandria clasp, and the Khedive's bronze star). He was granted the Greenwich Hospital pension in November, 1896.

Brigade-Surgeon William ffolliott, R A.M.C. (retired), on June 8th, from heart failure, following an attack of influenza, at the age of 65 years. He received his medical education in Ireland, entered the army in 1862, and retired in 1890. He served in the Afghan war of 1878–80 (medal).

The Post of Director-General of the Royal Navy Medical Service.

In THE LANCET of June 11th we announced that Inspector-General of Hospitals and Fleets H. M. Ellis had been selected to succeed Sir Henry Norbury. Inspector-General Ellis entered the service in 1875 and served in the Egyptian war of 1882 and was present at Kassassin and Tel-el-Kebir, mentioned in despatches and promoted to staff-surgeon. In 1891 he became fleet surgeon, in which rank he served in the ill-fated battleship *Victoria*, flagship of Vice-Admiral Sir George Tryon, which in 1893 was sunk off the Syrian coast. In August, 1899, he was promoted to deputy inspector-general and in February last to inspector general, the following month being appointed to Haslar Hospital. We heartily congratulate this officer on his appointment to the post of Director-General of the Medical Department of the Royal Navy and wish him all success in the discharge of his new and responsible duties.

Sir Henry Norbury, K.C.B.

Inspector-General Sir Henry F. Norbury, Director-General of the Medical Department, will shortly relinquish his appointment which he has held a little over six years. Sir Henry Norbury has served 44 years and has seen considerable active service in South Africa—in the Kaffir war, 1877–78, and in the Zulu war, 1879, on both occasions being mentioned in despatches. On the occasion of the Diamond Jubilee of the late Queen Victoria he was made K C B. Sir Henry Norbury is honorary surgeon to the King, a Knight of Grace of the Order of St. John of Jerusalem, a honorary Fellow of the Royal College of Surgeons of England, and the holder of Sir Gilbert Blane's gold medal.

Superseded Officers A.M.S.

Under the above heading the *Army and Navy Gazette* of June 11th publishes a communication from a correspondent making inquiry into a matter which is stated to have been discussed freely and unfavourably in the medical service. It is as to whether the army medical officers on the Advisory Board at headquarters who happen to be junior in rank to the medical officers whose promotion comes up for consideration are allowed to sit and to vote at the Advisory Board meetings on the promotion of their seniors. If so, the correspondent points out that it is against the interests of discipline, seeing that the junior officers have benefited very materially by the supersession of their seniors, notably so in the lieutenant-colonel's rank. To this inquiry our service contemporary replies in an editorial note which calls for attention on account of its important bearing. We venture, therefore, to quote it at length.

> "Our correspondent asks us to reply to his query in some autho [illegible] may commit [illegible] be no ruling [illegible] e members of [illegible] rank to the [illegible] notion by that [illegible] whether they [illegible] aw more. The point raise [illegible] comments [illegible] Advisory B [illegible] we find exa [illegible] and then s [illegible] case an offi [illegible] places but [illegible] not only p [illegible] which he was advanced. This officer's case is no secret, and if instances can be multiplied, as we are informed they can, then something defective would appear in the Advisory Board's deliberations. We would invite discussion."

THE EMPLOYMENT OF DISCHARGED SOLDIERS

Under the presidency of the Lord Mayor of London the annual meeting of the National Association for the Employment of Discharged Soldiers was held at the Mansion House on June 13th. The Princess Louise (Duchess of Argyll) sent a letter expressing her sympathy with the work of the association and regretting her inability to attend the meeting. The report of the association stated that during the past 12 months 17,350 men had been registered and permanent employment found for 11,068. Many vacancies occurred in Government offices which warrant officers, non-commissioned officers, and men of good character were well-fitted to fill. The association continued to receive liberal financial assistance from the Government, which had made a further grant of £1500 during the past year, and the King, a life member, had again subscribed to the funds.

THE WAR IN THE FAR EAST.

There seems to be some doubt about the Japanese victory on the afternoon of June 11th, in which it is alleged that a strong detachment of the Russians was driven back in disorder on Kaichau with the loss of 860 killed and wounded. There is no allusion to such an occurrence in the Russian general's official report from Wafangko of that date. It is, of course, possible that the Japanese may have had such a success, but it must be expected that mere affairs of outposts will be constantly taking place with losses on one side or the other which become exaggerated into serious engagements. It is somewhat a matter of surprise that we do not hear more of the movement of the Japanese in the vicinity of Mukden and of the interruption of the railway to the north of that place. It is but natural to suppose that the Russians will be most unwilling to leave the beleaguered garrison of Port Arthur to its fate, but it may be accepted as certain that a general of [illegible] experience and reputation is [illegible] ficulty and risk of making the [illegible] of writing it is rumoured that a naval battle is going on, the Vladivostok fleet having escaped from port and made a dash for Port Arthur. As was the case with ourselves in South Africa charges of inhumanity have been made during the present war but there is every reason to believe that they are groundless and that as far as possible the wounded and prisoners, irrespectively of their nationality, have received every care and attention in the camps and hospitals; that [illegible] been acknowledged on both [illegible] o the Japanese forces from [illegible] are now in the field and [illegible] R.A.M.C., is with the headquarters of the 2nd Japanese Army There is great activity [illegible] in Russia in the way of war [illegible] and elaborate instructions have [illegible] ylactic inoculation of men and [illegible] East against all sorts of diseases. The English Red Cross Society at St. Petersburg has sent a donation of £2000 to Sir Charles Hardinge, the British Ambassador, to be used at the discretion of his Excellency for the relief of the Russian sick and wounded. Sir Charles Hardinge has decided to hand the money over to the Dowager Czarina who is president of the Russian Red Cross Society.

The *Ruski Listok*, in reply to many questions as to how to address letters to friends in the Far East, says that an information bureau has been established at Karbin which is kept fully informed of all the movements of the sanitary detachments. Therefore all communications should be addressed to Karbin.

The special correspondent of the *Novoe Vremya* at Karbin telegraphs that the hospital barge for the removal of the sick and wounded thence to Chabarovsk and Blagoveschtschensk has been consecrated. It is elegantly arranged and fitted. The streets of Karbin are being paved and, generally, since the energetic measures taken by the army officers and town council, the sanitary state of the town is quite satisfactory. The most serious problem is the sanitation of the neighbouring Chinese villages.

[illegible]

Correspondence.

"Audi alteram partem."

SHOULD MEDICAL MEN BE ALLOWED TO DISPENSE THEIR PRESCRIPTIONS OR NOT?

To the Editors of THE LANCET.

SIRS,—A short time ago a number of letters on this subject appeared in THE LANCET. As the question affects the public more than the profession perhaps the following case of my own may be to the point.

Last week I wanted some nitrite of amyl and sent a note by a friend of mine to a chemist in the nearest town (I live in a village) seven miles distant where there are three chemists, requesting him to send a few vaporoles or capsules, five minims, of amyl nitrite. Now comes the amusing part of the story. Mr. A had none, but "had something that would do as well." *Perhaps Mr. B had some.* My friend went [illegible] list, b [illegible] men," [illegible] such [illegible] drug [illegible] which [illegible] readers will enlighten [illegible]

Again, some years [illegible] a patient in small dose [illegible] same town he told him that he did not keep it, that it was a very old "drug," and that there were several other preparations which acted much better. Now to me this sounds very much like substitution and that the chemist, without seeing the patient or knowing anything of his complaint, judges himself to be a far more competent person to prescribe than the medical man in attendance.

Some time ago, I think it was a Mr. Howel Idris who started the agitation against medical men dispensing for the reason that they sometimes made mistakes. Quite so; we are a [illegible] that does not prove [illegible] maintain that a man [illegible] suggests such a proceeding [illegible] I know for a fact that the majority of the middle and lower class public have more faith and place more reliance on medicine [illegible] exorbitant. I have frequently given prescriptions gratis to poor persons and on inquiry have been sorry to hear that the chemist has charged 3*s.* 6*d.* for an eight ounce mixture and a few pills, the intrinsic value of the lot, bottle included, being at the outside 1*s.* Well, after reading this perhaps there are some persons who wish to prohibit medical men dispensing. If they will come forward and pay the chemist's bill I am quite willing provided there is no substitution. I am, Sirs, yours faithfully,

Y. M. JONES-HUMPHREYS.

Cemmaes, Montgomeryshire, June 13th 1904.

THE SO-CALLED PANCREATIC REACTION IN THE URINE.

To the Editors of THE LANCET.

SIRS,—The contention of your correspondents, Dr. C. E. Ham and Dr. J. B. Cleland, that the pancreatic reaction is due to lead salts is at once disposed of by the fact that other acids and neutralising agents than hydrochloric acid and lead carbonate give precisely similar results to those I have described as being obtainable with these reagents. The operations are somewhat more tedious and require considerably more care, but using, for instance, half a cubic centimetre of sulphuric acid to the ten cubic centimetres of urine and, after boiling for five to ten minutes, neutralising with barium carbonate I obtained in over 50 consecutive cases typical crystals with pancreatic urines and no reaction with normal cases.

The pancreatic crystals are undoubted osazone crystals, as their melting points and other characters show, but I am not aware that I have ever stated that they are almost identical with phenylglucosazone—in fact, I pointed out at my lecture that they more closely resembled phenylmaltosazone in most instances. The method of removing lead from the solution by means of ammonium sulphide, with subsequent heating, adopted by Dr. Ham and Dr. Cleland introduces new factors into the operation which are calculated to interfere with the succeeding stages of the "A" reaction. It is to these that their failure to obtain crystals in the six pancreatic cases they have examined is no doubt due and not to the absence of lead, which, as I have pointed out above, does not influence the result one way or the other. The clinical diagnosis of diseases of the pancreas has not been my share of the work, but I have every confidence in the surgeons who supplied me with material for my investigations. The presence of cysts, pancreatic calculi, and gross obstructions of the common duct in a considerable proportion of the cases examined is sufficient to establish the clinical value of the test, which is at present all I seek to maintain.

Dr. F. G. Bushnell's detailed account of the case in which he had the opportunity of examining the urine during life and the organs after death, is interesting further evidence in favour of the diagnostic value of the reaction and an important contribution to our knowledge of the anatomical changes associated with the particular variety of the test he obtained. Crystals dissolving in one to two minutes by both the "A" and the "B" methods are quite what one would have expected with a pancreas showing much interlobular fibrosis (i.e., damage due to past chronic pancreatitis) and a history pointing to long-standing disease of that organ.

The stage of the inflammatory reaction appears to influence the result of the test and it is possible to gauge roughly the progress of the changes in the pancreas by the difference in the amount of the deposit yielded by the "A" and the "B" methods. The short yellow crystals occasionally met with in the control phenylhydrazin test are, in some cases at least, due to traces of a form of maltose but that this is always so I am not prepared to say.

I am, Sirs, yours faithfully,

Beaumont-street, W., June 13th, 1904. P. J. CAMMIDGE.

THE POWERS OF THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—Many of your readers may not have realised the importance of the recent decision of the General Medical Council to apply to Parliament for power to compel the names of all students of medicine to be entered on a register under its control. Such a power would be very far-reaching, since it must carry with it the right to refuse registration to the student of any university or licensing body which would not be prepared to modify its requirements in the precise way which the Council might choose to demand. The great services rendered by the Council are recognised by all members of the profession, but there can be little doubt that its present legal powers, taken together with the moral weight which it derives from the individual eminence of its members, are amply sufficient to effect the ends it has in view.

Already the Council claims to be possessed of such rights as the following: 1. The right to inspect any examination which forms a necessary part of the medical curriculum, including even the earlier examinations in literary and scientific subjects, and to *require* such changes in scope and method as they think fit, including even the adoption of a particular system of marking. 2. The power to require examining bodies to demand from a candidate before admitting him to examination evidence that he has gone through a particular course of study, lasting for a particular period of time, conducted in particular institutions approved by the Council, and taken at a particular stage in his career.

Attempts have been made by the Council to exercise each of the above-mentioned powers and it is apparently only the fact that its claim to possess them depends upon a doubtful interpretation of the Medical Acts of 1858 and 1886 which has hitherto prevented their enforcement. There is a widespread conviction among many of those concerned with medical education that, if these autocratic requirements indicate the spirit in which the Council conceives it to be its duty to act, any further increase of its power would be eminently undesirable.

I am, Sirs, yours faithfully,

W. RAMSDEN, M.D. Oxon.

Pembroke College, Oxford, June 13th, 1904.

THORNE DEFENCE FUND.

To the Editors of THE LANCET.

SIRS,—Every medical man engaged in surgical work must feel sympathy with Dr. Mary Thorne in the recent action which she has been called upon to defend and which resulted in an unfavourable verdict against her. Although the expenses of Dr. Thorne's defence were defrayed by the Medical Defence Union, of which she is a member, she is herself responsible for the damages awarded against her and also for the plaintiff's costs which together amount to about £250. It has therefore been decided to raise a fund to assist Dr. Thorne in meeting this expense and as a means of showing the practical sympathy of the medical profession with her. We are, Sirs, yours faithfully,

WALTER S. A. GRIFFITH.
WALTER TATE.
DOUGLAS DREW.

PS.—Dr. Tate, of 32, Queen Anne-street, London, W., will be pleased to receive and to acknowledge any subscriptions to the fund. The following is the first list of subscribers:—

	£	s.	d.		£	s.	d.
Dr. C. J. Cullingworth	5	5	0	Sir William Broadbent, Bart.	2	2	0
Dr. Walter S. A. Griffith	5	5	0	Sir Victor Horsley...	2	2	0
Dr. Walter W. H. Tate...	5	5	0	Mrs. Elizabeth Wilks, M.D.	5	5	0
Mrs. E. Garrett Anderson, M.D.	5	5	0	Dr. Harrington Sainsbury...	3	3	0
Mrs. M. A. D. Scharlieb, M.D.	5	5	0	Mr. W. H. Battle	2	2	0
Mrs. Stanley Boyd, M.D.	5	5	0	Dr. Arthur F. Stabb	2	2	0
Dr. Herbert R. Spencer	3	3	0	Mr. A. W. Mayo Robson	1	1	0
Mr. Douglas Drew	2	2	0	A Friend	1	1	0
Mr. J. Berry	2	2	0	Dr. Maynard Horne	1	1	0
Mrs. F. M. Dickinson Berry, M.D.	1	1	0	Dr. H. J. Scharlieb	1	1	0
Dr. Amand J. M. Routh	2	2	0	Miss M. E S. Scharlieb	1	1	0
Mr. Stanley Boyd ...	1	1	0	Dr. G. E. Herman...	2	2	0

ABSCESS OF THE FRONTAL SINUS.

To the Editors of THE LANCET.

SIRS,—I am surprised to see that Dr. R. S. Wainewright in his letter to THE LANCET of June 11th, p. 1687, referring to the external swelling caused by perforation of a frontal sinus empyema, says that he cannot find it mentioned in any book. The reason why this swelling is not accorded a prominent place as a symptom by nasal specialists is that they generally diagnose empyema of the frontal sinus at a stage considerably earlier than that of external swelling and cases accompanied by swelling usually come into the hands of the ophthalmic or the general surgeon. In spite of this, among the books I happen to have within reach this condition is referred to in "Diseases of the Upper Respiratory Tract," by Watson Williams, fourth edition, pp. 379 and 380; "Manual of Surgical Treatment," by Cheyne and Burghard (Lambert Lack's article), part v., p. 339; Heath's "Dictionary of Practical Surgery," and Sheild's article in Treves's "System of Surgery," vol. ii., p. 348. A very complete account of its causation, position, and appearance, with an illustration, may be found in Hajek's work on the "Inflammatory Diseases of the Accessory Sinuses of the Nose," pp. 135 and 145. After reading these descriptions I trust that Dr. Wainewright will no longer assert that "even the greatest nasal specialists seem still to be entirely ignorant as to its nature." I may point out that a clear distinction should be made between the swelling due to expansion of the bone by the rare mucocele and that caused by an abscess after perforation of an empyema which hardly ever expands the bone.

Dr. Wainewright further says of these cases that "all that is necessary to do is to make an incision through the swelling and pass a drainage-tube into the cavity of the nose." Now this is by no means so simple as it sounds; the opening into the nose is normally much too small to admit a drainage-tube and is always much narrowed in those cases which go on to perforation; further, the perforation is usually too small to work through and must be enlarged. These cases are severe and there are often present areas of caries and polypoid degeneration as well as associated disease of the ethmoidal cells, all of which must be treated if a cure is hoped for. It is a pity that such simple methods as Dr. Wainewright mentions are not usually sufficient but experience shows that they seldom are. The question of complete obliteration of the cavity is too long to discuss here, but there is much to be said in favour of this procedure in certain advanced cases. At least, we cannot dismiss it as shortly as Dr. Wainewright does from among our means of treating a class of case often exceedingly difficult to bring to a complete and final cure.

I am, Sirs, yours faithfully,

Wimpole street, June 14th, 1904. HAROLD BARWELL.

COUNTING MATTRESS SPONGES IN ABDOMINAL OPERATIONS.

To the Editors of THE LANCET.

SIRS,—A simple method of preventing mattress sponges being left behind in abdominal operations is to have a piece of tape sewn to one corner of the sponge. The tape should be about a foot long so that when the sponge is introduced into the abdomen the tape hangs outside over the edge of the wound on the abdominal wall. To keep it taut a leaden bead or button may be strung on to the end of the tape and secured by a knot. The beads or buttons—the button being flat is the better of the two—can be readily sterilised and, of course, used again and again. As there is a tape outside for every sponge inside all that it is necessary to do before the wound is stitched up is to count the tapes, to find if they tally, and then to draw out the sponges by pulling each tape separately. The method, I think, is used in Dublin.

I am, Sirs, yours faithfully,

June 11th, 1904. J. JOHNSTON ABRAHAM

SPLENIC ANÆMIA.

To the Editors of THE LANCET.

SIRS,—The following case of mine suggests whether it is not the removal of the spleen (as stated by Dr. F. Taylor in the Lumleian lectures) which relieves in splenic anæmia but the excessive loss of blood which takes place in such an operation, and whether bleeding *to an extreme degree* is not indicated as a method of treatment in splenic anæmia both to give an impetus to the blood-forming organs and to get rid of a poison inhibiting the action of those organs. A tin miner aged about 30 years, consulted me for extreme anæmia with enlarged spleen. No blood count was made. He failed to improve under iron and increasing doses of arsenic until he had a violent attack of epistaxis which nearly cost him his life, after which with the same treatment he completely recovered to all appearances, regained his colour, and went to America to mine where he was well and working three years afterwards. I cannot remember the after state of the spleen definitely.

I am, Sirs, yours faithfully,

Camborne, Cornwall, June 11th, 1904. JOHN H. TONKING.

RESPECT FOR DRUGS.

To the Editors of THE LANCET.

SIRS,—My attention has been called to the review of my work on "*Drugs*" which appeared in THE LANCET of May 14th, p. 1358. Whilst thanking you for the space you have given to a notice of my book and your reviewer for pointing out several slips which have evaded the vigilance of the proof-readers I cannot but think that your contributor is hypercritical in some of his comments. He objects to the statement that "all drugs are poisons," not that he disputes its truth but because he fears it may be used to throw doubt on the value of medical science. Is it not equally probable that it may help to hinder the habit of self-drugging which is so fatally fashionable? Personally I have always found it essential to impress students with a proper respect for the drugs they handle. Your reviewer does not like the system of classification I have adopted. It has its drawbacks undoubtedly, in common with every other known system, but as students have to recognise specimens it would seem well that they should consider those that are alike in external characters together—e.g., leaves with leaves and roots with roots.

May I hope that the comparative triviality of the errors and misprints which your contributor has noted indicates the absence of serious faults?

I am, Sirs, yours faithfully,

June 10th, 1904. H. WIPPELL GADD.

TAPEWORM IN A CHILD.

To the Editors of THE LANCET.

SIRS,—*Apropos* of Dr. J. A. Rigby's case of tapeworm in a child, aged 34 months, published in THE LANCET of May 14th, p. 1348, I beg to enclose a reprint of a report of a somewhat similar case in a child, aged 24 months, observed by me some three years ago.

The case was reported to the Philadelphia Pediatric Society not only as an instance of infection at a very tender age but principally to point out the danger of giving raw beef to young children—a custom quite prevalent at present in the United States and for which L. Emmet Holt is largely responsible. A tapeworm is not a desirable guest for a young child to entertain; indeed, its presence is not altogether devoid of danger, while its removal is often a matter of extreme difficulty. For this reason it would seem to be the part of wisdom to reserve the use of raw beef for those extreme cases of dyspepsia in which the proteids of cow's milk, however altered or modified, are digested with great difficulty and for the treatment of certain cases of chronic diarrhœa.

I am, Sirs, yours faithfully,

Philadelphia, U.S.A., June 1st, 1904. D. J. M. MILLER.

THE IMPURE AIR OF CHURCHES.

To the Editors of THE LANCET.

SIRS,—During the last two years I have visited during service more than 100 churches in the South of England, both in towns and country. In these days when "open-air treatment" and the merits of the open window are preached it is remarkable how the churches fail to keep pace with the times and keep their windows rigorously shut. Many country churches have no windows that will open or other means of ventilation; in others the very small and few windows made to open are kept closed. The churches in so-called health resorts are the worst offenders. They have large congregations, many services, and little ventilation. In winter artificial heating by hot-water pipes is common, and in the evening the lighting is by gas or oil lamps, and occasionally by electric light. The air at the end of a crowded service is foul beyond description. Not 5 per cent. of the churches which I have seen have any proper ventilation except the newer ones which have apertures or windows high up near the roof and other windows not hermetically closed. In the vast majority week after week the foul and stagnant air is never renewed; the dust and numerous germs, pathological and otherwise, remain year after year in the crevices of antique wood or stone work. One sees occasionally sufferers with the streaming eyes and nose of cold or influenza; one hears the cough of phthisis or pertussis. The writer has known several cases of illness directly due to visits to these malodorous and unwholesome services and many of my medical brethren could confirm this. Of course the subject is a delicate one. Some of my clerical friends readily admit the bad air of the churches but hesitate to oppose the ignorant prejudices of many worshippers and their pious horror of so-called draughts. Those I visited belonged to the Church of England. Those of other sects, so far as I can learn, are not better ventilated. In this respect, notwithstanding our boasted progress in sanitary science, the churches retain the customs of the Middle Ages. Perhaps, Sirs, you may deem the matter of sufficient importance to give this letter a place in your columns.

I am, Sirs, yours faithfully,
T. CARSON FISHER, M.D. Dub.

Paignton, Devon, June 13th, 1904.

THE FOLKESTONE PUBLIC HEALTH CONGRESS AND THE SANDGATE SCANDAL.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(Continued from p. 1690.)

SANATORIUMS FOR PULMONARY TUBERCULOSIS: RESULTS OF THE EXAMPLE GIVEN BY THE GERMAN EMPIRE.

DEALING with the general question of sanatoriums for the treatment of pulmonary tuberculosis, it may first of all be observed that in any case there is less need for such institutions in England than in the other European countries. Dr. Brouardel, one of the reporters on the question, reminded the International Congress of Hygiene that in 1899 the deaths from pulmonary phthisis per 10,000 inhabitants amounted to 40 in Russia, 36 in Austria, 30 in France, 22 in Germany, 20 in Switzerland, Ireland, and Denmark, 18 in Holland and Italy, 17 in Belgium, Norway, and Sweden, and only 13 in England. On all sides great homage was rendered to what had been done in England, for it is well known that formerly the death-rate from this cause was as high in England as it was on the continent. It is therefore, and at the onset, somewhat of a stumbling-block in the study of the question of sanatoriums to find that the best results have been obtained in the country where such institutions can hardly be said to exist. On the other hand, and speaking in a general and broad sense, it can also be said that the second best results have been obtained precisely in that country where the movement in favour of sanatoriums has received its greatest development; indeed, it is from Germany that the impulse in favour of sanatoriums has come. Such places as Davos in Switzerland and Hyères or Mentone in the south of France suggested that there was perhaps a means of cure or of improvement available for a few well-to-do or wealthy persons; but it is to Germany mainly that we owe the conception and the practical demonstration that these advantages can be placed at the disposal of the toiling masses. This, of course, arises from that giant measure of constructive social reform—universal and compulsory insurance for all whose income does not exceed £100 a year. It is well known that this law imposes a threefold obligation. Every individual must insure against sickness, against accident, and against incapacity to work or old age. The premium paid is calculated at 1½ per cent. of the annual wage or salary earned. The employer pays one-third of this sum and deducts the other two-thirds from the wages and he is responsible for the transmission of the total amount to the right bank or fund. At present, however, the purport in view relates only to the connexion existing between the system of compulsory insurance and the sanatoriums, therefore it is not necessary to describe the law in detail. Indeed, these details are of such vast importance in their bearing on public health as well as on economical conditions that they should be familiar to all students of these questions. It is not, therefore, necessary to deal with the modification of the law on accidents raising the maximum income of the insured from £100 to £150 only in so far that it all means in practice the prevention of extreme poverty. Neither the victim of the accident nor his family can be reduced to destitution. Provision has been made for them that will in any case prevent absolute want.

The question to be considered in this respect is whether this practical "extinction of pauperism" has not done far more for the reduction of pulmonary tuberculosis than the creation of sanatoriums. Dr. Santoliquido, who is the Director-General of the sanitary services of the kingdom of Italy, was charged by his government to study and to report on this subject, and he concludes that it is the compulsory insurance and not the provision of sanatoriums that has done most in the reduction of tuberculosis.

The portion of the law that relates to insurance against old age and the incapacity to work has the more direct bearing on the questions of sanatoriums. According to Article 18 of the law of July 13th, 1889, the relief given may consist of medical treatment, medicaments, food, and gratuitous nursing in hospitals, sanatoriums, and similar institutions. Here, then, we have not only the legal sanction for sanatoriums but a fund to provide the means. Then, again, we have here the power of applying a principle that can hardly be said to exist elsewhere. The law sanctions the application of preventive treatment. All being insured and called upon to pay for each person who is invalided it is to everyone's advantage to prevent illness. The whole community then becomes as members of one single family and everyone is personally interested in preventing others from falling ill. It is in this spirit that the German sanatoriums for the treatment of pulmonary tuberculosis must be considered. It is quite as important to prevent a case of tuberculosis as to cure a case that already exists. The object in view is to reduce the number of persons entitled to sick relief. No sooner had insurance to provide pensions for the invalided been rendered compulsory than it was found that those who created the greatest drain on the funds were those who were suffering from tuberculosis. When the law had only been in existence six years it was ascertained that out of 60,000 invalids receiving pensions 8500 were suffering from tuberculosis. As this illness lasts a very long time it constitutes a very serious charge on insurance funds. Indeed, it became a moot point whether the funds would suffice in spite of the compulsory payments. Consequently the question was not merely how to cure tuberculosis and how to prevent the spread of the disease, there was also the desire to put the patient on his feet again and to enable him to return to work, if only for a short time. The preventive treatment of tuberculosis was therefore advocated, not only as a humane measure but as a sound financial investment.

The first State sanatoriums for tuberculosis were built in 1892. There were only seven sanatoriums constructed during the first four years, holding altogether 634 beds. After that the movement spread much more rapidly and by the end of 1902 there were 60 sanatoriums with 5012 beds. So far back as 1854 a sanatorium with 300 beds had been built by private enterprise; then nothing more was done till 1873 when another private sanatorium was opened. Altogether there were 16 private sanatoriums, with 1771 beds, in 1901. During that year 18,525 patients underwent the special treatment for tuberculosis in these establishments. It is estimated by some authorities that this year the number of patients thus treated throughout the German Empire will not fall short of 25,000. This, then, has been a gigantic experiment and the results should be sufficient to be taken as a basis for action. The fact is that while the general mortality has not of late decreased very much, that from tuberculosis, which from 1876 to 1886 was 31 per 10,000 inhabitants, fell to 21 per 10,000 in 1901. But it is important to note that whereas the reduction amounted to an annual average of 0·99 per 10,000 inhabitants from 1886 to 1893 it was only equal to an annual average of 0·55 per 10,000 from 1894 to 1900. The building of sanatoriums began in 1892–93 and there were but few built at first, so that the great reduction in the prevalence of tuberculosis preceded and did not coincide with the building of sanatoriums. Still as the reduction in the disease continued after the building of the sanatoriums, though not in so marked a degree, it would be an exaggeration on the opposite side of the argument to say that they have been of no use whatsoever. Particularly would such an argument be inappropriate if the financial aspects of the problem is taken into consideration. The object is to prevent or to defer the day when the worker shall be so ill as to have a claim upon the insurance funds. If without saving life the sanatoriums can increase the working efficacy of the population they have served a useful purpose. The sanatorium is not a hospital founded for the purpose of curing patients. Its object is to reduce the drain on the insurance funds by taking cases early in the development of the disease and when there is a good prospect of restoring them and of preventing their becoming confirmed invalids.

To attain such results economy would be a mistaken policy, so that not only must the best site and climatic conditions available be selected for the sanatorium but the patients must have ample and the best food. In these circumstances it has been found that the average cost for a patient's maintenance is 4*s*. a day. As the treatment on an average lasts 73 days the cost for maintenance per patient should amount to £14 12s. The principle is that this expense is not to be incurred unless there is a reasonable chance of enabling the patient to return to work. In a word, the sanatorium is an annex to the system of insurance. It is not a charity or a hospital or even a prophylactic institution, though incidentally it sometimes serves for all these three purposes, but that is not its mission. As for the results obtained, the German Imperial Bureau of Hygiene publishes statistics in regard to 6000 patients extending over the period of 1896 to 1901. It would appear that when they had completed the treatment given in the sanatoriums 67·3 per cent. were able to resume their former occupations, 7·1 per cent. were also able to work but at some lighter task, 14·6 per cent. could only do a little work, and 11 per cent. were incapable of any effort. As for the duration of the improvement, of those treated in 1897 there were 44 per cent. who had retained the full benefit during the following year, 30 per cent. in 1899, 30 per cent. in 1900, and 27 per cent. in 1901. Thus at the end of four years of the 67 per cent. of patients who on leaving the sanatoriums were said to be cured, only 27 per cent. were still well enough to earn their living at their own trades. This does not even mean that the 27 per cent. are cured from the medical point of view; they are only cured from the economic point of view. Indeed, the term "economic cure" has now become a part of the phraseology created by this problem. It does not mean that the patient has been cheaply cured but that he is so far cured that he can return to work and once more earn his living. Therefore, it is necessary to reduce very considerably the figure of 27 per cent. before the proportion of patients definitely and permanently cured can be ascertained. When this has been done it is questionable whether the proportion will be much higher than that which occurs in ordinary practice and in the usual course of nature.

The next question that arises is whether death, if not prevented, has at least been postponed. Professor Paul Jacob, of the University of Berlin, stated at the Brussels International Congress of Hygiene that the results obtained in Germany justified the vast expenditure which had been incurred. He claimed that nearly 30,000 patients were treated annually in the German sanatoriums and that 7000, or from 25 to 30 per cent., were completely cured. It was no small matter to restore to health and activity 7000 persons annually, the greater part of whom were workers and on whose labour whole families depended. A much larger number of patients were benefited but fell ill again after a certain lapse of time. This, however, was due not so much to the inefficiency of the treatment which they had received at the sanatoriums but rather to the want of treatment after they left the sanatoriums, to the misery, the overcrowding, and the poverty of the homes to which they returned, or else to the dust and the unwholesomeness of the factories and the trades at which they worked. By improving the conditions of life of the patients after they left the sanatoriums much more permanent benefits would accrue. As for the cost, that should be a secondary consideration. However, it was claimed that the sanatoriums of Germany annually and permanently restored to their occupations 7000 workers and prolonged at least for two years the working capacity and life of some 20,000 other persons. President Koehler of the *Kaiserliches Gesundheitsamt* of Berlin calculated that if the lives of 16,000 men can be prolonged for three years, this means an annual augmentation of the public wealth equal to £1,000,000. As against this benefit the cost of nursing some 30,000 persons for an average of three months each in a sanatorium represents but a small outlay. Then there is also the prophylactic advantage of treating 30,000 patients in special establishments where they cannot infect the general population. At the German Imperial Sanitary Office it has been calculated that if 12,000 patients are treated in sanatoriums and 9000 of them are returned to the community and their lives so prolonged that they are able to perform on an average three years' work, the net profit to the community after all expenses have been paid would amount to £375,000 per annum. At the same time many families would also be saved from much poverty and misery.

The most trustworthy statistics, however, are those that relate to some vast enterprise which employs and can watch constantly a large number of people. The Prussian State railways meet these requirements admirably. Here 240,000 workmen are employed and insured against accidents, illness, old age, or incapacity. Since the year 1898 whenever any of these workmen manifest symptoms of tuberculosis they are at once sent to a sanatorium. As soon as they are well enough they return to their work and are always carefully examined at least once a year by their medical officers. By these means full and accurate statistics have been secured of the immediate and the after results of the treatment. But such treatment is not limited to time. Quite a considerable number are obliged to remain in the sanatorium for more than a year and some stay for several years. By such means as many as 80 per cent., sometimes 90 per cent., have been able to return to their work after remaining a year or more at the sanatorium. The longer the stay the more desperate the case, and therefore the proportion of those who can return to their work decreases. Thus the proportions are after two years 64 per cent., after three years 55 per cent., after four years 50 per cent., and after five years 48 per cent. Dr. Grünberg of the Prussian State railways claims that these are durable results and much more favourable than those put to the credit of the ordinary sanatoriums. But then the whole administration of the State railways helps the patients. Thus, when a workman leaves the sanatorium he is given at first only light work till such time as his strength is thoroughly restored. During his absence in the sanatorium his cure has not been impeded by anxiety about his home. There are funds organised to provide for his family. Then the administration of the State railways has spent £550,000 to insure the perfect sanitary condition of the houses in which the railway servants live. By this combination of efforts many lives have been saved and prolonged and the money expended has been advantageously laid out.

It is such examples as these that have encouraged other bodies to spend more freely. The Imperial Office on Assurances published statistics showing that up to 1899 the number of pensions allotted to persons who were invalided amounted to 315,099. From one-eighth to one-tenth of these pensions were given to persons suffering from tuberculosis. The loss which this implies is rendered more serious because of the age of the persons invalided. Out of 10,000 cases 549 men and 426 women were from 20 to 24 years old, 509 men and 343 women were from 25 to 29 years old, and 439 men and 258 women were from 30 to 34 years old. These are just the ages when most persons are best able to earn good wages and to pay into, rather than to draw from, the insurance fund. Of the urban workmen who become invalids before they are 35 years old half are cases of tuberculosis. Considering the great loss entailed when such young persons are struck down by sickness the tendency is not to spare expense in seeking to prevent this evil. The average cost per patient has increased from £14 12s. to £17 3s. 6d. in 1901 and to £17 15s. 4d. in 1902. But it is claimed that the number of those who are still capable of working four years after they have left the sanatoriums has increased in 1901 from 27 to 31 per cent. among the men and from 25 to 28 per cent. among the women.

Such are some of the principal facts that can be deduced from the vast State enterprise by which the German Empire has endeavoured to cope with the evil. It does seem like a descent from the sublime to the ridiculous to compare such a gigantic undertaking with the pigmy efforts of an individual speculator who pretended to organise sanatoriums for the treatment of tuberculosis at Sandgate. To begin with, there are no statistics whatsoever to show what happens to the patients after they leave Sandgate and how many have survived the ordeal. Then, it has been seen, the German experience, which extends over some 30,000 patients annually, is to the effect that on an average the patient costs 4s. a day. Now that more is being spent it would probably be nearer the truth to estimate this outlay at 30s. instead of 28s. per week, or from £75 to £78 per annum per patient. If the capital expenditure is £200 per bed, then from £8 to £12 per annum must be added for interest on capital and a sinking fund to repay the loan. Also, there should be a further allowance for depreciation. Therefore the total annual expenditure cannot be very far short of £100 a year per patient and this, of course, makes no allowance for any profit whatsoever. But at Sandgate profit is the sole object, not profit for the funds of a national insurance, not profit for the national income and therefore a benefit to the whole community, but simply profit for individuals. To make a profit and yet to treat the patients as they are treated in Germany means that more than £100 should be paid annually for them. But the late J. J. Jones so organised matters as to make a profit out of a guinea a week. Yet the figures based on the vast experience acquired throughout the German Empire prove conclusively and mathematically that it is not possible to give at Sandgate for £54 12*s.* per annum a treatment which can for one moment be compared with what is done for the working classes of the German Empire. Germany is not so rich a country as England but in this respect the industrial classes are better provided for and are not left to be exploited by individual speculators. The experience of other nations in the treatment of tuberculosis in sanatoriums, though not acquired on so extensive a scale as in Germany, also bears on the subject, and it would be difficult to find anywhere such a scandal as that which has arisen at Sandgate.

(*To be continued.*)

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Asylums for Lunatics in Bengal.—The Accident to the Amir.—The Control of Waterworks in Bengal.—The Plague Epidemic.—Vaccination in Afghanistan.

A RECENT Government resolution admits that the arrangements at the asylums are in many respects below the standard of the present day and that there is an absence of the skilled supervision which can be obtained only by the continuous presence of a highly trained specialist. To render it possible to provide such treatment at a reasonable cost concentration of patients is necessary, and this has of late years become practicable because almost all districts are now accessible by railway. The Government resolution refers to the possibility of concentrating European lunatics with the same object. The capacity of the asylums in Bengal during last year was 1188 and the daily average number of inmates was 1053·7. The average number of inmates per 1000 of the population was 0·01, as compared with 0·05 in Bombay and Burmah. The number discharged as cured was 96·44 per 1000—a proportion which evidently requires some explanation. In native lunatic asylums the question of diet is the all-absorbing one. For the five years ending 1892 the average cost per patient for diet was Rs. 33 13 0 (about £2 5*s.*) per annum, but for last year (1903) it was Rs. 47 11 6. It will be interesting to asylum managers to learn that the average total cost per patient in Bengal is Rs. 130 (about £8).

It is reported that the operation which Major R. Bird, I.M.S., performed on the Amir of Afghanistan the day after his arrival in Cabul was the opening of an abscess which had formed in the palm of his hand. Great pain had been previously suffered and there had been persistent sleeplessness. The native hakims rely upon oils and ointments where wounds are in question but unfortunately in this case the bone of one of the fingers was broken and blood poisoning was imminent. During the reign of the late Amir Dr. J. A. Gray was stationed in the country but no successor has been appointed.

Some new rules for the management of waterworks under the supervision of the Government of Bengal have been recently promulgated which will take their control to a great extent away from the municipal commissioners and place it under a waterworks committee consisting of the district magistrate, the civil surgeon, the district engineer, and the chairman of the municipality. This is as it should be and it would be a great improvement if all sanitary matters were controlled by a similar body. The municipal bodies of Indian towns may be looked upon as primary schools for adults in municipal administration and the elements of sanitation, but unfortunately the pupils are not apt and the attendance is very deficient. The chief evil consists in their having power, so that as the pockets of the commissioners are liable to be affected by any improvements progress has to be forced upon these bodies from outside. These new rules concern the collection of rates as well as the general control of the water-supply. I am glad to say that the efficiency of sand filters is to be reported upon regularly and that the rules for working them are to be observed.

The mortality from plague, while declining rapidly in most of the affected provinces, still keeps very high in the Punjab. In this administration no less than 30,723 deaths were recorded for last week, while 35,413 was the total for the whole of India. This death-roll compares very unfavourably with the corresponding week of 1903 when 15,408 deaths were reported. Other figures for last week published are: United Provinces, 1300 deaths as against 2229 in the previous week; Bombay Presidency, 1621, as against 2325; Bengal, 261, as against 572; Kashmir, 221, as against 313; and Bombay city 265, as against 373. Calcutta returned 134 deaths. Cholera has been very prevalent in the latter city for months past but the plague outbreak this season has been comparatively mild.

Vaccination in Afghanistan is another matter in which its ruler has to obtain assistance from India. During the late Amir's reign a regular supply of lymph used to be furnished but for some unknown reason it was stopped. Now, however, it appears that the sardars and their families ask for it and a quantity of vaccine is to be forwarded annually to Cabul. The medical assistance rendered to the Amir and his people should increase the good feeling towards the British Government.

May 26th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

General Hospital: Resignation of Dr. Edwin Rickards.

IN 1870 the committee of the General Hospital decided to create the post of resident registrar and pathologist. It was a somewhat singular, not to say composite, appointment, for the holder, in addition to performing the post-mortem examinations and making reports on urines, &c., had to draw up for the annual report the tables of cases treated, a very arduous task, and also, strange as it may seem in these days, to administer all the anæsthetics. The latter duties have long passed into other hands but such were the conditions of the post when Dr. Rickards became its first occupant. From this position he passed to that of resident medical officer and in 1874 he was elected physician, his appointment being in addition to those previously in existence, thus raising the number of physicians at the time to five. This increase in the staff was agreed to on account of the great addition to the number of out-patients which took place at the time. Shortly afterwards, however, it was decided that it would be better to meet the difficulty by the appointment of assistant physicians and surgeons and the number of physicians was reduced at the first opportunity to four, as it is at the present time. When Sir Willoughby Wade retired in 1892 Dr. Rickards became senior physician. Dr. Rickards's connexion with the hospital has thus extended over 34 years and for 30 of those years he has been a member of the senior staff. So long a period of service has rarely been known in the annals of the General Hospital and under the new laws regulating retirements is most unlikely to occur again. Dr. Rickards is a graduate in arts and medicine of the University of Oxford and a Fellow both of the Royal College of Physicians of London and of the Royal College of Surgeons of England. He is a member of the Council of the University of Birmingham, in the medical school of which he has always taken a great interest. The present pathological laboratory was built at his expense and in part equipped by him. On receiving his resignation the board of management of the hospital passed the following resolution:—

> That the board of management have recei[illegible] resignation of Dr. Edwin Rickards, senior [illegible] desire to record their high appreciation of the [illegible] manner in which he has discharged his duties [illegible] for the past 30 years; also of the great skill and attention he has devoted to the patients under his care and to the interest he has taken in the welfare of the institution.

It was also resolved that a recommendation should be laid before the next meeting of governors calling upon them to appoint Dr. Rickards a consulting physician to the hospital in consideration of the eminent services which he had rendered to the institution during his long tenure of office. A committee has also been formed to raise a fund for the foundation of some memorial of Dr. Rickards's services to the hospital and also to show the appreciation by the subscribers of his many excellent qualities. Dr. Rickards carries with him the good wishes of all those who have in any way had to do with him and the earnest hope that he may be spared for many years' further connexion with the profession of which he has been for so long an honourable and an honoured member. By this resignation Dr. Robert Saundby becomes senior physician and a vacancy on the senior staff occurs which will shortly be filled up. As a general rule such vacancies have fallen to one or other of the holders of assistant posts. The present occupants of these positions are Dr. T. S. Short and Dr. James W. Russell.

University Notes.

When the University was founded it was felt that some opportunity of becoming graduates should be afforded to past students should they so desire. An ordinance was therefore passed permitting registered practitioners who had taken out the entire of their course in the Birmingham Medical School to proceed to the degrees of M.B. and Ch.B. by passing a final examination. This privilege has been taken advantage of by a number of past students who have submitted themselves to the very stringent examination which they have been required to face It was thought better to limit this privilege to a certain period and not to allow it to be prolonged indefinitely, and, in the first instance, five years was laid down as the limit. The fourth examination will be held in a few days, so that under this regulation next year would have been the last in which it would have been possible for a past student to obtain his degree in the manner indicated. The council of the University has, however, recently decided to extend this period by two further years, making seven in all, so that 1907 will be the last year in which an examination for past students will be held.—Owing to his appointment as inspector under the General Medical Council and the fact that the examination at one of the universities which he has to visit takes place at the same time as the final examination in Birmingham Mr. Thomas Bryant has been obliged to resign his position as external examiner in surgery. He has been replaced by Mr. Howard Marsh, professor of surgery in the University of Cambridge.—Mr. Priestley Smith has been elected an honorary member of the Gesellschaft der Aerzte of Vienna, an honour which will be highly appreciated by his many friends and former pupils.

Outbreak of Ophthalmia in Staveley.

A serious outbreak of ophthalmia has taken place in Staveley, a place in the county of Derby. It has been investigated by Dr H. Peck, district medical officer, and Dr. Sidney Barwise, county medical officer. Mr. S. Suell of Sheffield has also made a report upon the epidemic, in which he states that it is not an outside estimate to say that 200 children and parents have been affected by the disease during the last two months. It is a very contagious disease, but it is rare for it to affect such large numbers as in the present instance. It is attended by a thick discharge and the smallest particle reaching an eye would affect it. Fortunately many cases were recovering but in others the sight might be affected. Means for preventing the contagion spreading must be adopted in the first instance and it would not be necessary for the schools to be closed.

Scarlet Fever in Wolverhampton.

Dr. Henry Malet, medical officer of health of Wolverhampton, in his last quarterly report on the health of that town, states that though there has been some reduction in the scarlet fever returns they are still above the average. Of the 60 East-end cases 52 were removed to the borough hospital. Two of these were fatal cases and of the eight cases treated at home three had a fatal termination Of the 63 West end cases 50 were removed to the borough hospital, the rest being treated at home. Amongst this group there were no deaths. During the quarter the sources of infection were traceable in more cases than usual and some of the instances brought to light show how much carelessness is responsible for the spread of this disease. In one case the son of a family resident in Wolverhampton was taken ill in a town where there was no isolation hospital. His mother went and nursed him for a time and then returning home was replaced by one of the boy's sisters. After the mother's return two more of her children contracted the disease. A child was taken ill in a house where there was a children's party and was actually allowed to lie on a sofa during the party. The next day the illness proved to be scarlet fever and subsequently three of the visitors at the party developed that disease. Through a letter of complaint from a neighbour a child was ascertained to be going about in a state of free desquamation. Several cases, the origin of which had previously been obscure, were explained by contact with this child. One of the most instructive instances was the discovery of the fact that six different cases of the disease were traceable to a common milk-supply from a house outside the borough in which, on inquiry, it turned out that two cases of scarlet fever were being treated.

June 14th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Cripples.

A HOME for cripples, the "Bethesda" Home at Cheetham Hill, a branch of the "Central Refuge," Strangeways, was established in 1889 and has since that time been supported by Manchester citizens. It has 35 beds and during the 15 years of its existence has received hundreds of poor deformed and often incurable children from the most wretched surroundings. A new wing, to be opened in the autumn, is now being erected, where there will be 70 beds available. The extension will cost £4000 and, of course, any help will be gratefully accepted. There are other societies for helping cripples which have worked independently of each other, but in November last the "Cripples' Aid Federation" (Manchester and Salford) was formed to which are affiliated the "Crippled Children's Help Society," the "Cripples' Guild," the "Bethesda Home for Crippled Children," and the "Santa Fina" work of the Manchester Art Museum and University Settlement. The objects of the federation are to enable societies and individuals in Manchester and Salford to confer together and to coöperate in ways which may supplement existing work, such as (1) the prevention of overlapping; (2) the provision (directly or indirectly) of further medical or surgical aid, an employment bureau, a home for adult cripples, special schools, and such other things as may seem to the council necessary; and (3) the collection of information as to the causes of physical disablement and coöperation with other bodies and individuals in efforts to remove those causes. This federation is not as yet well known in Manchester but its objects are so good that it is to be hoped it will meet with encouragement and success. Its headquarters are at 104, King-street.

Home Treatment of Scarlet Fever.

In his annual report Mr. A. W. Martin, medical officer of health of the outer district of Gorton, states that long experience proves that scarlet fever can be dealt with at home with better results to the community than when treated in isolation hospitals. During the five years ended in 1902 the cases removed to hospital from Gorton were 10 per cent. of the total number notified, while the attack-rate was 3·3 per 1000 of the population. This is less than the attack-rate in those towns which remove from 50 to 80 per cent. of their cases, as their average varies from 3·45 to 4 47, agreeing with the statements of Mr. E. D. Marriott of Nottingham and Dr. C. Killick Millard of Leicester. Mr. Martin says that since the year 1870 each decade has seen a decline in the severity and fatality of scarlet fever "till at the present time it is certainly not worth the tremendous expense of hospital isolation." Without speaking positively he thinks the change is "due to the alterations produced in school life by increased ventilation and less overcrowding, with the passing of the Board School Act. Scarlet fever, along with measles and whooping-cough, is essentially a school-age disease."

"The Rushing Motor-Cars."

Several of the districts round Manchester are beginning to chafe under the tyranny of the motor-car. The Cheadle and Gatley council last week passed a motion proposing that the county council should be asked to grant the eight mile speed limit to the district. At Wilmslow a speed of eight miles an hour has been decided on. At Hazel Grove the same subject was discussed, one member of the council saying that "added to the public danger these cars in their rapid progress caused great inconvenience during the summer to shopkeepers along the lines of route by raising great quantities of dust." The inconvenience from the clouds of dust affects others as well as the shopkeepers. In many places the gardens along the roads are scarcely bearable from the dust and evil smells coming from the cars, while in some districts strawberries in fields adjoining the roads are so spoiled by the dust as to be unmarketable. The high roads, and often enough the by-lanes, are not only made less agreeable for people who wish to walk, to ride, or to drive along, but they are more dangerous than before the advent of the motor-car, and the state of constant dread, the fear of being run over and killed, is so real that many timid people dare scarcely venture from their own doors. Of course, this state of things need not be and is due to the reckless selfishness or thoughtlessness of the vulgar whose manners and customs are imitated, unfortunately, with more or less success by some who ought to know better. If the craze for dangerously rapid driving along public roads does not die out spontaneously its end may have to be hastened by the authorities.

Measles in Didsbury.

The schools in Didsbury have been closed for some weeks in consequence of the prevalence of measles, 125 cases of which were reported during last month. There were also 14 cases of scarlet fever, two of diphtheria, and seven of whooping-cough.

Homes for Epileptics and Inebriates at Langho.

The Chorlton and Manchester joint asylum committee for the erection of a home for epileptics at Langho requires £78,500 for the purpose. Manchester's proportion is £41,210 which the guardians will borrow on obtaining the sanction of the Local Government Board. Mr. Jenner-Fust, the Poor-law inspector, stated at the meeting of the Manchester guardians on June 8th that for the present it was intended to build six homes which would each accommodate 40 epileptics. "This would work out at a high cost per bed but that was accounted for by the fact that administration buildings for all time were to be provided at the outset. Consequently, any additional provision for beds that might be made would work out at a much cheaper rate." The ratepayers will, perhaps, derive consolation from this, though some of them may wonder why they should pay for what is to last "for all time." The Lancashire county council came in for some criticism on account of its lavish expenditure at the meeting of the Lancashire Association of Urban District Councils on June 9th at St. Ann's. Mr. G. W. Spring, the chairman, drew attention to the spending of £70,000 on the inebriates' house also at Langho and said "he was given to understand it now possessed half a dozen inmates." Other instances were given of what was considered excessive expenditure.

Bequests.

By the will of the late Mr. Edward Hulton, newspaper proprietor of Manchester, he left £1000 to St Mary's Hospital and Dispensary for Diseases of Women and Children; £1000 to the Manchester Children's Hospital, Pendlebury; and also various bequests to Roman Catholic charities.

June 14th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

British Medical Association.

THE South Wales and Monmouthshire branch of the British Medical Association is a large one, for it is made up of five divisions and has a total membership of 447 The activity of the branch, too, as becomes one which includes among its members the President of the Association, is proportionate to its size. At the annual meeting held at the Newport and Monmouthshire County Hospital on June 9th the retiring president, Dr. J. Tatham Thompson, introduced as president for the year Mr. O. E. B Marsh, the senior surgeon to the Newport Hospital. Dr. William Williams, the medical officer of health of the county of Glamorgan, was elected president for next year, and Dr. F. G. Thomas of Swansea was elected honorary secretary jointly with Dr. W. Mitchell Stevens of Cardiff. The President delivered a very able and instructive address upon the past and present position of surgical disease and its treatment. For the two seats upon the council of the Association to which the branch is entitled there was keen competition. Out of the 447 members of the branch 289 returned voting papers. Mr. J. Lynn Thomas obtained 152 votes and Mr. Pearson R. Cresswell 144. These two gentlemen were elected. The four unsuccessful candidates were Mr. F. W. Brook, Mr. T. Garrett Horder, Dr. Alfred Sheen, and Mr. J. R. Essex. The following motion, on the suggestion of the Cardiff division, was unanimously carried:—

> That this meeting heartily approves the application of the Court of the University of Wales for a supplemental charter to grant degrees in medicine. It further appreciates that the application is supported by His Royal Highness the Prince of Wales, the Chancellor of the University, and hereby records its opinion that by the granting of such a charter much benefit will accrue to the people of Wales.

There was at one time a little doubt among some members of the Association as to whether contributions could be made from the funds of a branch for purposes outside the general scope of the Association. The members of the South Wales and Monmouthshire branch appear to have no misgivings upon this score, for they have voted ten guineas to the Porthcawl Rest and have decided that the admission tickets represented by this subscription shall be distributed by the divisions.

Swansea Provident Dispensary.

It has been decided by the committee of the Swansea Provident Dispensary to close that institution on June 20th. The dispensary was established in 1876 and had more than 2000 members. The staff included six medical practitioners and a dental surgeon.

The Midwives Act.

A subcommittee of the sanitary committee of the Glamorgan county council has been appointed to superintend the carrying out of the Midwives Act in the county.

Cardiff Infirmary.

Owing to the resignation of Dr. J. Tatham Thompson, Mr. H. Collen Ensor becomes senior ophthalmic surgeon to the Cardiff Infirmary. Dr. Frank P. S. Cresswell succeeds Mr. Ensor and Mr. Robert Russell Thomas has been elected assistant ophthalmic surgeon. Mr. Thomas has been acting for several months as clinical assistant to the ophthalmic staff.

Ankylostomiasis.

At the last meeting of the sanitary committee of the Glamorgan county council Dr. T. H. Morris stated that there had been no cases of ankylostomiasis in the county. Arrangements have been made at the Cardiff and County Public Health Laboratory to assist in the diagnosis of any suspicious case which may arise.

British Lake Village at Glastonbury.

On June 1st a large number of archæologists in the county of Somerset visited the excavations at the British Lake Village at Glastonbury. Mr. St. George Gray, curator of the Somersetshire Archæological Society, stated that the excavations were nearly completed and that he and Mr. Arthur Bulleid, F.S.A., were preparing a work on the subject embodying the reports of specialists on the human and animal remains. Mr. Gray added that the lacustrine remains at Glastonbury were historically and archæologically of more value than any others hitherto found in Britain and he assigned them a maximum age of 400 B.C. Mr. Bulleid, who discovered the site, also pointed out various interesting features of the excavations.

The late Alderman Joseph May, F.R.C.S. Eng.

At the meeting of the Devonport borough council held on June 10th the best thanks of the council were unanimously awarded to Mrs. May for the presentation of several valuable oil paintings which were bequeathed by her husband, the late Mr. Alderman J. May, F.R.C.S. Eng., for the Free Public Library of Devonport. It was also stated that the deceased had left the whole of the valuable candelabra presented to him by the inhabitants of the town to his son, Colonel W. Allan May, C.B., R.A.M.C., for his lifetime, and upon his death the candelabra were to become the property of the borough.

June 14th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

University of Glasgow: Appointment of Professor of Geology.

AT a meeting of the University of Glasgow Court held on June 8th, Principal Story presiding, Mr. John Walter Gregory, D.Sc., F.R.S., professor of geology in the University of Melbourne, was appointed to the chair of geology in the University of Glasgow.

Mixed Classes in Medicine.

The question of the admission of women to all the classes held in the University of Glasgow came up for consideration before the University Court at the meeting held on June 8th. The women students of medicine attending Queen Margaret College—the part of the University buildings devoted to the education of women—have always felt the disadvantage of not being allowed to attend all the medical classes conducted in the University. They are limited in most cases to classes in Queen Margaret College conducted by lecturers appointed by the University Court. They therefore petitioned the senate to open all university classes to women. The senate remitted the matter for consideration to the medical faculty. The latter body reported that, in its opinion, the present was not a favourable time for any general pronouncement as to teaching in mixed classes. The question, however, might be taken up and decided for any single department in which it might be specially desired that a change should be made in the present arrangements. The senate approved of this report by the medical faculty and the decision was sustained by the University Court.

Bellefield Sanatorium, Lanark.

This sanatorium, erected by the Glasgow and District Branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis, was formally opened on June 7th by Lady Primrose who was accompanied by the Lord Provost (Sir John Ure Primrose). A large company travelled by special train from Glasgow to Cleghorn, from which place they drove through a beautiful country to the Bellefield estate. The mansion house of this estate has been utilised for accommodation of the medical and nursing staff and for administrative purposes generally. The principal building for the treatment of the patients consists of a composite iron and wood pavilion constructed on the "Speirs" system. This pavilion is well situated in a large open space with a good southern exposure. In the central portion of the block are situated five large double-bedded rooms, each having a large three-sided bay window provided with French casement doors which permit of the patient being wheeled out in bed on to a broad concrete platform which extends along the whole length of the front of the building Behind the bedrooms there is a long well-aired corridor. On the left of this central portion of the block there is a wing which forms a spacious ward for ten patients, while on the right there is a corresponding wing in which there is a large dining room. There are also suitably situated in connexion with the pavilion kitchen, cloak-room, lavatory, and test-room accommodation. Situated in the grounds are also five double-room wooden chalets for sleeping-out purposes. These are erected on the sectional principle which permits of their being easily removed to other parts of the ground if it be found necessary. The council of the association expects to be able to accommodate from 20 to 30 patients within the next six weeks. This will make a beginning of this part of its work—viz., the sanatorium treatment of men of the working class.

£20,000 for Glasgow Charities.

It has been publicly announced that while the provisions of the will of the late Mr. D. S. Cargill, of Park-terrace, Glasgow, were altogether of a private nature, yet the family, knowing that it was the intention of their father to leave certain legacies to the charitable institutions of Glasgow, though prevented from doing so by his sudden death, have determined to distribute in his memory £20,000. Among the institutions receiving legacies are the Royal Infirmary and the Western Infirmary, both of which will receive £2000, while the Victoria Infirmary, the Cancer Hospital, and the Maternity Hospital will each receive £1000. The rest of the money is distributed among the many benevolent institutions of the city and neighbourhood.

June 14th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The University of Dublin.

THE chair of Latin having been left vacant by the recent election of Dr. R. G. Tyrrell to a senior Fellowship Mr. J. Gilbart Smyly has been selected to fill that position. Mr. Smyly is the son of the late Sir Philip Crampton Smyly.

The Conjoint Board of Examinations.

Mr. Trevor N. Smith has been appointed secretary to the committee of management of the Conjoint examinations of the Royal College of Physicians and Royal College of Surgeons in Ireland in succession to Mr. Greenwood Pim who has retired.

The Irish Medical Association.

The annual meeting of this association was held in the Royal College of Surgeons, Dublin, on June 7th, Dr. L. Kidd being in the chair. There was a large attendance of members. From the annual report presented it appears that there are now 865 members. A special vote of thanks to Dr. Kidd (moved by Dr. H. H. MacDonnell, Dundalk, and seconded by Dr. R. J. Kinkead, Galway) was carried unanimously for the manner in which he filled the office of president during the past year and for the valuable assistance which he had given in the furtherance of Poor-law medical reforms. Mr. R. F. Tobin, the incoming President, then delivered his address on the Present Position of the Poor-law Medical Service in Ireland. Referring to the fact that the air was full of cries of "Forward"—literary education, technical instruction, industrial enterprises, agricultural development, and so on—he asked, Where did the great question that affected all the people of Ireland come in—the question of public health? That was left to the medical officer of health—a man located in a hovel and paid like a sweep. In two recent Irish books, "Ireland at the Cross-Roads" (Filson Young) and "Ireland in the New Century" (Sir Horace Plunkett) no reference was made to this question, and he trusted that in the next edition of Sir Horace Plunkett's book he would, with Surgeon-General G. J. H. Evatt's leave, incorporate his report on the Poor-law medical system in Ireland. Mr. Tobin thought that the cure for the ills of the Poor-law medical service did not lie in competitive examinations, and he feared that the tendency of the conditions under which dispensary medical officers did their work was "stagnation." He thought that they should make a demand for an immediate increase of salary in every union in Ireland, so as to get at least £150 as an average minimum salary all over Ireland. He doubted if in these democratic days it was possible to make the service a State one; it was neither practicable nor expedient, and he believed that if they pressed forward temperately and firmly all would come right in time. Votes of thanks were then passed to Surgeon-General Evatt for his report and to the Irish Schools' and Graduates' Association for its support. On the motion of Dr. E. C. Thompson, M.P., seconded by Dr. Scott, the council was instructed to take every advisable step in furtherance of the Medical Officers' Superannuation Bill introduced into the House of Commons by Mr. T. W. Russell. The meeting then resolved itself into committee to consider the scale of salaries and fees as fixed by the conference at Enniskillen and after a lengthened discussion the Enniskillen resolutions (fixing a minimum salary of £200 for dispensary appointments in the Poor-law medical service) were adopted. Motions were also passed that travelling expenses should be allowed dispensary medical officers as in other public departments and that efforts should be made to give the medical officers a definite leave of absence of one month in each year. The following motion, proposed by Dr. Kidd and seconded by Dr. Scott, was passed.

> [illegible]
>
> rendered, as well as all the circumstances of the case into consideration. (b) Every board of guardians be respectfully informed that the responsibilities arising in default of consultations in such cases rest entirely with them.

It was also decided that members whose subscription was more than two years in arrear should be struck off unless they should pay up within a month of receiving a demand from the secretary and that the council should be requested to take into consideration the question of appointing paid organisers for the purpose of inducing candidates to abstain from seeking vacant dispensaries, and that a committee (consisting of the president, the vice-presidents, and the honorary secretary) should be formed to confer with the Local Government Board and the boards of guardians, and others to bring about a settlement on the lines laid down by the Enniskillen meeting, with power to negotiate for such terms as may to it seem necessary and to report the same to the council. A vote of thanks was accorded to Mr. Tobin. The annual dinner was held in the evening in the Royal College of Surgeons, Mr. Tobin presiding. On the next day (June 8th) Mr. Tobin entertained the members and other guests to luncheon at the Haughton House, Zoological Gardens.

this case a second one occurred in Dr. Pauly's clinic. Theobromin has an action for the most part similar to that of theocin (theophyllin) but it never produces the effects above described. The investigations of Emil Fischer on the synthesis of the purin group have made known the constitution both of theobromin and theocin (theophyllin) and an explanation of their varying physiological effects has thereby been rendered possible. Both of them are isomeric with dimethylxanthin, but they differ from one another in respect of the grouping of one methyl molecule. Other interesting examples of this kind may be found in Dr. Sigmund Fränkel's treatise on the synthetic production of substances used in medicine. For instance, pyramidon is antipyrin in which one H is replaced by $N(CH_3)_2$. Antipyrin causes skin eruptions in about 10 per cent. of the cases in which it is used but this very seldom happens with pyramidon.

Adrenalin in the Treatment of Hæmorrhages.

At a recent meeting of the Vienna Gesellschaft der Aerzte Dr. Hermann Schlesinger showed two patients presenting hæmophiliac symptoms. One of them was a man who was liable to severe bleeding after a slight injury. A few days before admission into hospital he began to suffer from copious intestinal bleeding, the stools consisting almost entirely of blood. From 10 to 20 drops of a solution of adrenalin, of strength 1 per 1000, were given to him by the mouth every hour and gelatin was also given by the mouth. By these means the bleeding was stopped. Although he took about 30 grammes of the solution of adrenalin in two days no undesirable secondary effect was observed. The second patient, a woman, about 40 years of age, was admitted to the hospital with symptoms of Werlhoff's morbus maculosus which had appeared suddenly. The symptoms included free bleeding from the nose, mouth, and pharynx, vomiting of blood, passing of blood from the bowels, hæmaturia, and extensive hæmorrhage into the skin. As the bleedings recurred at short intervals the patient became extremely anæmic and her life was despaired of, when the administration of adrenalin brought about a sudden change. The bleeding from the urinary passages and the gastro-intestinal tract came to a stop and the hæmorrhage into the skin made no further progress. Adrenalin produced a similarly quick effect in the case of a great many patients suffering from bleeding from the bowels. Dr. Schlesinger also made successful trials of adrenalin in cases of ulcer of the stomach and the hæmorrhages of enteric fever. No toxic effects were produced, neither was there any considerable rise of blood pressure when five or ten drops of a solution of strength 1 per 1000 were taken every hour, a circumstance from which he infers that the activity of the heart is not likely to be increased by the internal use of adrenalin. No benefit seemed to be produced in hæmoptysis. An observation was made which might be of interest from a surgical point of view. It was intended to make an examination of the blood of a patient on the second day after the administration of adrenalin but the attempt was unsuccessful for the blood coagulated while in the act of escaping from the puncture. Adrenalin might therefore perhaps be useful in operations which are likely to be attended with much loss of blood.

June 13th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Canadian Medical Association.

As several gentlemen of the medical profession in the United Kingdom are expected to be present at the thirty-seventh annual meeting of the Canadian Medical Association which convenes this year in Vancouver, British Columbia, from August 23rd to 26th, arrangements will be made whereby they can take advantage of the reduced rates from either Halifax or Montreal to the Pacific coast. The trip from Montreal over the Canadian Pacific Railway is made in five days and arrangements will be in effect for "stop-overs" after Winnipeg, so that advantage may be had of the privileges for seeing the great North-West country of Canada and the Rocky Mountains. Further, Chicago and St Louis may be reached by special arrangements before leaving Montreal or Halifax. Members of the medical profession in Great Britain and Ireland are extended a very cordial invitation to be present, as it is the first time that the association has been convened on the Pacific coast and the present occasion affords them an unusual opportunity of seeing the vastness of the Dominion of Canada and its great wealth of resource. Should any desire to put themselves in communication with the general secretary they should address Dr. George Elliott, 129, John-street, Toronto, Ontario, Canada.

Provincial Sanatorium for Consumptives opened in Nova Scotia.

The legislature of the province of Nova Scotia by an Act passed in March, 1900, appropriated a sum of money for the erection of a sanatorium for cases of tuberculous disease of the lungs. The institution is now completed and will be opened for the reception of patients in a month's time. The Government sanatorium is situated at Kentville in the famous Annapolis Valley about 70 miles from the city of Halifax. The building was erected, from plans designed by Dr. A. J. Richer of Montreal, at a cost of $20,000 and is capable of accommodating 20 patients with a complete staff. According to the terms of the Act two physicians are to be appointed from the city of Halifax who shall examine all patients and determine their fitness for admission. There will be no resident physician but one of the practising physicians of Kentville will make regular visits to the institution. The sanatorium will be in charge of a lady superintendent who is a graduate of one of the Boston (United States of America) hospitals and who has also had a special training in the Massachusetts State Sanatorium and in the Sharon Sanatorium in Massachusetts.

The Canadian Association for the Prevention of Consumption and other Forms of Tubercular Disease.

The fourth annual meeting of the above association was held at Ottawa on April 20th and 21st. The need of this organisation is emphasised by the fact that there are in the Dominion of Canada between 30,000 and 40,000 people suffering from tuberculosis. The annual report of the executive council showed that during the past year an active campaign had been carried on, over 100,000 leaflets on "How to Prevent Consumption" having been distributed. Many lectures had also been delivered and there was on the part of the medical health officers all over the country the heartiest coöperation. Dr. Ravenal, the eminent United States authority, who is assistant medical director of the Henry Phipps Institute at Philadelphia, was present at the meeting and delivered an able address on "Animal Tuberculosis in Relation to Human Health." In the whole Dominion of Canada there are now five institutions devoted to the treatment of consumption. Three of these are under private control and management, one is the property of the National Sanitarium Association, and the other is the institution recently opened at Kentville. The total accommodation of all these, with that in hospitals to which consumptives are admitted, probably does not exceed 200 beds.

Provincial Sanatoriums.

On May 24th there was held at Ottawa an important meeting of the executive council of the Canadian Association for the Prevention of Consumption and other Forms of Tubercular Disease, at which a committee was appointed to take steps to secure the coöperation of municipalities, provincial governments, and the Federal Government for the establishment of one large sanatorium in each of the provinces for the treatment of consumptives. Dr. P. H. Bryce, Ottawa, was named as the convener of this committee and other members of the medical profession who will serve thereon are Dr. Gordon Bell, Winnipeg; Dr. J. D. Lafferty, Calgary, North-West Territory; and Dr. C. J. Fagan, Victoria, British Columbia. The secretary of the association was also directed to visit Prince Edward Island, Nova Scotia, and New Brunswick in August and September with a view to lecture upon the causes and prevention of consumption and to lecture in Ontario during June and July. In addition a committee of all the members of the executive council of the association resident in Ottawa, with Dr. H Beaumont Small as convener, was appointed to take immediate action for the purpose of organising a local branch of the association in Ottawa with a view to immediate and energetic action in coöperation with those who have already moved in the matter of the establishment of a sanatorium for the city of Ottawa and the surrounding country.

A Medical Institute for Toronto.

Under the supervision of Dr. J. F. W. Ross of Toronto, who is president of the Ontario Medical Association as well as president of the Ontario Medical Library Association, a fine home has recently been purchased adjacent to the medical buildings of the University of Toronto which will hereafter be devoted to the purposes of the Ontario Medical Library and the various medical societies of Toronto. This is a most important step towards consolidating the medical societies of Toronto under one roof with the Ontario Medical Library and will tend to bring the profession in Toronto more in touch with the profession throughout the province.

Montreal General Hospital.

For the quarter ending March 31st the treasurer's account for the Montreal General Hospital shows the receipts to have been $34 598 and the expenditure $26,478. During the three months there were treated to a conclusion 754 patients in the wards, of which number 69 died. 19 of these deaths occurred within three days of their admission, making the mortality-rate of ordinary hospital cases 6·6 per cent. In the outdoor departments there were 9204 consultations, an increase of 244 over the corresponding quarter of 1903. During the quarter the following changes in the staff took place: Dr. John McCrae resigned as resident pathologist and Dr. D. B. Gillies was appointed his successor. The term of Dr. W. G. Turner as medical superintendent having ended Dr. Roland P. Campbell has been appointed as his successor. A site has been secured for the new contagious diseases hospital to be built in connexion with this institution. Upon this it is proposed to erect a building at a cost of $150,000. Of this amount only $35,000 have been subscribed, of which Sir William Macdonald contributed $15,000.

Reporting Births in Montreal.

The city council of Montreal has recently adopted a new by-law under which the physicians of that city are required and ordered to report all births occurring in their practices. Only a month ago the physicians of St. John, New Brunswick, successfully resisted a similar law in the courts on the ground that the duty of dealing with vital statistics was delegated to the Dominion authorities and not to the provincial authorities by the British North America Act. Just why physicians should be asked to work for the State without compensation, even in such a small matter as the reporting of a birth, does not seem quite clear and whilst these laws may be good and proper they should carry with them some considerations other than barren orders.

Making Medical Men by Act of Parliament in Quebec.

Almost every session of the Quebec legislature someone promotes a private Bill for the relief of some medical student who has failed to qualify himself as he should do before entering upon the study of medicine. During the present session of the legislature there has been presented a Bill of more than ordinary interest, because it proposed to relieve from matriculation in a *bonâ-fide* manner nearly 250 medical students. This naturally had the effect of stirring up the Quebec College of Physicians and Surgeons which entered a vigorous protest against this wholesale practice of relieving medical students from securing their proper qualifications. Those students who had pursued their medical studies in the proper way also rose in arms and to designate their unfortunate associates employed the expressive term "scab." Sir William Hingston states that the laws relating to the study of medicine in the province of Quebec are very unsatisfactory and students should receive some punishment for ignoring or neglecting the laws in force. I am not in a position to state what has been the outcome of the measure of relief; but the medical profession in Quebec hopes that if relief is granted this time it will be the last time any one approaches the legislature for a similar purpose. At all events this is the way several members of the profession who are in the legislature express themselves.

A Methodist Hospital for Toronto.

A short time ago the leading Methodist periodical circulating throughout Canada advocated editorially the building of a Methodist Hospital in Toronto, and in view of the congested state of all of the Toronto hospitals during the past winter there would appear to be a pressing need for some such institution. By the will of the late Hart A. Massey a legacy was left for this purpose and is available, providing that a sum equivalent to that left by Mr. Massey—namely, $100 000—can be raised

stood that the Medical F

favours the establishmen

the work carried on by it in educational affairs.

June 1st.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen having passed the necessary examinations and conformed to the by-laws have been admitted Members of the College:—

Hospital; William Holland Kaye Owens College and Royal
Infirmary, Manchester;
Hospital; John Lambert,
London Hospital; Will
College Hospital; Harold

M.D., C M
versity Co
Frederick
and Guy's
Hospital;
George's
mew's Ho
Hospital;
John Va
London H
Cyril Step
Emilius R

B S., M.D. Univ. of
College Hospital; William Traill Thomson, King's College
Hospital; Charles Edward Treble, M.B. Toronto, Toronto
University and University College Hospital, John Henry
Trench, B.A. Camb. Cambridge University and University
College Hospital; Henry James Davey Walker and Leonard
Warren, London Hospital; Joseph Ward, L.S.A. Lond., University
College, Sheffield; John Douglas Campbell White, Cambridge
University and London Hospital; Edward Kynaston Williams,
B.A. Camb., Cambridge and St. Andrews Universities and St.
Bartholomew's Hospital; Harold Waterlow Wiltshire, M.A. Camb.,
Cambridge University and King's College Hospital; Robert
Stanton Woods, Queen's College, Belfast, University College, and
London Hospitals; Henry Mogridge Woodward, B.A. Oxon.,

Thursday, June 9th.

Registrars and Newspapers.

Sir Walter Foster asked the President of the Local Government Board whether he was aware that the registrars of births and deaths had been accustomed to supply the weekly newspapers in country districts and small towns with the lists of deaths registered by them; whether this custom had been recently discontinued, and, if so, by whose orders; and whether he would communicate with the Registrar-General on the subject with a view to the continuance of a custom which gives information to the public.—Mr. Long replied: I am aware that in a certain number of cases lists of deaths have been supplied to the press by registrars of births and deaths. This, however, has been done in contravention of the regulation on the subject. The Registrar-General has received complaints as to the publication of particulars which may lead to the identification of individuals and he considers that any such publication tends to make persons unwilling to furnish information for registration purposes and consequently to impair the trustworthiness of vital statistics. He has recently issued a circular with a view to a strict observance of the regulation in future and I am not prepared to interfere with his discretion in the matter.

An Alleged Scandal at Drogheda.

Mr. Moore asked the Chief Secretary to the Lord Lieutenant of Ireland whether the attention of the Local Government Board had been called to the fact that a dead body was recently discovered in the morgue at Drogheda which had been left there for two months and upwards; and, if so, whether he would say who was the authority responsible for this neglect and what steps would be taken to call the attention of such authority to its duty to prevent a recurrence of such a scandal.—Mr. Wyndham replied: The Local Government Board will communicate with the local sanitary authority in respect to this matter.

Durness and its Medical Officer.

Mr. Weir asked the Secretary for Scotland whether, seeing that the position of parochial medical officer for the parish of Durness, Sutherland, fell vacant in 1898, he would state why Durness was omitted from the Parochial Medical Officers (Scotland) Return, 1903.—Mr. Graham Murray replied: I am informed by the Local Government Board for Scotland that the return furnished to it by the inspector of poor in August, 1903, stated that the resident medical officership in the parish had never been vacant since July 20th, 1896. On now communicating with the inspector of poor the Board learns that the office was vacant in 1898, although the parish was never without a medical man, as the present medical officer was in the parish for weeks before his predecessor left.

Vaccination Prosecutions.

Mr. Corrie Grant asked the President of the Local Government Board whether he was aware that at Lambeth police-court on May 31st three persons were summoned by the Lambeth vaccination officer before Mr. Hopkins for neglecting to have their children vaccinated; that in each case a solicitor appeared in support of the summons and each person was ordered to pay 25s. costs; and whether he would instruct the vaccination officer not to employ a solicitor except in cases of special difficulty.—Mr. Long replied: I have no information as to the cases referred to but I am making inquiry on the subject.

Monday, June 13th.

Epidemic of Sore-throat at Glasgow.

Mr. Weir asked the President of the Local Government Board whether he was aware that the epidemic of sore-throat which recently broke out at the Belvidere Hospital, Glasgow, was, like that at Woking last autumn and at Finchley early this year, attributable to the milk taken from cows out of health; and whether, seeing that Dr. A. K. Chalmers, the medical officer of health of Glasgow, stated that the outbreak in that city was due to teat eruption in the stock at the farm from which the milk-supply was obtained, he would consider the expediency of introducing at an early date such legislation as might be necessary to insure the occasional examination by a veterinary surgeon of all cows kept for the purposes of a public dairy.—Mr. Grant Lawson replied: I have no jurisdiction in Scotland with regard to sanitary matters, but I have seen a report of Dr. Chalmers as to the epidemic of sore-throat at the Belvidere Hospital, Glasgow. With regard to the suggestion for legislation I would repeat the answer which I gave to the honourable Member's question on March 29th last that I have caused the suggestion to be noted but that I could not promise to introduce legislation on the subject during the present session.

Ringworm and Ophthalmia.

Sir Walter Foster asked the President of the Local Government Board whether he would state the number of Poor-law children of the metropolis who were at present suffering from ringworm and ophthalmia respectively, differentiating between those housed in the Metropolitan Asylums Board special homes, those in workhouses and workhouse infirmaries, and those in the district and separate Poor-law schools.—Mr. Long said: I am informed that the number of metropolitan Poor-law children at present suffering from ringworm and ophthalmia respectively in the special homes and institutions under the control of the Metropolitan Asylums Board is as follows: ringworm, 566; ophthalmia, 345. The following is the number of these children in workhouses and workhouse infirmaries, and in district and separate Poor-law schools on April 2nd last, which is the latest date for which I can give the figures desired: workhouses and workhouse infirmaries, ringworm 184, ophthalmia 236; district and separate schools, including cottage homes and scattered homes, ringworm 159, ophthalmia 156.

Nursing of Sick Poor.

Sir Harry Samuel asked the President of the Local Government Board whether boards of guardians of England and Wales would be given an opportunity of expressing their opinion upon the contemplated Order to be issued by the Local Government Board consequent upon the recommendations of the departmental committee upon the nursing of the sick poor in workhouses and whether a draft of such Order could be furnished to the Poor-law Unions' Association of England and Wales before the same is made absolute.—Mr. Long said: I have received a large number of representations from boards of guardians on the report of the departmental committee on nursing which has led to the proposed Order and these representations have [illegible] ot undertake to afford to boards of [illegible] opportunity of making representations [illegible] der the suggestion in the latter part of [illegible]

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Alford, Henry James, M.D. Lond., M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health for the Taunton Rural District.

Barrow, G. A., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Anæsthetist to the Manchester Northern Hospital for Women and Children.

Barwell, Harold, M.B. Lond., F.R.C.S. Eng., has been appointed Surgeon Laryngologist to the Mount Vernon Hospital for Consumption.

Blamey, James, M.R.C.S., L.S.A., has been re-appointed Medical Officer for the Perranar-Worthal District by the Falmouth Board of Guardians.

Cooper, Austin, M.D., B.Ch. Dub., has been appointed Honorary Assistant Anæsthetist to the St. John's Hospital for Diseases of the Skin, Leicester-square, W.C.

Copeland, Paula T., M.B., Ch.B. Edin., has been appointed Medical Officer for Rousay and Eucilshay, Orkney.

Eccles, W. McAdam, M.S. Lond., F.R.C.S. Eng., has been appointed Examiner in Anatomy for the Fellowship Examination of the Royal College of Surgeons of England.

Fletcher, R. B., M.B., Ch.B. Vict., has been re-appointed Senior Resident Medical Officer at the St. Mary's Hospital for Women and Children, Manchester.

Fraser, K., M.B., B.S. Aberd., has been appointed Certifying Surgeon under the Factory Act for the Orrell District of the county of Lancaster.

Gunn, Elizabeth C., M.B., Ch.B. Edin., has been appointed Outdoor Physician to the Leith Hospital.

Henderson, Eleanor R., M.B., Ch.B. Edin., has been appointed Resident Medical Officer at the Royal Hospital for Sick Children, Edinburgh.

Hunt, Albert W. Dunning, L.R.C.P. Lond., M.R.C.S., has been appointed Public Vaccinator for the Chagford District by the Okehampton (Devon) Board of Guardians.

Mason, S. Herbert, M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Anæsthetist to the Manchester Northern Hospital.

Miller, John, L.R.C.P. Lond., M.R.C.S., has been appointed to the Medical Charge of Troops at Topsham Barracks, Exeter.

Robertson, Eva A., M.B., Ch.B. Edin., has been appointed Resident Medical Officer to Craiglockhart Poorhouse.

Scott, Sydney, B.S. Lond., F.R.C.S. Eng., has been appointed Surgeon to Out-patients at Evelina Hospital for Sick Children, London; also Chief Assistant in the Aural Department, St. Bartholomew's Hospital.

Wilkes, J. Hamilton, L.D.S., R.C.S. Eng., has been appointed as Honorary Dental Surgeon to the St. John's Hospital for Diseases of the Skin, Leicester-square, W.C.

Willcox, W. H., M.D., B.Sc. Lond., D.P.H., has been appointed Medical Registrar to St. Mary's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Birkenhead, Borough Hospital.—Junior Resident House Surgeon. Salary £80 and fees.

Birmingham and Midland Eye Hospital.—House Surgeon. Salary £75 per annum, with board and lodging.

Central London Sick Asylum, Colindale-avenue, Hendon, N.W.—Second Assistant Medical Officer and Dispenser. Salary £75 per annum, with board and residence.

Coventry and Warwickshire Hospital.—Assistant House Surgeon. Salary £60 per annum, with rooms, board, washing, and attendance.

Derbyshire Royal Infirmary.—Senior House Surgeon. Salary £100 per annum, with apartments, board, &c. Also Assistant House Surgeon for six months. Salary at rate of £60 per annum, with apartments, board, &c.

Dumfries and Galloway Royal Infirmary.—House Surgeon. Salary £50 per annum, with board and washing.

Evelina Hospital for Sick Children, Southwark, S.E.—Eight Clinical Assistants in the out-patient department.

Hartshill, Stoke-upon-Trent, North Staffordshire Infirmary and Eye Hospital.—Assistant House Surgeon for six months. Honorarium of £25, with board, lodging, and washing.

Hospital for Consumption and Diseases of the Chest, Brompton.—Resident House Physicians for six months. Honorarium of £25.

Hospital for Sick Children, Great Ormond-street, London, W.C.—House Physician, unmarried, for six months. Salary £20, with board and residence. Also Ophthalmic Surgeon.

Hull Royal Infirmary.—Casualty House Surgeon. Salary £50, with board and lodging.

Isle of Man General Hospital and Dispensary, Douglas.—Resident House Surgeon, unmarried. Salary £82 per annum, with board and washing.

LIVERPOOL, DAVID LEWIS NORTHERN HOSPITAL.—Junior House Surgeon for six months. Salary at rate of £70 per annum, with residence and board. Also Second Honorary Anæsthetist.

LONDON LOCK HOSPITAL, Harrow-road, and 91, Dean-street, Soho.—Registrar.

METROPOLITAN

MIDDLESEX COU t

Medical Offi

washing.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—House Surgeon for six months. Salary at rate of £60 per annum, with board, residence, and laundry. Also Assistant Surgeon.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Assistant House r annum, with

road, N.W.— Salary at rate ng.

Surgeon, as ely. Salary at idence.

.—Lecturer on

Salary £45 per annum.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Junior House Surgeon. Salary £50 per annum, with board, lodging, washing, and attendance.

WESTERN GENERAL DISPENSARY, Marylebone-road.—Honorary Ophthalmic Surgeon.

TH

Births, Marriages, and Deaths.

BIRTHS.

of Richard

, the wife hter.

he wife of

e wife of

MARRIAGES.

Church, South late R.A.M.C., tic Chapman,

h, Walton-on-R.C.S. Eng., rcy H. Webb,

Cheltenham, W. J. Kelson Millard, M.D., F.R.C.P.E., of Treddien, Cheltenham, to Emma Rachel, only daughter of the late James Humby, of Collipriest, Cheltenham.

ROSS—FELTON.—On June 7th, at Bradford, Richard Alexander Ross, to Eleanor

son of G. H. rgaret Carlota, and of Mrs.

DEATHS.

FFO

JEN

aged 38.

MACKELLAR.—On June 15th, at Bella Vista, Royston Park, Pinner, Alexander Oberlin Mackellar, F.R.C.S., Chief Surgeon Metropolitan Police, aged 58. Funeral service 2.30, Saturday, at St. Anselm's Church, Hatch End, Pinner, and afterwards at Pinner Cemetery. Train from Euston (L. & N. W. Ry.) 1 40 P.M.

READ.—On June 11th, at 42, Foregate-street, Worcester, Isabel Margaret, the wife of Mabyn Read, M.D., aged 41 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

ANOTHER QUACK CURE FOR CANCER.

IF warnings against the deceptive promises of quack cures and treatments were any good the general public should by now prove adamant to the specious allurements of all kinds of false medical advertisements. People, however, for one reason or another, continue to be deceived into wasting their money and damaging their chances of health and nothing prevails against what appears to be an inherent frailty of human nature. Nevertheless, when we see a more than usually flagrant example of deceptive pretence we cannot help inveighing against it. Particularly we like to attempt the destruction of advertisements which claim the cure of cancer. The very name of cancer carries terror and when any person believes that the dread scourge has fallen upon one who is near or dear to him he is apt to be the readiest prey to the advertising quack. Given up perhaps for hopeless by the honest and orthodox who realise how little there really is to be done for him a patient of this kind turns a ready ear to anyone who will promise him relief. Such promises he will find awaiting him on all sides, promises to be fulfilled equally little to whatever side he

equal impartiality whetl

door of violet leaves, "

"Bramarsandt" is the latest of these patent remedies that claim to cure cancer and is not distinguished from others by its blatant and unjustifiable promises. It professes to be a permanent cure for cancer without operation and it has nothing to support it but its own professions. We mention it merely in the faint hope that a few may be spared the misery that these quack cures cause so widely to friends and relatives of the unhappy victims of cancer, doomed to disappointment by the fallacious and audacious hopes that these advertisements hold forth.

A PRIVATE CLUB.

THE medical officer of the West Brixton Medical Aid Society has submitted to us a copy of the rules of that society which have been designed to do away with the evils of canvassing. The fifth rule is: "The society shall have no canvassers and can only be increased in membership by private recommendation," and in further support of this rule the following declaration form is submitted to those who desire to become members of the society.—

> *I desire myself*, my wife, and my *family (strike out description not required)*, to become a member of the West Brixton Medical Aid Society, and I solemnly affirm—first, that none of the persons involved have ever been attended regularly by a Brixton, or other local, medical man; and second, that my family has not a total income of more than £2 5s. a week.
>
> *Signed* ....
>
> *Address* ....
>
> *Date* ....

He has invited our opinion upon the ethical position of a medical man issuing such a declaration. We think that the clause and *declaration sufficiently safeguard him from any censure by the* General Medical Council.

ASSOCIATION FOR THE ORAL INSTRUCTION OF THE DEAF AND DUMB.

THE Association for the Oral Instruction of the Deaf and Dumb, which is under Royal patronage and has the Earl of Crewe for its president, has just issued its annual report, which shows that the work of the past year has been very successful. The practising school was attended during 1903 by 52 pupils, 27 girls and 25 boys, and the highest Government grant was obtained—namely, £90 for general instruction and £60 for technical instruction. It should be

outside its immediate sphere of work who derive the advantages of the oral system from the instruction of teachers trained at the college. Although the work done by the association is satisfactory the same cannot be said of its financial position, for there is an annual excess of expenditure over income of at least £500. It is to be hoped that the charitable public will not allow this deficiency to accumulate.

CONFIDENCE IN VACCINATION.

THE universal experience of small-pox hospitals shows that officials and visitors who have been efficiently vaccinated within the seven or eight years preceding exposure to infection never contract the disease, and Mr. A. W. Martin, medical officer of health of Gorton, Manchester, recently offered to give a convincing proof of his firm belief in the immunity so easily obtainable. On the occasion of an antivaccination lecture recently delivered in Gorton Mr. Martin invited the principal speaker to bring his young son and to visit the small-pox hospital in company with Mr. Martin and his son, aged nine years, who had been vaccinated and revaccinated. The invitation was declined, a result which was, perhaps, fortunate for both sides. If either the antivaccinationist or his son had caught the disease and died from it an immense amount of frothy declamation would have been poured forth, denouncing Mr. Martin as guilty of a cruel murder.

AMBER AND CANCER.

WE have received the following letter from the Cape Colony:—

> SIRS,—It is a hard thing for us not doctors to bring forward a medical argument in which that profession has made a most exhausting study. It may seem presumptuous on our part to hold hard to our theory in the solution of a disease which has baffled the medical profession in the past and has given the present a difficulty which perhaps they are on the verge of completing. We, the runners-up in the race for one of the chief prizes in the medical world and in the cause of suffering humanity, will put forward a simple theory in the following manner. We will come straight to the point of our article and say what will cure cancer. In our opinion to grapple with a disease which thrives or decreases according to the constitution of the patient is not with the knife, while a remedy may be found to stay the course of the growth by enclosing it in a bond which is impossible to break. What is that which will hold the smallest atom of living germ and which is perfectly harmless to the patient? Our reply is amber, that extraordinary vegetable substance which was known to the Greeks as ἐλέκτρον [*sic*], and from which we derive our modern word "electricity." We conclude this somewhat ambiguous article by saying that proof will put to the test what we write and that history being stranger than fiction gradually bears out the fact that there is nothing new under the sun—no, not even the cure for cancer.
>
> I am, Sirs, yours faithfully,
>
> May 14th, 1904. R. MIDDLETON.

Perhaps our correspondent will enlighten us in the future as to how the amber is to "enclose the growth in a bond which is impossible to break."

WESTERN OBSTETRICS IN THE EAST.

DR. J. W. Ballantyne of Edinburgh contributes to the *Women Students' Medical Magazine* for June an article on Western Obstetrics in the East compiled from letters received by him from medical women resident in China and India. The Chinese, we are told, are beginning to have such faith in the power of western medical science and practice that they will send for an English practitioner from great distances; nevertheless the Chinese dread of the foreigner greatly hampers the work of the western practitioner of medicine. In a case where forceps were indicated these instruments had to be exhibited in the guest room of the mandarin, whose wife was the patient, and their use explained by means of diagrams to the patient's brother, two gentlemen visitors, and some boys. The lying-in chamber of a Maharonee is described as a "horrid little hole," 10 feet by 5 feet, built of stone, with no window and only a small door. The article, though brief, throws much light upon the difficulties attending obstetric practice in the East and makes very interesting reading.

AN EMERGENCY POCKET CASE BOOK.

UNDER this title Messrs. Reynolds and Branson, Limited, of 13, Briggate, Leeds, publish in book form a set of 30 clinical charts designed by a captain in the Royal Army Medical Corps. The charts are ruled with spaces for entering the patient's history and condition when first seen, as well as daily notes of the progress of the case, temperature, pulse, respirations, motions, medicine, and diet. In many departments of clinical work a note-book of this kind might be found useful for the making of brief memoranda to be expanded subsequently. The price of the book of charts is 6*d*. (postage 1*d*.).

"ENTERPRISE."

IN reference to the letter headed "Enterprise" (THE LANCET, May 7th, 1904), we find on inquiry that we have been entirely in error in describing the gentleman referred to as having held no appointments entitling him to style himself a specialist. We find that he has every right to style himself a specialist on the diseases of the eye, ear, and throat, and we trust that our mistake will not in any way injure the gentleman in question.

THE DANGERS OF EPILEPSY.

THE Manchester city coroner held an inquest on June 10th as to the death of a foreman printer named Thomas, 38 years of age, who was the subject of epilepsy. On his way home from work about 4.20 A.M. on May 18th he was seen to fall. Two postmen also going home from work went to his assistance and held him as well as they could until two policemen came. The latter decided to go for an ambulance and while they were away two other policemen came up and assisted the postmen to hold Thomas, as he continued to struggle. The officers took him in a tramcar to the Infirmary where some wounds on his face caused by his fall were dressed. He was then taken home and put to bed but he gradually got worse and died on June 8th. Mr. S. C. Salter, who attended him, made a post-mortem examination and said that all the wounds which he found except one might have been caused by his own violence and his fall. "But there was an abrasion of the throat which appeared as though someone had gripped him with force that was unnecessary, with the result that it was so tender that he could not swallow sufficient food. This injury could not have been caused accidentally. Death was due to heart failure following on pneumonia as an indirect result of his injuries." A brother of the deceased stated in evidence that the latter told him that when he recovered consciousness two policemen were sitting on him and treating him roughly. The constables who took Thomas to the infirmary and others who saw the affair said that nothing was done to him beyond holding him and preventing him from hurting himself. The verdict was that death was due to natural causes, and as to the injury to the throat the jury returned an open verdict and exonerated the police from all blame and thought that they had acted with the greatest kindness. This is quite in accordance with the general character of the Manchester police, but it is a pity that the injury to the throat was not accounted for.

REPUTED 130 YEARS OLD.

THE death is reported at Karkoff of a man reputed to have seen 130 years of life. He claimed to remember laying bricks with his brother at the building of the University of Karkoff over a century ago. Ivachnenko, the man referred to, was blind for ten years before his death.

◆

S.—There is very great probability that the child will show signs of the disease, even if abortion should not occur. In spite of the absence of symptoms in the wife she should receive a thorough but careful specific treatment. Our correspondent does not state the stage of pregnancy now reached, but the earlier it is the greater the chance of preventing syphilitic manifestations. It is important so to adjust the doses of mercury that the desired object may be attained without impairing the wife's health. The husband would probably also be the better for a course of treatment. We do not publish the letter, as the patients might fear identification.

P. G. T.—The questions cannot be answered off-hand. All the circumstances (and some have not been communicated to us) should be taken into consideration. Our correspondent requires the assistance of a lawyer.

Mr. John H. Russell.—The Viavi treatment has been thoroughly exposed in our columns and in those of *Truth*.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M., St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9 30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.).

WEDNESDAY (22nd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9 30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (23rd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (25th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (20th).—MEDICAL GRADU.
(22, Chenies street. W.C.).—4 P.
(Skin.) 5.15 P.M. Mr. G. Heaton:
and Treatment of the Intra crat
Disease.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Saunders: Heart Disease in Children.

ES' COLLEGE AND POLYCLINIC
Dr. C. Thomson: Clinique.
Degenerative Diseases of the
as of Nervous Disease.

London Hospital, Hammersmith-
llams: High Frequency Currents

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Sir W. Gowers: Some Ocular Symptoms of Disease.

WEDNESDAY (22nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Clarke: Clinique. (Surgical.) 5.15 P.M. Dr. J. Taylor: Degenerative Diseases of the Spinal Cord and Some Unusual Forms of Nervous Disease.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Beddard: Practical Medicine.

UNIVERSITY COLLEGE (University of London) (Physiological Theatre).—5 P.M. Dr. W. P. May: Advanced Lectures on the Tracts of the Brain—Lecture VIII.: Cranial Nuclei and their Central Connexions.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. S. H. Habershon: Cases in the Wards; Pneumothorax, Chronic Pneumonia, Mitral Stenosis, &c.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Dr. G. N. Meachen: Diseases of the Skin attacking the Face.

ST. PETER'S HOSPITAL (Henrietta-street, Covent Garden).—4 P.M. Mr. S. Edwards: Cases in the Wards.

THURSDAY (23rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M. Dr. P. Horrocks: Prolapse of the Uterus.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Keetley: Hernia.

CHARING CROSS HOSPITAL.—4 P.M. Mr. Gibbs: Demonstration of Surgical Cases. (Post-Graduate Course.)

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (7, Fitzroy-square, W.).—5 P.M. Dr. T. D. Lister: Asthma: its Pathology and Diagnosis. (Post-Graduate Course.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond street, W.C.).—4 P.M. Dr. Garrod: Chorea.

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—3 P.M. Dr. Roberts: Cases from the Wards.

FRIDAY (24th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. A. Lawson: Clinique. (Eye.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Paget: Surgical Cases.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Mr. Gunn: Ocular Paralyses

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

Will Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

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One Year	£1 12 6	One Year	£1 14 8
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Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, MR. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. *The Proprietors of* THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and *do so* collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 16th, 1904.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Rainfall.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
June 10	29 74	S.E.	0 08	86	64	54	56	59	Cloudy
" 11	29·92	N.E.	...	83	62	53	53	55	Cloudy
" 12	30·11	N.E.	...	96	65	52	53	56	Overcast
" 13	30 10	S.W.	...	116	72	53	58	59	Fine
" 14	29 85	S.W.	0 01	109	70	58	59	63	Cloudy
" 15	29 79	S.W.	0 23	107	65	56	57	61	Cloudy
" 16	29 94	S.W.	...	125	71	56	56	62	Cloudy

During the week marked copies of the following newspapers have been received:—*Tamworth Mercury, Ardrossan and Saltcoats Herald, South Wales Daily News, Eastern Morning News, Staffordshire Sentinel, Reading Mercury, Aberdeen Free Press (Weekly), Daily News, Daily Chronicle, Westminster Gazette, Hertfordshire Mercury, Standard, Surrey Advertiser, Coventry Herald, Birmingham Daily Mail, Mining Journal, Local Government Chronicle, Liverpool Courier, British Journal of Photography, &c.*

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